सत्यमेव जयते

National Commission for Allied and Healthcare Professions

COMPETENCY BASED CURRICULUM
for
"OCCUPATIONAL THERAPY"

Version - 1

As per the NCAHP Act - 2021

NATIONAL COMMISSION FOR ALLIED AND HEALTHCARE PROFESSIONS
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NCAHP
Since-2021
राष्ट्रीय सहबद्ध और स्वास्थ्य देख-रेख वृत्ति आयोग

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List of Abbreviations

ABA	Applied Behaviour Analysis
ACLS	Advanced Cardiovascular Life Support
AHP	Allied and Healthcare Professional
ADL	Activities of Daily Living
B Sc	Bachelor of Science
BOT	Bachelor of Occupational Therapy
BLS	Basic Life Support
BMW	Bio Medical Waste
CATS	Credit Accumulation and Transfer System
CBCS	Choice-Based Credit System
CbD	Case-based Discussion
CBSE	Central Board of Secondary Education
COTE	Continued Occupational Therapy Education
CNS	Central Nervous System
CPR	Cardiopulmonary Resuscitation
CPU	Central Processing unit
CR	Confidential Report
CVS	Cardio Vascular System
DOPS	Directly Observed Procedural Skills
DOAP	Demonstration- Observation - Assistance – Performance
DRB	Departmental Review Board
ECTS	European Credit Transfer systeS FAOT -
FOT	Fundamentals of Occupational Therapy
HSSC	Healthcare Sector Skill Council
ICT	Information & Communication Technology
IA	CIA
JCI-	Joint Commission International

IEC	Institutional Ethics Committee
LAQ	Long Answer Questions
M CEX	Mini Case Evaluation Exercise
MOT	Master of Occupational Therapy
MCQ	Multiple Choice Questions
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NCAHP	National Commission for Allied & Healthcare Professions
NCRC	National Curricula Review Committee
NDT	Neurodevelopmental treatment
NIAHS	National Initiative for Allied and Healthcare Sciences
NMC	National Medical Commission
NUE	Non University Examination
NSDA	National Skills Development Agency
NSQF	National Skills Qualification Framework
OTDP	Occupational Therapy Diagnostic & Practice
OTMC	Occupational Therapy in Medical conditions
OTPF	Occupational Therapy Practice Framework
OSCE	Objective Structured Clinical Examination
OTSC	Occupational Therapy in Surgical conditions
OSLER	Objective Structured Long Examination Record
OSPE	Objective Structured Practical Examination
PAM	Physical Agent Modalities
PG	Post Graduate
PNF	Proprioceptive Neuromuscular Facilitation
PPE	Personal Protective Equipment
RPwD	Rights of Persons with Disability
SAQ	Short Answers Questions
SI	Sensory Integration

TSU	Technical Support Unit
UG-	Under Graduate
UGC	University Grants Commission
UHC	Universal Health Coverage
UNCRDP	United Nations Convention on the Rights of Persons with Disabilities
WHO	World Health Organization
WWW	World Wide Web

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Chapter 1

Overview of the Handbook

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1.0 Overview of the Handbook

The Parliament of India passed the National Commission for Allied and Healthcare Professions bill on March 28, 2021. Accordingly, an interim commission was established for the National Commission for Allied and Healthcare Professions Act in accordance with the rules issued by the central government on May 27, 2021. This commission's commission's primary goals are to evaluate institutions, maintain a Central Register and State Register, regulate and uphold standards of education and services by allied and healthcare professionals, and create a system to enhance access, research, development, and adoption of the most recent scientific advancements. In addition, the commission started the process of preparing the curriculum for Occupational Therapy (OT) education across the country. It has been noted that uniformity in the education and training of Occupational Therapy professionals nationwide must be guaranteed, as previous reports have indicated that there are differences in the educational and training methods of Occupational Therapy courses offered by institutions nationwide

In order to review and update the guidelines for Occupational Therapy education and career pathways with a new structured curriculum based on skills and competencies, the National Commission for Allied & Healthcare Professions under the Ministry of Health & Family Welfare, Government of India, established an expert committee. Thus, this handbook has been developed to familiarize & delineate uniformity in the Occupational Therapy education and formulate guidelines for imparting education and training in Occupational Therapy by the universities, colleges, healthcare providers as well as educators offering Occupational Therapy education. This handbook aims to reduce variations in education by presenting a standardized curriculum, career pathways, nomenclature, and other key elements for the Occupational Therapy profession. The shift from a purely didactic approach is intended to produce better-skilled professionals and enhance the overall quality of of patient care.

1.1 Healthcare Professionals: Who Are They?

According to the National Commission for Allied and Healthcare Professions Act, a "healthcare professional" is defined as a scientist, therapist or other professionals who studies, advises, researches, supervises or provides preventive, curative, rehabilitative, therapeutic or promotional health services and who has obtained any qualification of degree under this Act, the duration of which shall not be less than three thousand six hundred hours spread over a period of three years to six years divided into specific semesters". Primary care refers to the work of health professionals who act as a first point of consultation for all patients within the healthcare system. Such a professional would usually be a primary care physician, such as a general practitioner or family physician, a licensed independent practitioner such as an Occupational Therapist, or a non-physician primary care provider (mid-level provider) such as a physician assistant or nurse practitioner. Depending on the locality, health system organization, and sometimes at the patient's discretion, they may see another health care professional first, such as a pharmacist, a nurse (such as in the United Kingdom) a clinical officer (such as in parts of Africa), or an Ayurvedic or other traditional medicine professional (such as in parts of Asia). Depending on the nature of the health condition, patients may then be referred for secondary or tertiary care. Since the past few years, many professional groups have been interacting and seeking guidance on all those who would qualify under the purview of "healthcare professionals". In the healthcare system, statutory bodies exist for clinicians, nurses, pharmacists and dental practitioners; but a regulatory structure for around 50 professions was absent in India. Currently, the Parliament of India has enacted the National commission for allied and healthcare professions act 2021 to put these 56 professions under the ambit of the allied and healthcare system. The act defines Occupational Therapists as "healthcare professionals due to their nature of duties and responsibilities and numbers of hours of training at entry level qualification that is Bachelor of Occupational therapy, which is much more than 6100 hours spread over Five years including one year of rotatory clinical internship.

1.2 The Scope and need for Occupational Therapy professionals in the Indian healthcare system

Over the last few decades, technological progress has led to significant improvements in the quality of medical care. However, these advancements have also brought about new and complex challenges within the healthcare system. It is now a well-known fact that effective healthcare delivery relies on a multidisciplinary approach, requiring the coordinated contributions of both clinical and non-clinical professionals, extending well beyond the conventional roles of doctors and nurses. Professionals who can competently handle sophisticated machinery and advanced protocols are now in high demand. Diagnosis is now so dependent on technology, that allied and healthcare professionals (AHPs) are vital to successful treatment delivery.

Indian healthcare system is witnessing a growing demand for functional restoration and holistic care, driven by rising rates of chronic illnesses, disabilities, psychosocial issues, and an aging population. In this context, Occupational Therapy has emerged as a crucial discipline that supports individuals in regaining functional independence and improving their quality of life.

The quality of education, training, and community health orientation received by all types of health workers, as well as their ability to work as a cohesive team, are critical factors in the efficient provision of healthcare services operating independently and in a variety of professional teams.

The Indian government wants universal health coverage, but the largest obstacle to achieving its goals may be a shortage of qualified human resources. In India, the advantages of having allied and other medical professionals in the healthcare system are still not fully understood. The Indian healthcare system still relies heavily on the doctor-centric approach, despite the overwhelming evidence that AHPs can improve access to healthcare services and significantly lower healthcare costs. Occupational Therapy professionals play a vital role in the healthcare system, addressing the functional needs of individuals affected by physical, neurological, psychosocial, or developmental conditions. Occupational Therapy professionals contribute to holistic, patient-centered care by enabling individuals to regain independence and improve their quality of life through therapeutic interventions. Occupational Therapy plays an important role in preventive, restorative and rehabilitative care of persons with activity limitations and participation restrictions.

Expanding the integration of Occupational Therapy services into primary, secondary, and tertiary care alongside greater awareness, policy support, and educational standardization is essential to strengthen India's capacity to deliver inclusive, rehabilitative, and community-based healthcare.

Occupational Therapy professionals also play a significant role in caring for patients who struggle mentally and emotionally in the current challenging environment and require mental health support; and help them return to well-being. Children with communication difficulties, the elderly, cancer patients, patients with long-term conditions such as diabetes people with vision problems, and amputees; the list of people and potential patients who benefit from Occupational Therapy is indefinite.

Occupational Therapy plays an essential role in the functional restoration of individuals across a broad spectrum of health conditions. In neurological cases, interventions are designed to enhance motor and functional skills, cognitive-perceptual functioning, and independence in activities of daily living. Within orthopaedic settings, therapists facilitate the recovery of mobility, strength, and the functional use of affected limbs. In paediatric population, Occupational Therapists facilitate development of essential life skills by addressing delays or impairments in gross and fine motor coordination, achieving milestones in all aspects of a child's development, cognitive functioning, self-care, and social participation. In cases involving sensory processing challenges, Occupational Therapists implement structured, evidence-based sensory integration strategies to help children interpret and respond appropriately to sensory input, thereby enhancing attention, emotional regulation, and adaptive behaviors. Interventions are tailored to the individual needs of the child and delivered within a family-centered framework, with the goal of promoting functional independence and improving overall quality of life. In the domain of mental health, Occupational Therapy supports individuals by fostering emotional regulation, developing social and communication skills, enhancing assertiveness, and encouraging meaningful engagement in daily routines. Geriatric populations benefit substantially from Occupational Therapy through strategies aimed at fall prevention, environmental modifications, and support for age-related cognitive and physical changes. In the management of complex medical conditions, therapists address fatigue, reduce functional limitations, and assist with the reintegration of individuals into daily and occupational roles, thereby enhancing quality of life during and post-treatment. Furthermore, Occupational Therapy contributes to cognitive rehabilitation, psychosocial support, palliative care, and

wellness interventions, while also promoting adherence to treatment regimens and facilitating community reintegration. Across these domains, Occupational Therapy fosters independence, promotes well-being, and improves overall health outcomes. Therefore, the scope of Occupational Therapy practice is extensive, covering a wide array of professional domains, as outlined below:

- Across the age span of human development from neonate to old age
- with patients having complex and challenging problems resulting from systemic illnesses such as in the case of diabetes, cardiac abnormalities/conditions, and elderly care to name a few.
- Towards health promotion and disease prevention, as well as assessment, diagnosis management/intervention. through Models of practice and Frame of Reference and evaluation of interventions and protocols for treatment.
- In a broad range of settings from a patient's home to community (return to work, community reintegration through environmental modifications).
- primary care centers, to tertiary care settings.

1.3 Learning objectives and goals for students of Occupational therapy

The handbook has been designed with a focus on performance-based outcomes pertaining to different levels. The learning goals and objectives of the undergraduate and post-graduate Occupational Therapy education program will be based on the performance expectations. They will be articulated as learning goals (why we teach this) and learning objectives (what the students will learn). Using the framework, students will learn to integrate their knowledge, skills and abilities in a hands-on manner in a professional healthcare setting. These learning goals are divided into nine key areas:

1. Develop competencies for Independent Occupational Therapy practice.
2. Communication with stakeholders
3. Member of a multidisciplinary health team
4. Ethics and accountability at all levels (clinical, professional, personal and social)
5. Commitment to professional excellence
6. Leadership and mentorship
7. Social accountability and responsibility
8. Scientific attitude and Research scholar
9. Lifelong learning and transfer of knowledge

1.3.1 Independent Clinical Practice

Each student will plan and carry out the management, investigation, and prevention strategies using the best available data and a patient/family-centered approach. They will also provide the necessary follow-up services. The goals of the program should allow the students to:

- Utilize the fundamentals of science and evidence-based practice.
- Use relevant standardized and non-standardized tools when necessary.
- Identify the indications for Occupational Therapy intervention and perform them appropriately.
- Deliver patient care in a variety of settings, effectively and economically, while prioritizing the needs of each individual patient.
- Recognize how biological, psychological, spiritual, and economic factors affect patients' well-being and respond appropriately.
- Include techniques for specific emergency care, disease prevention, and health promotion of the patients with a knowledge of the healthcare concerns related to various socioeconomic backgrounds and social norms.

1.3.2 Communication with stake holders

The student will acquire the skills necessary to effectively and appropriately communicate with patients, clients, caregivers, other medical professionals, and other community members. One essential component of providing health care services is communication. The goals of the program should allow the students to:

- Clearly explain the diagnosis to the patient and determine suitable treatment plans in a sensitive way that is in the best interests of the patient and society.
- Clearly discuss the diagnosis with the patient, and decide appropriate as possible and respond appropriately to the information.
- Describe the proposed healthcare service's nature, goal, potential advantages and disadvantages, limitations, and, if available, reasonable alternatives.
- Appropriately communicate with and provide pertinent information to other stakeholders, including members of the healthcare team.

- Use communication effectively and flexibly in a manner that is appropriate for the reader or listener; Investigate and take into consideration the patient's ideas, beliefs, and expectations during interactions with them, along with varying factors such as age ethnicity, culture, and socioeconomic background.
- Develop efficient techniques for all forms of written and verbal communication including accurate and timely record keeping.
- Evaluate their own communication abilities, cultivate self-awareness, and be capable of enhancing their interpersonal relationships. with them, along with varying factors such as age, ethnicity, culture and socioeconomic background
- Have the ability to advocate for health promotion and offer lifestyle modification aadvice.

1.3.3 Participation in a multidisciplinary healthcare team

For the student, good team communication is very important, including being open and honest about goals, choices, uncertainty, and errors. In order to achieve coordinated, high-quality care, at least two healthcare professionals must collaborate to accomplish common goals both within and across settings when providing health services to individuals families, and/or their communities. This is known as team-based health care. The program's goals will be to enable the students to:

- Acknowledge, express, comprehend, and encourage team goals that represent the priorities of the patient and their family.
- Establish clear expectations for each team member's roles, responsibilities, and accountability. This maximizes the team's efficiency and enables them to use the division of labor effectively, achieving more than the sum of their individual efforts.
- Establish mutual trust among team members to foster strong reciprocity norms and increase opportunities for collective success.
- Create a culture of general and specific understanding by communicating well so that the team prioritizes and continuously improves its channels of communication.
- Acknowledge quantifiable procedures and results so that the team and the individual can decide on and execute accurate and prompt feedback on goals and team performance. Performance can then be monitored and enhanced both instantly and gradually using these.

1.3.4 Ethics and accountability (personal, professional, social, and clinical)

In order to apply these fundamental ideas to their work as Occupational Therapists, students will gain an understanding of clinical ethics and the law. Program goals should allow students to:

- Explain and apply the basic concepts of clinical ethics to actual cases and situations.
- Acknowledge the importance of providing patients with healthcare resources in a fair, equitable, and non-discriminatory manner.
- Show that you understand and apply fundamental legal principles to your occupational therapy practice.
- When establishing, preserving, and ending patient-provider relationships, exercise professional accountability and show respect for each patient's unique rights to autonomy, privacy, and confidentiality

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1.3.5 Commitment to professional excellence

Technical proficiency, appearance, confidence, empathy, compassion, understanding, patience, manners, verbal and nonverbal communication, an anti-discriminatory and nonjudgmental attitude, and appropriate physical contact are just a few of the qualities and traits that the student will demonstrate in his or her thoughts and actions to demonstrate professionalism. Within the bounds of the law, the program's goals will be to enable students to:

- Showcase unique, meritorious, and superior practice that results in excellence and demonstrates a dedication to competence, standards, ethical principles, and values.
- Exhibit the trait of being accountable to everyone, including peers, employers, service users, standard-setting/regulatory bodies, and oneself, for all actions and inactions.
- Make sure that self-interest does not drive actions or inactions
- Show consideration for co-workers and service users.
- Exhibit humanity in daily activities by acting with dignity, respect, emathy compassion and honour

1.3.6 Leadership and mentorship

In order to guarantee clinical efficiency and patient satisfaction, the student must assume a leadership position when necessary. In addition to being able to effectively manage both themselves and others, they must be able to react independently and confidently to both planned and unpredictable situations. Opportunities to enhance the experience of seeking medical attention and the provision of healthcare services must be developed and maximized. Program goals should empower students to:

- Be change agents and leaders in service development and quality improvement to improve people's health and healthcare experiences.
- Care should be systematically evaluated, and the results should be used to improve people's experiences and care outcomes as well as to inform clinical treatment procedures and services.
- Prioritize tasks and efficiently use time and resources to maintain or improve the standard of care. Acknowledge and be conscious of how one's own beliefs, values, and presumptions may affect one's practice.

- Learn supervision, feedback, reflection, and evaluation, from their experiences and take responsibility for their own professional and personal growth.
- Use a variety of professional and personal development skills to help others and themselves become more competent.
- Work both individually and collaboratively; students must have the capacity to assume a leadership role in order to safely plan, assign, and manage occupational therapy care, manage risk, and maintain accountability for the care provided; actively engage and value the contributions of others to integrated person-centered care; and effectively collaborate across agency and professional boundaries.
- Aware of when and how to interact with patients, refer them to other agencies and professionals, respect the choices of others and service users, encourage collaborative decision-making, produce positive results, and facilitate seamless transitions between agencies and services.

1.3.7 Social responsibility and accountability

The students will understand that healthcare and allied health professionals must be socially responsible, prudent resource managers, and advocates within the healthcare system. They will focus all of their research and service efforts on addressing their top health concerns because they have a mandate to serve the community, region, and country. The goals of the program should empower the students to:

- Respond to the needs of the population and exhibit understanding of the local, regional, and national determinants of health
- Create and support innovative practice patterns by offering evidence-based treatment and experimenting with fresh approaches that will better apply research findings and address the needs of individuals and communities
- Create a common vision for a future health care system that is sustainable and evolving by cooperating with and strengthening alliances with other stakeholders, such as academic health centers, governments, communities, and other pertinent professional and non-professional organizations.
- Advocate for the resources and services required to provide the best possible care for patients

1.3.8 Scientific attitude and Research scholar

Throughout their interactions with peers and patients, their academic pursuits, their research, and every other facet of their professional lives, the student will apply good scientific and/or scholarly principles. The goals of the program should allow the students to:

- Practice evidence-based practice by applying scientific method principles
- Take ownership of their educational experiences
- Develop fundamental skills like patient education, feedback-giving, presentation skills, and the design and dissemination of research knowledge
- Structure their continuing professional education to address the unique needs of the population.

1.3.9 Lifelong learning and transfer of knowledge

While using contemporary tools and technology, the student should be dedicated to ongoing skill and knowledge development. The program's goals will be to enable students to:

- Construct and improve their current skills
- Learn new skills
- Conduct objective self-assessments of their knowledge and abilities
- Implement recently acquired knowledge or abilities in patient care
- Continue to reflect on themselves and draw on their experiences to improve their learning and personal and professional development
- Identify and choose a suitable, personally and professionally fulfilling career pathway
- Develop a research question
- Be knowledgeable about basic, clinical, and translational research in its application to patient care
- Search (including electronically) and critically evaluate medical literature to enable its application to patient care

1.4 Purpose & Scope:

1.4.1 Purpose

The main technical, cognitive, emotional, and ethical facets of occupational therapy practice can be outlined in a set of professional education standards. Such a guideline has numerous advantages. Policymakers, regulatory agencies, occupational therapy students, and anybody else who wishes to understand the professional standards of the field in India may find this to be an essential tool.

The separate but connected goals exist. They are as follows:

- The goal of societal minimum standards for occupational therapy education is to guarantee that occupational therapy's contribution to people's health and well-being is acknowledged on a national and worldwide scale
- To satisfy societal expectations regarding welfare and high-quality healthcare
- Promoting uniformity and quality in occupational therapy practice both domestically and abroad is the professional goal of minimum standards, which includes several components: fostering research on occupational performance, occupational therapy education, and practice; fostering the national and international exchange of knowledge, faculty, and students between programs; fostering the international mobility of qualified therapists; and strengthening occupational therapy communities worldwide by fostering a shared understanding, experience, and language of OT education.
- The minimum standards for occupational therapy are intended to establish uniformity in OT education in India and to make it globally acceptable. Establish a baseline for assessing whether the OT program is fulfilling the required minimum standards.
- Review educational program through the process of self-evaluation
- Promote graduate commitment to lifelong learning through Continued Occupational Therapy Education (COTE) and other professional development program

1.4.2 Scope:

A broad spectrum of beneficiaries who are interested in academic training or occupational therapy education in India can use the document. The following summarizes some of the main points of this document: These standards are available for use by regulators:

- The objectives of entry-level occupational therapy courses should be developed or modified in accordance with occupational therapists' regulatory expectations.
- Professional education should be monitored in all of its aspects, including the acquisition of core subject knowledge as well as other crucial aspects like professionalism, lifelong professional development and learning, interpersonal skills, and the integration of core knowledge into clinical practice.
- To guarantee that occupational therapy entry-level education in India adheres to consistent standards that are comparable to the WFOT Minimum Competency Standards for the same population. This document may also be used by the students studying occupational therapy.
- To comprehend the prerequisites for occupational therapy practice and education
- To comprehend the different facets of professional development, such as subject knowledge, professionalism, lifelong learning and professional development, interpersonal skills, and the incorporation of fundamental knowledge into clinical practice.

1.5 Occupational Therapy support personnel or organizations

- To understand occupational therapists' roles and responsibilities

1.5.1 Government and Policymakers

- To inform expectations regarding occupational therapy services for development of policy and education
- To provide background information for health human resource planning and policy development

1.5.2 Other Professionals

- To understand occupational therapists' roles and competencies

1.5.3 International agencies

- To provide information for credentialing of occupational therapy programs

1.6 Introducing Novel Components to the Teaching of Occupational Therapy

1.6.1 Competency-based curriculum

Notwithstanding the hierarchy and degree of responsibility in healthcare settings, a notable skill gap has been noted among the professionals providing healthcare services. The wide range of approaches used in healthcare education and the disparity in expectations for graduates at work and after completing a course are the causes of the wide variation in service quality. While the course design focuses on what one is expected "to know," it is assumed that students will learn what they are expected "to perform" at work. Therefore, the competency-based curriculum bridges the gap between "know what" and "do how."

The curriculum design being used has a significant impact on the efficacy and efficiency of any educational program. As scientific and medical knowledge has advanced, educators have come to the realization that learning is no longer restricted to learning lists of facts and figures; in fact, by the time a professional want to work in the healthcare industry, the knowledge they have learned may be out of date. Competency-based education, a curriculum idea created to give professionals the skills they require, is therefore the solution. A competency-based program is a combination of skills and competencies that are developed to teach pertinent content across a variety of courses and settings, based on the needs of the individual or population (e.g., clinical knowledge, patient care, or communications approaches). Competency-based education places more emphasis on competencies, outcomes, performance, and accomplishments than the traditional educational system, which emphasizes objectives, content, teacher-centric learning, and summative evaluation. Learner-centered teaching activities and ongoing, formative evaluation are used in this situation. In order to obtain competency-based credentials, a professional must demonstrate a specific set of competencies that allow them to accomplish specific objectives. Employers, students, and other stakeholders can set realistic expectations thanks to competency frameworks, which include a concise description of a person's abilities upon completion of the credential. The curriculum design outlined in this handbook will therefore be based on skills and competencies in order to meet the demands of the current and future healthcare delivery systems.

1.6.2 Encouraging professionals to learn independently

It is now relevant to review the learning processes for appropriate modifications as a result of the shift in emphasis from traditional to competency-based education. Learning is no longer limited to the walls of a classroom or the lessons that a teacher teaches, as is well known. The platform has been expanded and new ways for students to learn and acquire skills and knowledge have been introduced by the new tools and technologies. Learner-centric and self-directed learning are two of the cutting-edge strategies.

In its broadest sense, self-directed learning refers to a process where people, with or without assistance from others, take charge of determining their own learning needs, creating learning objectives, locating learning resources, selecting and putting into practice learning strategies, and assessing learning results (Knowles, 1975).

Instead of just responding to transmissions from resources, self-directed learning involves learners taking the initiative to use them, which improves their learning. AHPs and other health professionals can benefit from lifelong, self-directed learning (SDL), which has been recognized as a critical skill for medical graduates (Harvey, 2003). Numerous studies conducted all over the world have demonstrated the superiority of the self-directed learning approach over the teacher-centric approach.

Learners become more reliant on their teachers, and the focus of instruction shifts to the subject. When a teacher supplies the learning materials, students are typically content with what is offered; however, when they are asked to complete the same assignment, they must always look through a lot of resources on the topic. In contrast to traditional classroom instruction, the handbook encourages self-directed learning and provides a platform for students who want to pursue lifelong learning.

1.6.3 Credit hours versus the conventional method

The University Grants Commission (UGC) and the National Assessment and Accreditation Council (NAAC) have recently emphasized the necessity of adopting an efficient grading system to gauge student performance and developing a Choice-Based Credit System (CBCS) that is comparable to international standards. Every significant provider of higher education in the world runs a credit system. These include the Credit Accumulation and Transfer System (CATS) in the UK, the Pan-Canadian Protocol on the Transferability of University Credits, the European Credit Transfer System (ECTS), the "National Qualifications Framework" in Australia, and the systems in the US, Japan, and other countries.

A completely convertible credit-based system that is accepted at other universities is now required on a global scale. The popularity of programs like "twinning programs," "joint degrees," and "study abroad" has made it necessary to give students mobility and flexible curriculum options.

The current curriculum structure is broken down into smaller sections with an emphasis on study hours that can be converted into credit hours in accordance with international standards that are adhered to by many other nations in order to guarantee the graduates' acceptance on a global scale.

1.6.4 An integrated curriculum structure

In its purest form, vertical integration is the process of integrating clinical knowledge and skills into the basic science years while also highlighting and extending the teaching of basic science concepts' applications during the clinical years. Only the first half of the process is included in many so-called "vertical integration" initiatives.

The process of identifying concepts or abilities that are cross-cutting (like the basic sciences) and particularly clinically relevant, then using them as a cohesive theme for presentations, clinical examples, and course materials is known as horizontal integration; for instance, integrating human anatomy, physiology, pathology, and other basic science courses about organ systems; or integrating computer skills, ethics, legal concerns, finance, politics, humanities, and culture into various course components, such as the clinical continuum.

Through the use of a common language of medical science, an integrated curriculum seeks to help students reach a level of scientific fluency that goes beyond simple fact and concept acquisition. This will enable them to start thinking creatively about medical issues.

In addition to bridging the gaps between theory and practice, as well as between hospital-based and community practice, this creative new curriculum has been designed to support both horizontal and vertical integration between disciplines. The amount of time spent on laboratory and basic sciences (along with their clinical applicability) would be the maximum during the first year of training, gradually declining during the second and third years, placing a greater emphasis on clinical exposure and learning.[11] Nevertheless, it might vary from one course to another based on the professional group.

1.6.5 Learning methodologies

With a focus on self-directed learning, the curriculum will include a foundation course that focuses on communication, basic clinical skills and professionalism; and will incorporate clinical training from the first year itself. It is advised that basic and laboratory science education be combined with adequate clinical experience at the primary care level. The introduction of case scenarios for class discussions and case-based learning should also be prioritized.

An effective healthcare system is built on healthcare education and training, and India's educational system has not yet benefited from the ongoing global technological revolution. Clinical skills are taught and learned at the patient's bedside or in other clinical settings, like laboratories, with the addition of didactic instruction in classrooms and lecture halls, according to the report "From Paramedics to Allied Health: Landscaping the Journey and way ahead." The adoption of successful assessment patterns has led to a paradigm shift toward outcome-based education in addition to keeping up with the rapid advancement of technology. But in institutions where it is currently scarce, the need for competence demonstration must be encouraged. The report also lists a few Indian healthcare and allied education institutions that have set up clinical skill centers, labs, and high-fidelity simulation labs to improve training and practice for healthcare and allied education professionals. Simulated patients, computer-assisted resources, and mannequins are used to replicate all or a portion of a clinical encounter, as the report reiterates. By properly training the workforce on newer technologies, simulators help address a number of problems, including inefficient use of resources and equipment, limitations in providing hands-on training in real-life situations, and inefficient methods for assessing skills. The numerous teaching and learning approaches that make use of cutting-edge resources and technologies are listed in the table below:

Table 1.1 Clinical teaching-learning process that employ cutting-edge methods

Patients	• Teach and evaluate in specific clinical settings • Develop soft skills for evaluation, OT diagnosis and planning for intervention and activity prescription. • Use Occupational Therapy Practice Framework (evaluation of Occupational performance areas, performance components and performance contexts) perform a physical examination. • Application of methods, modalities and strategies in Occupational Therapy • Practice periodical evaluation • Get performance feedback
Mannequins	• Application of the skills learned. • Develop fundamental procedural knowledge. • Apply basic science for understanding clinical problem solving ADL training, Basic life support
Simulators & Mobile Health (mHealth) Applications	• Develop your leadership and teamwork skills • Execute pulmonary and cardiac care techniques • Use your patient care skills • Use your knowledge of fundamental science to solve clinical problems • Deliver programs, reminders, and educational resources
Use of Videos/ Artificial Intelligence and Machine Learning	• Videos of patients, mannequins, and subjects that have already been recorded • Online photos and videos from reputable organizations and institutions • Reference and textbook materials, among other things • Analyze large datasets to predict outcomes and tailor therapy
Task under Occupational therapists	• Tasks as specific to the Occupational Therapy Profession: sensory integration, pre-feeding stimulation & techniques, Ergonomics & work hardening, Functional assessment & training, Disability evaluation & certification, customizing splints/orthosis & adaptive devices, home modifications, school-based OT, mental health screening and rehabilitation, industrial rehabilitation, Customizing orthosis & adaptive devices etc.

1.6.6 Methods of Assessment

The annual assessment system is the traditional method of evaluating students. Internal and external tests, as well as a theory exam at the end of the year or semester, make up the majority of institutions' assessments. In essence, this evaluates knowledge rather than abilities or proficiencies. In competency-based training, students are evaluated according to how well they perform the skills that correspond to their competencies. As a result, each of the three qualities—knowledge, abilities, and attitudes—is evaluated in accordance with the specific competency.

Nowadays, a number of new techniques and resources are easily available, but using them calls for specialized training. Below are a few of these:

- Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OSPE), Objective Structured Long Examination Record (OSLER)
- Mini Case Evaluation Exercise
- Case-based discussion (CBD)
- Direct observation of procedures (DOPs)
- Portfolio
- Multi-source feedback
- Patient satisfaction questionnaire

These days, many healthcare and allied courses use an objective structured clinical examination (OSCE). It assesses proficiency in clinical examination, administration of various assessment tools and application of Occupational Therapy procedures/prescriptions. In Occupational Therapy, the basic essential elements consist of functional analysis of the occupational roles, translation of these roles ("competencies") into outcomes, and assessment of trainees' progress in these outcomes on the basis of demonstrated performance. The competencies attained, not the underlying procedures or amount of time spent in formal educational settings, are the only factors that define progress. The majority of approaches emphasize regular evaluation of learning outcomes by using predefined, accepted assessment criteria (such as rating scales for scoring or observation checklists). Teachers must therefore be aware of these developments and appropriately implement them in the educational system.

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Chapter 2

Approach to the Curriculum Development

2.0 Approach to the Curriculum Development

Following the publication of the report "From Paramedics to Allied Health: Landscaping the journey and the way ahead," the Ministry of Health and Family Welfare gave top priority to the main suggestions and issues brought up by different healthcare and allied professional associations and specialists, as stated in the report. The report's main recommendations included the necessity of standardizing the curriculum and pedagogical requirements for the main courses taken by allied and healthcare professionals.

2.1 Actions taken during the curriculum development:

A uniform standard curriculum is required, and it should be upgraded to meet the nation's current needs while taking into account the NCAHP Act and its provisions for the regulation and upkeep of standards of education and services by allied and healthcare professionals. This curriculum has been developed in light of the standards of occupational therapy professions worldwide and with reference to the modifications in curricula at reputable national and international universities and institutions. A comprehensive and internationally recognized set of educational standards founded on skills and competencies is part of this.

2.1.1 Constitution of Occupational Therapy Task force committee:

To guarantee broad geographic representation and meet a range of needs throughout the country, a taskforce committee was constituted by NCAHP with professional experts in the fields of academia, practice, and research from top government and private institutions throughout India. These individuals designed the curricula using a standardized framework and functioned as subject matter experts. The task force committee was given guidelines by the commission to update and recommend new guidelines for occupational therapy education and practice in India.

2.1.2: Taskforce meetings:

A series of twenty-five online meetings lasting two to three hours each involving all taskforce member were organized to complete the work of development of This hand book.

2.1.3 Literature review:

The handbook of the "Minimum standards of Academic council of occupational therapy of All India Occupational Therapists' Association," UGC guidelines, and the curricula of all the top Indian universities were referred as the fundamental framework. These served as a starting point for revision and upgrading to meet international standards in occupational therapy education and practice while taking into account technological developments and updates.

A consensus was established among the task force committee members regarding the inclusion or exclusion of various suggestions, informed by both member deliberations and a comprehensive review of the literature. The diverse and extensive expertise of the task force members in their respective domains had played a pivotal role in evaluating the relevance of the proposed curriculum within the broader healthcare context, marking a significant milestone in the standardization of Occupational Therapy education in India." Detail deliberations were made regarding the framework, content, competencies, hours, examination pattern, and recommended teaching, learning & assessment methods. The curriculum was developed for Bachelor of Occupational Therapy (BOT), Master of Occupational Therapy (MOT), and PhD programs.

2.1.4 Public opinion: was solicited on public platform for 15 days through which more than 2000 comments were received, reviewed and incorporated appropriately as per the recommendations of the Taskforce members.

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2.2

The versatile and immense experience of task force members in their respective streams, to assess the applicability of the curricula drafted in view of the healthcare system as a whole will be a milestone in standardization of Occupational Therapy education in India. After lengthy discussion, all of the experts agreed for drafting the curriculum in the line of the following thematic areas:

1. The occupational therapy profession requires the development of minimum curriculum guidelines.
    - Future-focused and patient-centered curricula are ideal.
    - Needs to incorporate the most recent technological developments.
    - Needs to permit worldwide mobility and be in line with international standards.
2. No institution should offer any distance learning or part-time programs in healthcare science; all programs should be offered full-time.
3. The following must be covered in curricula:
    - The profession's definition
    - Entry requirements
    - Entry qualification: Bachelor-level programs other than entry qualification that are desired in the profession
    - Qualification nomenclature
    - The length of the internship combined with the length of each program level

      Competencies must drive the curriculum content and are required at the end of each level

      The number of desired faculty members (along with their hierarchy and designations) and the minimum requirements for each program level
    - Batch size and student-to-faculty ratios
    - Program evaluation framework and assessment at the conclusion of each program

      Information about journals, reference books, and necessary and desired equipment must also be taken into account

4. To guarantee the bare minimum of proficiency in fundamental subjects, a predetermined credit-based system must be adhered to. It is necessary to assign credits and hours to every subject.
5. A shared entrance method to be taken into account for the program
6. "English" should be used as the teaching language.
7. Each program level will incorporate a competency framework that includes performance criteria as well as relevant knowledge, skills, and behaviors.
    - The competencies ought to be quantifiable and in line with evaluations
    - The weighting of the content, number of hours, and credits for foundation courses may vary depending on the needs of different professions, and they may be distributed throughout the program
    - Focus on soft skills and communication.
8. An internship must be required for all programs
    - Rotatory internships can also be required by clinical programs to give students more clinical exposure
    - Since the internship is a component of the academic program, educational institutions should be responsible for making sure that students complete it at the affiliated hospital
    - To guarantee that students receive practical experience, standalone institutions must have a memorandum of understanding (MoU) with a medical college, hospital, or healthcare facility in accordance with the guidelines (i.e., the desired number of OPD, etc.) specified in the curriculum
    - The memorandum of understanding should specify the clinical supervision of the students; clinical preceptors or institutional staff may be taken into consideration
    - Internship students must receive a stipend of a fair amount
    - Since internships are a component of the academic program, they cannot be counted as work experience
    - The curriculum must also include student or observer participation
    - If available, simulation and skill labs can be utilized during the first few years of observership or studentship to practice program-specific skills

- A few hours each year may be set aside for workshops or seminars on emerging technologies
- Students and interns should be given transportation if the clinical facility is located off campus
- After the internship is over, all practical skills must be monitored, documented in a digital logbook, and assessed

9. Master's programs ought to be encouraged in order to foster field specialization and produce qualified faculty members.
10. PhD in Occupational therapy should be encouraged in educational and research institutions. Appropriate regulations for the institutions, co-supervisor or research supervisor, PhD length and procedure for the entire PhD program should be formulated.

2.3 Occupational Therapy Professional Council Member Meeting:

A physical Meeting was organized among all Five council members at NCAHP office on 20th and 21st May 2025 for finalizing the draft curriculum.

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Chapter 3

Background of the Occupational Therapy Profession

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3.1 Statement of Philosophy–

The philosophy of Occupational Therapy is rooted in the belief that engagement in meaningful occupation is essential for health, well-being, and quality of life. Occupational Therapy views individuals as holistic beings whose physical, emotional, cognitive, and social components are interdependent. This client-centered profession emphasizes the therapeutic use of purposeful and meaningful activities to enable people of all ages to participate in the roles and routines of daily life. The dynamic interaction between the person, environment, and occupation forms the core of Occupational Therapy practice, aiming to promote independence, dignity, and functional performance across various life domains.

Occupational Therapists must have commitments to lifelong learning and to search for the evidence that supports and advances practice. Critical thinking, problem solving, intellectual perseverance and courage are all essential characteristics of the successful occupational therapist.

3.2 Definition of Occupational Therapy & Occupational Therapist

- "Occupational Therapy is a holistic, evidence based client centered first contact and/or referral profession of modern health care system, based on science of occupation with primary focus on purposeful goal-oriented activity/occupations, enhanced with the use of latest technological systems for evaluation, diagnosis, education and treatment of the clients whose function(s) is (are) impaired by physical, psychosocial & cognitive impairments, whether congenital or acquired, affecting their quality of life with the aim to prevent disability, promote health & well-being and return to optimum occupational roles.
- Specific occupational therapy services include but are not limited to: preventive health literacy, assessment & interventions in activities of daily living (ADL), work & productive activities, play, leisure and spiritual activities; functional capacity analysis, prescription, designing and training in the use of assistive technology, adaptive equipment & splints, and environmental modifications to enhance functional performances." (AIOTA 2017)

- In occupational therapy, occupations refer to the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to and are expected to do. Occupational Therapy is thus an applied science based on scientific reasoning that enhances ability of client to participate in purposeful occupational tasks.
- Occupational therapists have a broad education in the medical, social behavioral, psychological, psychosocial and occupational sciences, which equips them with attitudes, skills and knowledge to work collaboratively with people, individually or in groups or communities. Occupational therapists work for all people, including those who have an impairment of body structure or function owing to a health condition, have activity limitations or who are restricted in their social participation.
- Occupational therapists believe that participation can be supported or restricted by the physical, affective or cognitive abilities of the individual, the characteristics of the occupation, or the physical, social, cultural, attitudinal and legislative environments. Therefore, occupational therapy practice is focused on enabling individuals to change aspects of their person, the occupation, the environment, or some combination of these to enhance occupational participation (WFOT). The core concepts of professional practice correlate well with the current concepts of the model of International Classification of Functioning Disability and Health [ICF] WHO 2001.

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- The NCAHP Act 2021 defines an Occupational Therapy Professional as the following:
    - "Occupational Therapy Professional is a person who delivers client-centered services concerned with promoting health and wellbeing through occupation to enable people to participate in the activities of everyday life, which includes professionals such as Occupational Therapists who achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they are expected to do, or by modifying the occupation or the environment to better support their occupational engagement. The Occupational Therapist can practice independently or as a part of a multi-disciplinary team and has a minimum qualification of a baccalaureate degree.
    - The Occupational Therapist assesses/evaluates, diagnoses, plans & implements the treatment and rehabilitation program of all age groups of persons (neonates to geriatric population) having any impairment which hamper their participation in their daily functions and prevent them from achieving their life roles. Occupational Therapy professionals use scientific knowledge base & advocacy skills to protect, promote and optimize health & functional Independency and prevent illness/injury, alleviate suffering of human responses while assuming responsibility via. Holistic Approach.
    - The Occupational Therapist can practice independently or as a part of a multi-disciplinary team and has a minimum qualification of a baccalaureate degree. (NCAHP Act 2021)
    - **The International Standard Classification of Occupations (ISCO)** given by the International Labour Organisation (ILO) is 2269**.**

3.3 Responsibilities / Activities

Occupational Therapy is a health care profession & is an essential part of health & community service delivery system. Occupational Therapist helps individuals, families, groups, communities, organizations, or populations to develop strategies and opportunities to maximize the engagement in one's 'occupations' includes things people need to, want to and are expected to do according to their living context. Occupational Therapists use a scientific approach based on evidence and clinical reasoning for their decision-making process.

Occupational Therapists practice independently of other health care/service providers and also within multidisciplinary rehabilitation/habilitation programs to prevent, gain, maintain or restore optimal function and quality of life in individuals. Such a decision-making process by Occupational Therapist, ensuring that the needs of patients are met involves multiple steps:

- Comprehensive Assessment
- Diagnosis
- Decision making on intervention planning with appropriate clinical reasoning
- Planning an individual / beneficiary specific evidence based intervention
- Implementation of the proposed intervention
- Monitoring
- Modifying the intervention based on the input from monitoring
- Re-evaluating the client / beneficiary of occupational therapy services
- Effectively liaison with all the other associated professionals

3.4 Scope of Practice:

Occupational therapists are committed to the provision of culturally appropriate care to all clients. They work within a multicultural society, remaining cognizant of their own cultural values whilst also striving to understand and respect the particular cultural context of their clients. All Occupational Therapists registered to practice are qualified to provide safe and effective occupational therapy & are guided by their own code of ethical principles. They have me National entry-level education and practice standards, and have successfully passed a standardized Occupational Therapy competence examination The minimum education requirement is often a baccalaureate degree in Occupational Therapy.

The roles implicit by occupational therapists include, but are not limited to

- Clinician
- Counsellor
- Occupational-related health risk assessor and advisor (e.g., Evaluation of Work-Related Musculoskeletal Disorders (WRMSDs), worksite ergonomic evaluation, driving evaluation etc.)
- Program director (e.g., a specific program to promote mental health among elderly OR adolescents etc.)
- Rehabilitation director
- In addition to these roles related to the 'direct delivery' of occupational therapy services, an occupational therapist may also manage other roles like,
- Researcher
- Academician
- Diplomat

3.5 Practice settings

Occupational Therapy is delivered in a variety of settings which allow it to achieve its purpose. Prevention, health promotion, treatment/intervention, habilitation, and rehabilitation take place in multiple settings that may include, but are not confined to, the following:

- Government organizations/institutions/hospitals/projects
- Non- government organizations
- Private sectors like
- Acute care hospitals & nursing homes (Indoor & out door patients)
- Rehabilitation centers
- community settings including primary health care centers, individual homes and field settings
- Special schools /Main stream Schools/ Integrated schools/preschool centers
- Child development centers
- Geriatric clinics/centers
- Chronic care facilities/ Nursing homes

- Social agencies/Community-Based Rehabilitation (CBR) & Disaster Management Projects
- Hospice care facilities
- Mental Health Setups /Institutions and Hospitals
- Corporate offices/Ergo Furniture manufacturing industries & others
- Occupational health centers
- Public settings (e.g., shopping malls, public transport) for ACCESS
- Prisons
- Education and Research Institutes/Centers
- Fitness clubs, health clubs, gymnasium
- Forensic medicine
- Women wellness clinics/centers
- Some occupational therapists develop expertise in a specific working area, or with a specific age group or disability.

3.6 Professional code of ethics

Premble

Applications of Code and Ethics Standards Principles are considered universally and where a conflict exists, occupational therapy personnel will pursue responsible efforts for resolution. The guiding principles of Code of ethics are intended to orient the individuals within the profession, ensure the clients best interests and to protect the professional itself and its position. Professional ethics ensure a place of trust within the health care system for those who choose to practice occupational therapy. The ethical principles mainly include Autonomy, Veracity, Justice, Fidelity, and Beneficence among others. Occupational Therapists duly registered with the NCAHP /State Council are expected to abide by this Code of Ethics. The goal of the Code of Ethics is to achieve and maintain high standards of professional integrity toward clients, colleagues, partners, stakeholders and the public. The Code describes the expected conduct of all registered members in occupational therapy practice, including those involved in direct service to clients, management, administration, education and research.

The following Code of Ethics is expected from the professionals practicing Occupational Therapist:

- Possess the qualities of integrity, loyalty and reliability.
- Use professional communication with clients, colleagues, partners and stakeholders.
- Value and respect clients right to be self-directed in their decision-making in accordance with their own needs, values and available resources.
- Value and respect client's rights to be treated with respect and dignity within a safe and non-judgmental environment.
- Ensure confidentiality and privacy of personal information.
- Recognize and manage issues related to conflict of interest.
- Maintain a standard of professional competency to provide high quality service.
- Abide by legislative requirements and codes of ethics established by provincial occupational therapy regulatory organizations (As applicable) and other organizations to which the members have obligations (e.g., employer, facility)
- Contribute to interdisciplinary collaboration and development of partnership to advance the occupational performance of the population served.
- Understand and manage ethical implications involved in all practice domains, including research.
- Participate in continuing professional development throughout their career and apply new knowledge and skills to their professional work which is based on best available evidence.
- Promote their profession to the public, other professional organizations and government at regional, provincial and federal levels and
- Contribute to the development and/or dissemination of professional knowledge.

Occupational Therapists shall work on the basis of first contact / referral and shall observe the code of ethics specified as below:

3.6.1 Responsibility to Self as a Professional

Occupational Therapists should demonstrate knowledge & skill of high academic & professional standards, open-mindedness & respect and maintain professional integrity while rendering services. They shall provide services within the framework of occupational therapy based on curriculum, experience, research and practice.

3.6.2 Responsibility to the Recipient of Services

- Occupational Therapists shall:
- Provide services to recipients without discriminating on the basis of caste, colour, religion, race, ethnicity, geography, age, gender, gender identity, sexual orientation, economic status, impairments and disabilities, marital status, culture and political affiliation.
- At all-time strive to give treatment of the highest level of professional skill. Establish a collaborative relationship with recipients of service including families, significant others, and caregivers in setting goals and priorities throughout the intervention process. This includes full disclosure of the benefits, risks, and potential outcomes of any intervention; the personnel who will be providing the intervention(s); and/or any reasonable alternatives to the proposed intervention.
- Ensure that confidentiality and right to privacy are respected and shall discuss only pertaining facts with other professional persons involved in the treatment program.
- Ensure that people receiving their services feel safe, accepted, and are not threatened by actions or attitudes of the therapist.
- Respect the consumer's right of consent or refusal for services, involvement in research, or educational activities.
- Shall intentionally refrain from actions that cause harm or injury to the recipient of services.

- Avoid relationships that exploit the recipient of services physically, emotionally, psychologically, financially, socially, or in any other manner that conflicts or interferes with professional judgment and objectivity.
- Avoid engaging in any sexual relationship or activity, whether consensual or non- consensual, with any recipient of service, including family or significant other, while a relationship exists as an occupational therapy practitioner, educator, researcher, supervisor, or employer.
- Avoid any undue influences, such as alcohol or drugs, that may compromise the provision of occupational therapy services, education, or research.
- Avoid exploiting any relationship established as an occupational therapist to further one's own physical, emotional, financial, political, or business interests at the expense of the best interests of recipients of services.
- Take appropriate steps to facilitate meaningful communication and comprehension in cases in which the recipient of services has limited ability to communicate.

3.6.3 Responsibility to Professional Colleagues

The Occupational Therapist must show professional concern for those practicing the same or other Professional skills, recognizing that only by achieving and fostering mutual respect and understanding the effective service can be rendered to the clients and others.

3.6.4 Responsibility to the Employers

The Occupational Therapist should be responsible to his employing Institution and should assist in interpretation of its functions within the community. He/she must accept his/her proper share of responsibility to the Organization and administration to the department to which he/she is appointed.

3.6.5 Responsibility to develop Professional Knowledge

Occupational Therapists shall be responsible for actively maintaining, updating and developing their personal professional competence and apply their developed /acquired skill and knowledge in the professional work based on best available evidence. If carrying out research and/or studies the client's informed consent should be obtained and there should not be any conflict of interest involved. The novel ideas / techniques in the field of Occupational Therapy must be evidence based. The researcher's contribution to development of body of knowledge must be acknowledged as per research norms.

3.6.6 Responsibility to the Profession of Occupational Therapy

The Occupational Therapist must recognize his/her responsibilities in contribution to the growth and development of his/her profession through the exchange of information, rising of treatment and educational standards and improving conditions or employment. They should be committed to promote occupational therapy in public, government and/or private sector bodies at state, national and international Levels. Occupational Therapists shall uphold and foster the values, integrity, and ethics of the profession. The Occupational Therapist shall report to appropriate authorities any acts in practice, education, and research that appear unethical or illegal.

3.6.7 Responsibility to the Community

Occupational Therapists shall-Promote information and understanding relative to the function and procedures of Occupational Therapy. Ensure that their fee structure is fair and reasonable. They shall charge fees which are a fair reflection of services delivered both to individual and organizations with which they have contracts for service. At all times recognize the fact that, in the eyes of the public, the attitude and philosophy he/she presents, portrays the profession.

3.6.8 Responsibility towards Professional Organisation

The Occupational Therapist must recognize his/his responsibilities for improving conditions or employment by supporting his/his professional organizations at the local, national and international levels. Occupational Therapists must become an integral part of the national associations for multidimensional growth of the profession in the country.

3.7 Recognition of Title & qualification on the basis of carrier progression

- Within the multidisciplinary team, the professional responsible for administrating Occupational Therapy treatment also at times referred to as the Occupational Therapist. The terminology of Occupational Therapist is an internationally adopted nomenclature and thus should also be applicable in an Indian context.
- The Commission recognizes any Healthcare professional as "Occupational Therapist" who has acquired Bachelor of Occupational Therapy from recognized university/College as per the regulations of the Commission.
- The recommended title thus stands as the "Occupational Therapist" with the Prefix **"Dr"** and suffix **"OT"**
- It is a known fact that with the career advancement, the nomenclature will also vary and will also depend on the sector and profile of the professional/ profession.
- The tables below indicate the various channels of career progression in three distinct sectors such as clinical setting, academic and research route. It is envisaged that the Occupational Therapist will have one entry pathway – graduates with baccalaureate. The level of responsibility will increase as the career progresses. The tables also indicate the corresponding level of qualification with experience required by the professional to fulfill the requirements of each level.

- Provision of time bound career progression for Occupational Therapist in Clinical, Academic and Research sector as per NMC.
- Considering the extent of patient dealing in case of Occupational Therapist and such other professions, Government aims to phase out the Diploma and PG Diploma level courses and promote only Bachelor's and Master's degree courses. In the academic front, to work at the position of a Lecturer/Assistant Professor the candidate must attain Master's degree.

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Table 3.1: Nomenclature based on Clinical career progression for Occupational Therapist

Sector	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct Recruitment	Promotion	
Clinical	i. Clinical Occupational Therapist	Fresh BOT graduate	Fresh BOT graduate	As they will work in the same position for next three years and they will need to have performance appraisals
	ii. Senior Clinical Occupational Therapist	Three years of clinical experience	Three years' of clinical experience	Proficiency test CR, self-appraisal & HOD/Principal's Appraisal/year
	iii. Superintendent Occupational Therapist	Five years' of clinical experience with MOT qualification desirable	Five years' experience in the post of Senior Occupational Therapist MOT is desirable for promotion	Proficiency test CR, self- appraisal & HOD/Principal's Appraisal/year Attended Two National / International conferences.
	iv. Chief Occupational Therapist	Eight years' experience as Superintendent Occupational Therapist.	Eight years' experience as Superintendent Occupational Therapist.	Proficiency test CR & Self-appraisal/ year Attended Two National / International conferences
		MOT is Mandatory	MOT is Mandatory	

Sector	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct Recruitment	Promotion	
	v. Director Occupational Therapy/Head of the Occupational therapy Department*	Five years' experience as Chief Occupational Therapist.	Five years' experience as Chief Occupational Therapist.	Proficiency test CR, Self appraisal/ year. Three national/ International Conference.
		MOT is Mandatory	MOT is Mandatory	
	vi. Assistant Director General [A.D.G]	Five years of clinical experience as Director OT. MOT is Mandatory	2 years' experience as Director OT. MOT is Mandatory	Proficiency test CR, Self appraisal/ year Five National/ International Conferences

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Table 3.2: Nomenclature based on academic career progression for Occupational Therapist

Sectore	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct Recruitment	Promotion	
Academic	i. Assistant Professor	Fresh MOT graduate	Fresh MOT graduate	As they will work in the same position for next three years and they will need to have performance appraisals
	ii. Assistant Professor (Senior)	Three years' of experience as Assistant professor Ph.D**. is Desirable for promotion/ direct recruitment to Assistant Professor (Senior grade)	Three years' of experience as Assistant professor/Lecturer Ph.D**. is desirable for promotion/ direct recruitment to Assistant Professor (Senior grade)	Proficiency test CR, self- appraisal & HOD/Principal's Appraisal/year Two Conference presentation as Asst. Professor Junior/Lecturer. Two publications during tenure period as Asst. Professor Junior
	iii. Associate Professor	Total Five years of experience as Assistant Professor (out of which minimum 2 yrs as Senior AP preferably) PhD** is Mandatory.	Total Five years of experience as Assistant Professor /Lecturer (out of which minimum 2 yrs. as Senior AP preferably) PhD** is Mandatory.	Proficiency test CR & Self- appraisal/ year Two Conference presentation as Asst. Prof. Senior Three Publications as Asst. Prof. Senior

Sectore	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct Recruitment	Promotion	
	iv. Professor	Five years of Experience as Associate Professor or Total 13 years of teaching experience. **PhD Mandatory.	Five years of Experience as Associate Professor or Total 13 years of teaching experience. Senior most Professor will be the Principal/Dean **PhD Mandatory.	Proficiency test CR, Self appraisal/ year Three Conference presentations as Associate Professor Three publications as Associate Professor

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Table 3.3: Nomenclature based on Research career progression for Occupational Therapist

Sector	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct recruitment	Promotion	
Research	i. Scientist -C	MOT, PhD in Occupational Therapy	MOT, PhD in Occupational Therapy	Proficiency test CR, self- appraisal & HOD/Principal's Appraisal/year
				One Conference presentation, One publication during tenure period
	ii. Scientist D	Five years of research experience as Scientist C.	Five years of research experience as Scientist C.	Proficiency test CR, self- appraisal & HOD/Principal's Appraisal/year
				Two Conference presentation as scientist C Two publications during tenure period as Scientist C.
	iii. Scientist E	Eight years of experience as Scientist D	Eight years of experience as Scientist D	Proficiency test CR & Self-appraisal/ year
				Two Conference presentation as Scientist D Three Publications (as first author) as Scientist D

Sector	Progression from Entry level	Eligibility and Experience		Annual Performance based appraisal
	Designation	Direct recruitment	Promotion	
	iv. Scientist F	Five years of Experience as Scientist E	Five years of experience as Scientist E	Proficiency test CR, Self-appraisal / year. Three Conference presentations as Scientist E Three publications (as first author) as Scientist E.
	v. Scientist G/ Research Head	Five years Experience as Scientist F	Five years of experience as Scientist F (Designation as per UGC / ICMR Norms)Scientist D	Proficiency test CR, Self-appraisal / year Five Conference presentations as Scientist F Five publications (as first author) as Scientist F

** For hospitals/ universities having department of Occupational therapy*

*** Ph. D. under any specialty/ discipline in Occupational therapy Only*

**** Pay scales for Clinical, research and academic designations will be same at different levels. E.g. Pay scale of Senior Occupational therapist (Clinical), Assistant Professor (Academic) and Scientist C (Research) at the same level, will be the same*

- A minimum of 55 % marks in MOT examinations is required for taking academic designation or research designation. A relaxation of 5% may be provided at the graduate and master's level for the Scheduled Caste/Scheduled Tribe/ Differently-abled (Physically and visually differently-abled) categories for the purpose of eligibility and for assessing good academic record during direct recruitment to teaching positions. The eligibility marks of 55%marks (or an equivalent grade in a point scale wherever grading system is followed) and the relaxation of 5% to the categories mentioned above are permissible, based on only the qualifying marks without including any grace mark procedures.
- Mandatory Ph.D. will be applicable after five years of implementation of these rules where ever mentioned in above Tables- 3.1, 3.2, & 3.3. These qualifications are applicable for future recruitment.

  In the case of teachers who are already holding teaching posts and have more than 10 years teaching experience will continue to hold their post in their respective institution.
- All Academic Post are full time teaching Post and a teaching experience from Head/ Principal/ Director of a recognized Occupational Therapy college or Institution will only be valid for counting any teaching experience.
- All teaching staff will engage in clinical practice at the attached hospitals/OPD, assuming dual responsibilities. Their workload will be calculated accordingly, with hours spent in clinical settings considered equivalent to theory hours.
- All teaching faculties should compulsarly be trained in "Implementation of Competency-based curriculum for BOT" organized by competent authority.
- It is preferably for all teaching faculties to attend "Faculty Development program" every three years.
- Occupational Therapists on clinical posts who impart and are responsible for clinical training and supervision of Occupational Therapy students/ interns will be provided with academic experience by the Dean /Principal of the respective recognized Occupational Therapy college will only be valid.

3.8 Job availability

As per ILO documentation, employers worldwide are looking for job applicants who not only have technical skills that can be applied in the workplace, but who also can communicate effectively, including with customers; can work in teams, with good interpersonal skills; can solve problems; have good ICT skills; are willing and able to learn; and are flexible in their approach to work. Graduates can expect to be employed in hospitals and private practices as Occupational Therapist. A career in research, following the completion of a higher degree such as a PhD, is an option chosen by some graduates. Graduates are eligible for employment overseas where their qualifications, training and experience are highly regarded. Graduates have good employment prospects, and will enter a field in which the demand for professionals has increased in recent years and will keep on increasing due to chronic conditions, lifestyle change. An ageing population requiring increased medical rehabilitation services, together with the continuing introduction of hi-tech equipment, ensures strong demand for future graduate

3.9 Education of the Occupational Therapist

When developing any education program, it is necessary that program planning should be outcome-based, meeting local and national manpower requirements, personal satisfaction and career potential for the professionals with supporting pathways in the development of the profession. One of the major changes is the shift from a focus based on traditional theoretical knowledge and skills to competency-based education and training. Optimal education/training requires that the student is able to integrate knowledge, skills and attitude in order to perform a professional act adequately in a given situation.

Thus, the curriculum in Chapter 4 aims to focus on skills and competencies-based approaches for learning and are designed accordingly. The curriculum is designed with an aim to standardize the content across the nation. The aim of 5 years degree program is to enable the development of an OT as a key member of the multidisciplinary team and to enable him/her to execute advanced preparation/planning/delivery of Occupational Therapy treatment with quality assurance.

With the change in the disease dynamics and multifold increase in the cases needing specialized Occupational Therapy treatment, it is imperative that a well-structured program of postgraduate education is also encouraged so as to enhance research capacity within the country to widen the scope of clinical practice for the profession. Thus, a master's degree program is recommended with minimum of two years of education in specialized field of Occupational Therapy. The post graduate students can contribute significantly in research and academics.

PhD also plays a significant role in the academic system of occupational therapy; however, the curriculum has not indicated any prescriptive guidelines for that level apart from mapping it on the career and qualification map.

3.10 Requirements of Infrastructural, Functional Equipment and Human Resources:

The establishment of an Occupational Therapy college

No person shall establish a college/institute without obtaining prior permission from the commission.

The following organizations shall be eligible to apply for permission to set up an Occupational Therapy college, namely: -

1. A State Government/Union territory
2. A University and Deemed to be University,
3. An autonomous body promoted by Central and State Government by or under a Statute for the purpose of medical education;
4. A society registered under the Societies Registration Act, 1860 (21 of 1860) or corresponding Acts in State
5. Companies registered under the Company Act may also be allowed to open occupational Therapy colleges.

6. Occupational Therapy education prepares a person for independent practice and involves extensive clinical training in almost every specialty & super specialty of modern medicine and all other aspects of health care. Henceforth, new occupational Therapy College/institutes can only be established in National Medical Commission (NMC) recognized medical colleges. These colleges/ institutes will need to fulfil the entire essential requirement as following. However, the institute may share common facilities, faculties and infrastructure with the medical college.

3.10.1 LAND AND BUILDING –

a) If the college is in the premises of NMC permitted/ recognized medical college, no separate land is required. Existing norms of land for medical college will suffice. Besides that, the constructed area/Building norms for Occupational Therapy College must be fulfilled as per the requirements mentioned below. In all other cases, the applicant must provide the land details on which the institution will be established for providing Occupational Therapy education. In such cases, the Occupational Therapy College should have an attachment with the medical college & hospital (through signed MOU) in nearby vicinity. It should be in the name of the society/ trust /company applying for the same (sale deed/lease/gift deed etc.).

b) The applicant Institution / Trust should have a separate independent building for Occupational Therapy College and facilities for clinical training as per the curriculum as prescribed by the commission from time to time.

c) Such a building should be constructed in such a way that there is adequate parking space and recreational area or open space for students as prescribed by the commission.

d) Such a building should have adequate space and should have outpatient Occupational Therapy department, various laboratories as needed, office space, class rooms, a hostel and other ancillary facilities.

e) Minimum exclusive built-up area for such a college should be 31,000 sq.ft.

f) Building should be barrier free accessible to persons with disability and as per NBCI guidelines (National Building Code of India).

g) Building must be recorded on the appellate institute name or if the land is under lease agreement, it must be for at least 10 years

h) Building must have requisite clearances from the respective civic and administrative authorities like Fire NOC, structural stability certificate, land use certificates, etc.

i) Building must have CCTV cameras for CCTV surveillance in every area of common use as can be prescribed.

j) Biometric facility for students and staff, faculty attendance record/documentation buildings with disability friendly and accessible facility

3.10.1.1 Occupational Therapy Department/ O.P.D:

A well-equipped OPD facility in the Occupational Therapy department with instruments of all specialties like Musculoskeletal & Hand, Neurology, Paediatric, Cardiorespiratory, sports medicine, Geriatrics, Mental Health and Community should be available at the college premises. A student/ patient ratio of 1:5 should be maintained. In addition to the own Occupational Therapy OPD in the college building (in case of the existing institutions) if required, the College can get attachment (through signed MOUs) to a maximum of 5 Occupational Therapy depts./ OPDs in various hospitals with a minimum 50 patients OPD workload per day. An outpatient department at the tie-up facility cannot be considered as an independent Occupational Therapy OPD/ unit of the college. Besides the Occupational Therapy OPD at the campus, the institute should also start a community/extension center in nearby rural /semi urban area.

3.10.1.2 HOSPITAL / HOSPITAL ATTACHMENT –

a. If the college is in the premises of MCI/NMC permitted/recognized Medical College as constituent college, then, there is no requirement for attachment of any other hospital.

b. In all other cases proof of availability of 250 beds own/attached hospital (Government/Private) for clinical training of 50 students shall be furnished (student: Bed ratio of 1:5). The hospital must be within 10 km radius of the College. College must provide mandatory bus service to the students if the hospital is located more than 1 km away from the College. Within 5 years of application of these Rules, the colleges must have their Own Prescribed Hospital on the college premises.

c. College can be affiliated to maximum five (05) hospitals having indoor and outdoor facility in the following specialties to have cumulative/total bed strength of 250.

Table 3.4 Cumulative bed strength as per Specialties / Super Specialties Occupational Therapy

Sr. No.	Specialties / Super Specialties Occupational Therapy
1	Orthopedics Neurology & Neurosurgery
2	Medicine including rheumatology, geriatrics and emergency medicine
3	Surgery including plastic surgery and burns
4	Mental Health
5	Orthopedics, Hand & Sports Science
6	Paediatric, Paediatric surgery and Neonatal ICUs
7	Respiratory medicine
8	Cardiology, ICU and cardiothoracic surgery
9	Geriatrics
10	Total bed strength = 250

d. Tie up hospitals cannot get attached to more than two colleges. If the affiliated hospital is attached with two colleges, the bed strength must be adequately divided amongst the colleges as per the prescribed student: bed ratio.

e. The affiliated hospital shall provide information regarding any MOU with other colleges, if any & MOU should be for at least five years or as per the respective state policy.

f. The MOU should mention the available clinical specialties, patient loads, and availability of required equipment for clinical training with names and designations of the faculties responsible for the training in the hospital.

g. FACULTY: The college/institute must arrange for occupational therapy faculties for supervision and clinical teaching of students inside the hospital. This can be done either by posting its own occupational therapy faculties in the hospital or making remunerative arrangement for recruiting occupational therapy faculties of the hospital.

h. Hospitals may recruit its faculties of occupational therapy for supervision and clinical training of Occupational Therapy students and supervision of occupational therapy interns with similar eligibility, pay scales, and promotional avenues of occupational therapy institutes.

3.10.1.3 Occupational Therapy College Building: Total area: 31,000 sq.ft

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3.10.1.4 Space requirements for an annual intake of 30 students of Bachelor in Occupational Therapy (BOT):

Occupational Therapy course can be started by any Medical Teaching College.

Along with the course, the college will be expected to start an Occupational Therapy Department to provide Occupational Therapy services to patients and provide clinical experience to students. For this Separate building is recommended.

The Head of this department will have to be a senior most professor & certified Occupational Therapy practitioner with a minimum of master's degree in Occupational Therapy (Preferably PhD).

The faculty of the department of Occupational Therapy will have a dual responsibility of running the clinical work along with conducting lectures and practical for the students.

***ATTACHMENT TO NMC RECOGNIZED MEDICAL COLLEGE IS RECOMMENDED.**

Note: - Facilities like auditorium, canteen and playground could be shared with other the program me conducted in the campus by the same trust / society /educational board under the same university.

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Table 3.5 Infrastructure facilities

	Sr.No.	Description of clinical/service units/labs	Area in sq.ft
Hospital and other infrastructure facilities	1	Land & building Plot size 0.5acre	Land should be owned by trust or institute and should be earmarked for the institution, The Institution should submit the land papers
	2	Covered area (Including area for lifts, stairs, Corridors etc.)	31,000 sq.ft
	3	**ADMINISTARTIVE BLOCK**	
		Reception and waiting hall	500 sq. ft
		Principal office with attached toilet	200 sq.ft
		Secretariat/ Account office / record room	500 sq. ft
		Toilets separate gents & ladies	200 sq. ft
	4	**ACADEMIC BLOCK**	
		Library with reading room, photocopier, internet, computer, Journal room, video recording room	2000sq. ft
	5	**LECTURE THEATER** (minimum four in numbers) each lecture theatre 600sq ft @12sq. ft per student, ergonomically designed.	2400sq. ft
	6	**Labs with demonstration room and HOD**	
		Anatomy	1000sq. ft
		Physiology	1000sq. ft
		MSK & Hand therapy lab	1500 sq. ft
		Functional restoration & Assistive technology Lab	1000sq. ft Lab

	Sr.No.	Description of clinical/service units/labs	Area in sq.ft
		Work assessment, simulation, and hardening lab	500 sq. ft
		Cognitive-perceptual lab & Sensory motor therapy: Neuro OT	1000 sq. ft
		Psycho-social remedial lab: OT for Mental Health	1500 sq. ft
		Developmental Therapy: Paediatric OT	1000 sq. ft
		Sensory Integration Lab	1000 sq ft
		Cardio-Pulmonary lab	500 sq ft
	7	Clinical training. OPD Occupational therapy clinic in campus and attached with 200 bedded multi-speciality hospital.	OPD (Occupational therapy) in campus (essential) attached with 200 bedded multi-speciality hospital.
	8	Playground both indoor and outdoor sports facilities should be provided for staff and students.	3000 sq. ft
	9	Auditorium with latest audio	3000 sq. ft
	10	Common room separate common room for boys and girls 500 each.	1000 sq. ft
	11	College canteen	1000 sq. ft
	12	Toilet for staff/ students separate for gents & ladies	300 sq. ft
	13	Electricity	Continuous electricity supply stand by- UPS/ generator
	14	Water supply	Safe drinking water
	15	Communication facilities	Telephone andFax/ email etc.
	16	Visual equipment and facilities for LCD display	

	Sr.No.	Description of clinical/service units/labs	Area in sq.ft
Area Description of Clinical/Service Units/Labs in OT Dept.	1	Musculoskeletal and Hand Rehabilitation Lab	1500
	2	Neurological Rehabilitation Lab a) Cognitive-perceptual therapy unit b) Sensory motor therapy unit	1500
	3	Paediatric Occupational Therapy unit	1000
	4	Splinting/Assistive Technology Clinic/Lab	1000
	5	Psychosocial Remedial Lab (OT for Mental Health)	1500
	6	Activities of Daily Living Unit	500
	7	Work & functional Restoration Lab	500
	8	Standard Evaluation Lab	200
	9	Cardiopulmonary Lab	500
	10	Sensory Integration Therapy unit	1000
	11	Skill Lab	1500

3.10.2: Functional equipments/tools

Table 3.6 Machinery & Equipment Requirements: Occupational Therapy Department

	Sr. No.	Equipment	Required Quantity
Hand therapy lab:	1	Jobson Taylor Hand Function Test	01
	2	Purdue Pegboard Test	01
	3	Pinchometer	01
	4	Dynamometer	01
	5	Isolated finger exerciser	01
	6	Grip exercisers	01
	7	Craw ford small part dexterity test	01
	8	Minnesota test of hand functions	01

	Sr. No.	Equipment	Required Quantity
Functional restoration & Assistive technology lab	1.	Functional assessment kit for ADL	01
	2.	Ergonomically devised adapted equipment for home, work place and leisure	01
	3.	Self-help adapted equipment	01
	4.	Wheelchair modifications	01
	5.	Mobility aids	04
	6.	Electrical Drill machine	01
	7.	Sewing Machine	01
	8.	Heat Bath	01
	9	Splint Tools & material	01

	Sr. No.	Equipment	Required Quantity
Work assessment, simulation, and hardening lab: (Community-based and Industrial rehab)	1.	Tailoring equipment	01
	2.	Computer set	02
	3.	Driver rehab set	01
	4.	Work sample tests	01
	5.	staircase	01

	Sr. No.	Equipment	Required Quantity
Cognitive-perceptual lab & Sensory motor lab: (Neuro OT	1.	Cognition & Perception Testing Batteries	01
	2.	Sensory Assessment Kits	01
	3.	Balance Assessment Tools	01
	4.	Neuro-therapeutic modalities	01
	5.	Stability Trainers	01

Psycho-social remedial lab: (OT for Mental Health)	Sr. No.	Equipment	Required Quantity
	1.	Reaction time machine	01
	2.	Tests for fine motor skills and motor accuracy	01
	3.	Psychomotor activities	01
	4.	Indoor and Outdoor Games	01
	5.	Cognitive Retraining activities	01

Developmental Therapy lab: (Pediatric OT)	Sr. No.	Equipment	Required Quantity
	1.	Cerebral Palsy Chairs	05
	2.	Floor Mats	04
	3.	Play types of equipment	Lots
	4.	Vestibular-Proprioceptive equipment	01
	5.	Puzzles/Books	Lots
	6.	Fine-motor Games	Lots
	7.	Art activities	Lots
	8.	Perception assessment tools	01

Cardiovascular Lab	Sr. No.	Equipment	Required Quantity
	1.	Basic tools of assessment for Cardio-pulmonary parameters	01
	2.	Bicycle Ergometer	01
	3.	Treadmill	01
	4.	Fat pad measurement tools	01
	5.	Spiro meter	01

General Equipment:	Sr. No.	Equipment	Required Quantity
	1.	Gonio meters	05
	2.	Wobble Board	02
	3.	Exercise mattress (Large)	02
	4.	Exercise Mattress (Small)	02
	5.	Wall Bar	01
	6.	Slings and ropes (suspension apparatus)	01
	7.	Parallel Bars	01
	8.	Medicine Balls	02
	9.	Tilt Table	01
	10.	Axillary crutches (Adult & Pediatrics)	02 each
	11.	Wheel chair (Big and Small)	02
	12.	Walker (Adult and Baby walker)	02 each
	13.	K-Walker (Adult and baby)	02 each
	14.	Shoulder ladder	02
	15.	Wrist roller	01
	16.	Static cycle /Bicycle fretsaw	02
	17.	X-ray viewer	01
	18.	Rowing machine	02
	19.	Elbow crutches	02
	20.	Mattress for mat exercise	02
	21.	Posture examining device	01
	22.	Pelvic level device	01
	23.	Pelvic traction kit	01
	26.	De-Lorme's Metal Weight Shoe	01
	27.	Shoulder pulley, ladder, wheel	01
	28.	Treadmill machine	01
	29.	Quadriceps springs	01
	30.	BP apparatus	01
	31.	Skinfold calipers	01

General Equipment:	Sr. No.	Equipment	Required Quantity
	32.	Walking stick adjustable	02
	33.	Tripod stick adjustable	02
	34.	Vestibular ball (cotton)	02
	35.	Torch	02
	36.	Tendon hammer	02
	37.	Handgrip dynamometer	01
	38.	Multi exerciser	01
	39.	Therapy roll 34 inches	01
	40.	Examination Table	05
	41	Weights	09 pairs
	43.	Weight bars with weight pans	2+2+2
	44.	Sand bags	10
	45.	Peak flow meter	01
	46.	Therabands	04
	47.	Full length mirror	01
	48.	Inclined & horizontal sand boards	05
	49.	Sand blocks, weights, and pulleys	05
	50.	Peak flow meter	01
	51.	Full length mirror	01

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Table 3.7 Detail List of Tools & Equipment for OT Assessment & intervention as per Occupational Therapy sections

S. No.	List of Equipment (Paediatric Section including Sensory integration section)
1.	Baby bolster, small bolster, medium bolster
2.	Peanut & round therapy balls
3.	Small tilt board
4.	Benches– small & medium
5.	Mattresses -medium &Full size
6.	Baby wedge
7.	Large wedge
8.	Standing board – small
9.	Standing board – large
10.	Corner Seater - Tray Combination with Abduction Bar
11.	Walker – small
12.	Corner chair with adaptation of tray & abduction bar
13.	Trolley
14.	Therapy ball small, medium, and big
15.	Toys/rattles/puzzles/educational games/ Table top activities
16.	Exercise mats
17.	Bean Ball
18.	Ball Pool (without Balls)
19.	Ball Pool's Plastic Balls *500 no's
20.	Bean Bag
21.	Platform Swing with Adaptation Kit
22.	Flexion Disc
23.	Flying Trapeze
24.	Frog Swing
25.	Junior Nesti Benches
26.	Barrel

S. No.	List of Equipment (Paediatric Section including Sensory integration section)
27.	Vertical Bolster
28.	Scooter Board
29.	Sling Swing (Lycra with Net)
30.	Trampoline (Round)
31.	T Swing, Tube Swing & Platform swing
32.	Texture Fruits Tree
33.	Tower Ladder - Four Section
34.	Sensory mats
35.	Vibrator
36.	Baby swing
37.	Hammock swing
38.	Tunnel
39.	Weighted cuffs
40.	Trapeze Rod
41.	Tremble Ramp
42.	Posterior walker – small and medium
43.	Trampoline
44.	Sensory Garden (In the institute campus in the natural Environment)
45.	Auditory & visual sensory room
	List of Equipment (MSK/Neuro. /Hand /Cardio & Psychiatry section)
46.	Jamar Hand Dynamometer
47.	J-Tech (Tracker)
48.	Micro Fret
49.	Temperature Probe
50.	Monofilaments
51.	Goniometer
52.	Purdue Pegboard
53.	Crawford small part dexterity test

S. No.	List of Equipment (Paediatric Section including Sensory integration section)
54.	Jebson taylor hand function test
55.	Bennet hand tool
56.	O'Connor dexterity test
57.	Box & Block test
58.	Minnesota dexterity test
59.	Volumeter
60.	Finger circumferentiometer
61.	Deluxe pedal exerciser
62.	2 Speed Massager
63.	Magic band
64.	Thumb scissor
65.	Magnetic peg board
66.	Infra-red temperature scanner
67.	Wrist evaluation kit
68.	Splint dynamometer
69.	Colorimeter
70.	Wall mounted goniometer
71.	Arthrodial protractor
72.	Vernier caliper
73.	Pneumatic squeeze dynamometer
74.	Weight discriminator
75.	Reaction time Machine
76.	Steadiness tester
77.	Tremor quantifier
78.	Moberg Pickup test
79.	Tuning fork set
80.	CPM set (
81.	Work hardening set

S. No.	List of Equipment (Paediatric Section including Sensory integration section)
82.	Stop watch
83.	Common splints, orthosis, and prosthesis & adaptive devices for UE, LE & Spine
84.	Tools & equipment for splinting
85.	Electrical hot water tub
86.	Electrical oven
87.	Materials for splinting like Aluminum sheets, High & low temperature plastics, padding & harnessing material etc.
88.	Hand exerciser
89.	Pronation supination board
90.	Quads chair
91.	Medicine balls
92.	Sanding units
93.	Ankle exerciser
94.	Spring balance
95.	Pedi cycle
96.	Bicycle Ergometer
97.	Peg boards – different types
98.	Rowing machine
99.	Finger ladder
100.	Shoulder wheel
101.	Depth perception board
102.	Clay / putty – different resistance
103.	Dumbbells – different weights
104.	Weigh cuffs – different weights
105.	Theraband – different resistance
106.	Wobble board
107.	Postural mirror
108.	Stethoscope
109.	Treadmill

S. No.	List of Equipment (Paediatric Section including Sensory integration section)
110.	Coarse blocks
111.	Jig saw puzzles (two piece to multiple pieces)
112.	Simulating activities for psychiatric patients
113.	Cervical & pelvic traction (Desirable)
	List of Equipment (Mobility)
114	Transfer boards
115.	Wheelchair – different types
116.	Walkers – different types
117.	Walking sticks
118.	Quadri pod, tripods
119.	Crutches – different types
120.	Dressing board
121.	Adapted kitchen wares
122.	Reacher
123	Mattresses

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Table 3.8 Community Occupational Therapy Laboratory:

Sr. No.	Items	No.
1	Weighing machine	Two
2	Baby weighing machine	Two
3	Skin fold caliper	4 sets
4	Goniometer	4 sets
5	Height measuring stand	Two
6	Vehicle for transport of students / interns and staff to community visits	One
7	Adaptive devise & some common splints	1 each

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Table 3.9 Equipment for Skill Laboratory:

Sr. No.	Items	No.
1	Work Simulator	One set
2	Driving Simulator	One set
3	Mannequins	2
4	Virtual Reality station	1 set
5	Robotics	1 set
6	Adapted kitchen, washrooms, Home appliances & devices	One set of each
7	Equipment for additive & adductive Therapies	0ne each
8	Aqua pool	One
9	Proping Bed, Couch, Bandages, Tapes, Thera bands, spine boards, Bolsters, Mats	One set of each

***Skill Laboratory is mandatory for simulated training: The requirements of high-tech equipment for the skill laboratory may be filled in phases.**

Splinting material/tools: Brass Handle Scissor, Heat Gun, cutting Pliers, Nose Pliers, Bench Vice, Grinder, Drill Machine and Bit Set, Tin Cutter, Saw, Cast Steel Anvil, Mallet, Adjustable Projector Trolley, Files, Ball Pen Hammer, Water Bath, Wire Cutter, Riveting/Bending Rolling Tool, Small Heating Pan, Foot sewing Machine, Heavy Duty Shear, All-purpose Snip, Hole Punch, Centre Punch, Metal Scales, Aluminum sheets, Thermoplastic sheets, Adhesive & padding materials.

Assessment Tools: Sphygmomanometer, LOTCA, Biofeedback, Tuning Fork, Knee Hammer, Replacement Probe Hot/Cold, Visual Choice Reaction Inner, COPM Kit, Dyslexia Adult Screening Test, Movement ABC-2 Complete Set, CSPDT Complete Set, E- MOHO (CD- OPHI-II, CD – Educational Version), Evaluation Tool of Children's Handwriting, TVPS: R Kit, Weight Discrimination, Infant Toddler Sensory Profile, O'Conner Dexterity Test, DOTCA - CH, Touch Test Sensory Evaluation, BADS C-Kit, Berry Visuo-Motor Integration, TEA CHKIT, Children's Memory Scale Complete Kit

Furniture & Fixtures: Tables, Chairs (classroom/office), Cupboards, Pin- up Board, Notice Board, Treatment Plinth Low/ High, Revolving Stools, Lockers, Storage cabinet, Examination Table or couch, Screens, Foot Step, Stools, Biomedical Waste storage area

Teaching Aids: Skeleton and stand, X-ray lobby viewing box, Hand Splinting set, Orthosis set, Prosthesis Set, Adaptive Device Set.

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3.10.3 Library:

Table 3.9 Library books

Item	Requirement
Text Books As per syllabus one copy of Book per 10 students per subject.	600-700
Reference books	300 Advanced Books As per requirement
Journals	At least four international and four national journals
Subscription to electronic data base/e- journals	Required
Mandatory Internet facility Access to e- library Equipment	Minimum 15 computer terminals for 60 students

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Table 3.9 DEPARTMENT LIBRARY

Text Books For issuing & Reference	Latest editions of all the books of all subjects (List of Recommended books given in syllabus)
	Adequate as per the number of student's intake capacity
Journals	• Indian Journal of O.T • American Journal of O.T • Archives of Physical Medicine and Rehab. • W.F.O.T Bulletin • Australian journal of O.T • Canadian Journal of OT • British Journal of O.T LIST OF ONLINE JOURNALS • Wiley, Lippincott online Journals • BMJ JI. Collection (online) 29 Journals • BMJ Case Report • Acland Anatomy Database, Video • Pediatric Care Online (PCO)
Audio Visual Facilities	LCD projector

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3.10.4 Human Resource Requirements

1. **Occupational Therapy faculty [core}:** Minimum basic qualification and teaching experience required for teachers as mentioned in chapter 3 Table 2

2. **Teachers of pre, para and clinical/medical subjects:**

Table 3.10 Visiting Faculty

S. No.	Topic
1	Anatomy
2	Physiology
3	Biochemistry
4	Psychology
5	Sociology
6	Pharmacology
7	Medicine
8	Pediatrics
9	General surgery
10	Neurology
11	Psychiatry
12	Orthopedics
13	Obstetrics & Gynecology
14	PSM
15	Cardiology
16	ENT
17	Plastic surgery
18	Ophthalmology
19	Biostatistics

Teachers of Specialty Medical Subjects:

These Teachers should be necessarily Post Graduates in specialty Subjects preferably attached to NMC Recognized Medical College. These teachers can be part-time or external teachers. A photo declaration should be given by part-time teachers indicating their willingness/to work at the said Institution and declaration of working with other colleges.

*** It is recommended to have Biometric Attendance of all staff.

The qualifications of

a. Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology Orthopaedics, General Medicine, General Surgery, Neurology, Neurosurgery, , Pediatrics, Obstetrics and gynecology, Cardiology, Cardiac surgery, Plastic surgery, MD/MS/ MSc,/PhD./DM/M.Ch. in respective specialty
b. Prosthetics and orthotics, Psychology & Sociology, Biostatistics – post graduate with 55% marks in respective specialty (subject) having knowledge of English, Computer Applications in depth.
c. *Staff for pre-clinical/ Para clinical, clinical/Medical Subjects can be appointed on fulltime or part time basis as guest/part time faculty

3. Staffing Pattern – Teaching & Non-Teaching Staff

It is recommended that a core faculty and student ratio of 1:3 for PG and for UG 1:10 to be followed.

The size of student intake should be in proportion to the number of OT faculties (10:1)

Note :- Each faculty should not take more than (02) lectures per day

Qualification & Experience of Staff in the Occupational Therapy Course: -

As per UGC Regulation on Minimum Qualification for appointment of teachers and other Academic Staff in Universities and Colleges

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Table 3.11 Required core Occupational Therapy teaching staff (Core faculty) for BOT program (Ratio of teacher to student 1: 10 should be maintained)

Intake capacity	Post	No. of posts in the start of 1st year of BOT	No. of posts in the start of 2nd year of BOT	No. of posts in the start of 3rd year of BOT	No. of posts in the start of 4th year of BOT
30	Professor & Principal/ Dean	1	1	1	1
	Professor	--	--	--	1
	Associate Professor	1	1	2	2
	Assistant Professor	1	4	6	8
Total no of posts		**3**	**6**	**9**	**12**
60	Professor & Principal/ Dean	1	1	1	1
	Professor	--	--	1	2
	Associate Professor	2	3	4	6
	Assistant Professor	3	8	12	15
Total No of Posts		**6**	**12**	**18**	**24**
100	Professor & Principal/Dean	1	1	1	1
	Professor	1	1	2	3
	Associate Professor	2	4	6	8
	Assistant Professor	6	14	21	28
Total no of posts		**10**	**20**	**30**	**40**

Ref: *Eligibility, minimum qualification for teachers and staffing pattern in Occupational Therapy college Maharashtra regulation 2020. (MAHARASHTRA STATE COUNCIL FOR OCCUPATIONAL THERAPYAND PHYSIOTHERAPY, MUMBAI).

Adjunct and Visiting Faculty: Institutions may appoint additional Faculty Members from abroad with equivalent qualifications as Adjunct or Visiting Faculty on part time basis

Table 3.12 Nonteaching staff:

Sr. No	Posts	Number
1	Clinical Occupational Therapist	6
2	Librarian	1
3	Asst. Librarian	1
4	Office Superintendent	1
5	Accountant	1
6	Office Assistant Clerk	1
7	Lab Attendants	4
8	Peon/Sweepers/Cleaners	as per the requirement

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Chapter 4:

Competency Based Curriculum of Occupational Therapy

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Bachelor of Occupational Therapy (BOT) Program - (5 years Program):

4.0 Introduction:

The purpose of this curriculum is to delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent Occupational Therapist

4.1 Learning Objectives: At the completion of this course, the student should be -

1. Able to examine, evaluate, diagnose, plan, execute and document occupational therapy treatment independently or along with a multidisciplinary team.
2. Evaluate patients for impairments and functional limitations and able to execute all routine occupational therapy procedures as per the evaluation.
3. Able to operate and maintain Occupational Therapy equipment used in the treatment of patient. Also able to plan & execute Occupational Therapy treatment independently.
4. Able to provide education about various occupational therapy interventions to the patients and care givers.

4.2 Expectations from the future Occupational Therapy graduates

1. Coursework entitles independent Occupational Therapy assessment and treatment in any healthcare delivery centers in India by the graduates.
2. The coursework is designed to train students to work as independent occupational therapist or in conjunction with a multidisciplinary team to diagnose and treat as per patient's need.
3. Course works will develop skill in the graduates for physical/ functional diagnosis, treatment planning, management, administration of Occupational Therapy treatment.
4. Occupational Therapist graduate is encouraged to pursue further qualification to attain senior position in the professional field and also to keep abreast with the recent advances, new technology and research. The professional should opt for continuous professional education credits offered by national and international institutes.

5. The graduate will be a competent and reflective occupational therapy practitioner who can function safely and effectively while adhering to legal, ethical and professional standards of practice in a multitude of occupational therapy settings for clients across the lifespan and along the continuum of care from wellness and prevention to rehabilitation of dysfunction.
6. The graduate will utilize critical inquiry and evidence-based practice to make clinical decisions essential for autonomous practice.
7. The graduate will function as an active member of professional and community organizations. The graduate will be a service-oriented advocate dedicated to the promotion and improvement of community health.
8. The graduate will demonstrate lifelong commitment to learning and professional development.

4.3 Eligibility for admission:

Selection procedure:

1. Admission to Bachelor of Occupational Therapy course shall be made on the basis of the **candidate having appeared for the National Eligibility Entrance Test (NEET)**.
2. He/she must have passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian board or a duly constituted Board with 50% aggregate marks in Physics, Chemistry and Biology (Botany & Zoology).
3. Candidates who have passed the Senior Secondary school Examination of National Open School with a minimum of English, Physics, Chemistry and Biology (Botany & Zoology) with 50% aggregate marks in Physics, Chemistry and Biology (Botany & Zoology).
4. Candidates who have studied abroad and have passed the equivalent qualification as determined by the Association of Indian Universities will form the guideline to determine the eligibility and must have passed in the subjects of Physics, Chemistry, Biology and English in12th Standard level.

5. He/she has attained the age of 17 years as on date of admission
6. He/she has to furnish medical fitness certificate from a registered medical practitioner at the time of submission of application form, to get admission in Bachelor of Occupational Therapy program.
7. **Guidelines regarding admission of Candidate with "Specified Disabilities" under the Rights of Persons with Disabilities Act, 2016 (RPWD Act 2016) with respect to admission in BOT Course.**
   - The "Certificate of Disability" shall be issued in accordance with the Rights of Persons with Disabilities Rules, 2017 notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Department of Empowerment of Persons with Disabilities (Divyangjan)] on 15th June 2017.
   - The extent of "specified disability" in a person shall be assessed in accordance with the "Guideline for the purpose of assessing the extent of specified disability in a person included under the Right of Persons with Disabilities Act, 2016 (49 of 2016)" notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Department of Empowerment of Persons with Disabilities (Divyangjan)] on 4th January 2018.
   - The minimum degree of disability should be 40% (Benchmark Disability) in order to be eligible for availing reservation for persons with specified disability.
   - The term 'Persons with Disabilities' (PwD) is to be used instead of the term 'Handicapped"
   - Quota/ reservation policy as per the State Government norms to be followed by the State Council as applicable during allotment of seats.
   - Candidate who fails to attend the Medical Examination on the notified date(s) will forfeit the claim for admission and placement in the waiting list except permitted by the competent authority under special circumstances
8. The name of the student(s) who remain(s) absent from classes for more than 15 days at a stretch after joining the said program without giving any notice will be governed as per the respective University rules.

4.4 Duration of the Program: Bachelor's Degree level: 5 years (Including one year compulsory rotatory internship).

Emphasis should be on the academic content establishing a strong scientific basis and on the application of theory to clinical/reflective practice. Introduction to clinics as observer should be started from 1st year & clinical practice under supervision should be started from 2nd year onwards. This should be on a continuum of rotation from theory to practice over the program.

4.5 Number of Academic Hours:

4 years [40 weeks per year) (39 hr /week x 40 weeks)

Academic Training, excluding internal and university examination, extracurricular activities, Public Holidays and Vacation.

Teaching Hours: 1560 hours/ year Total of 6240 hours for 4yrs annual pattern

Elective posting: Minimum 35 hours per week for 4 weeks =140 hours

Internship (CRI): 01-year (52 WEEKS) full-time rotatory internship program.

A minimum of 2016 hours of internship (to be completed in 52 weeks).

Total hours: 8396 includes teaching (didactic lecture, case study discussion, seminars, small group presentation Practical, Tutorials Laboratory work & Clinical learning in the presence of teacher) ,Elective posting and CRI.

4.6 Medium of instruction:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

4.7 Educational Methods

The teaching methods will adopt competency-based learning for the students. Apart from classroom teaching (contact hours), self-learning will be facilitated to make a graduate a lifelong learner. Harnessing the technological advancements, hybrid or virtual learning by using mannequins, simulators, videos, online classes and other methods will be adopted

The range of educational methods may include case studies, learning with and from recipients of occupational therapy, discussions, skills training, assignments, reflective practice, projects, literature review, experimental learning, problem-based learning, inter-professional learning, lectures, online classes for didactic lectures & clinical training etc.

Modalities to improve the quality of educational methods include peer review of teaching, student feedback, discussion among staff, review meetings, moderation and monitoring processes, advisory and examination boards etc.

4.8 Attendance:

A candidate has to secure minimum-

1. 75% attendance in theory subjects
2. 85% in Skills training (practical) for qualifying to appear for the final examination.
3. If the students fail to attain above mentioned percentage of attendance, he/ she is eligible to appear university examination in next academic year after attaining necessary attendance.
4. No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition etc.

4.9 The Continuous CIA (CIA)

The Continuous CIA (CIA) forms the Formative Assessment component of the evaluation system while the end year examination as explained along with the formative assessment will become the summative assessment

Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training program.

To achieve this, all assessment forms and feedback should be included and evaluated. The passing marks for every subject shall be 50% marks in theory and practical separately.. If a student fails in practical or theory CIA examinations, he/ she is not eligible to appear university examination. However, the students will be allowed to appear in next academic year university examination after attaining necessary CIA marks in theory and practical.

4.10 Commencement of the course -

The course shall commence not later than 1st September of an academic year

4.11 Commencement of Examination:

University examination should be conducted at the end of each academic year. However,, two examination in an academic year is essential and has to be conducted by the university, one Annual/Supplementary examination in an academic year.

Qualifying marks passing in the University examination:

50% marks in theory and practical separately.

4.12 Promotion criteria -

The Students will be promoted to next year, only if the number of failed subjects is two or less than two. Students must pass the failed subjects in the supplementary examination before appearing for the final examination of next year, failing which he/she will not be allowed to appear for the proceeding year. For example, the student should pass in failed subjects of Ist year, before appearing for 2nd year final examination and before the 3rd year final examination in case of failed subjects of II year and so on.

Only after passing in all the subjects in all years, he/she will be eligible for the internship.

Review of answer papers of failed candidates -

As per the regulations prescribed for review of answer papers by the University.

4.13 Re-admission after break of study -

Candidates having a break of study of five years and above from the date of admission and more than two spells of break will not be considered for readmission

The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of study. Candidates having break of study shall be considered for re admission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.

All re-admissions of candidates are subjected to the approval of the Vice Chancellor.

The candidates having a break in the study, up to five years shall apply for readmission to the Registrar of this University. The candidates shall be granted exemption in the subjects they have already passed.

4.14 Maximum duration of the program -

Candidates should complete the Bachelor of Occupational Therapy degree course within a period of ten years from the date of joining in the course.

4.15 Discharge from the program –

If a student admitted to a course of study in an University and for any reason not able to complete the course or qualify for the degree by passing the examinations prescribed within a period comprising twice the duration prescribed in the regulations for the concerned course, he/she will be discharged from the said course, his/her name will be taken off the rolls of the University and he/she will not be permitted to attend classes or appear for any examination conducted by the University thereafter.

In respect of courses where internship is prescribed and if a student is for any reason not able to complete the internship within a period comprising twice the duration prescribed in the Regulations for the concerned course, such cases will be placed before a committee to be constituted by the Vice- Chancellor for making appropriate decision on a case-to-case basis, based on individual merits.

Notwithstanding anything contained in the foregoing, the students who fall in the category clause I above and who are in the final year of the respective courses be given one more last and final chance to appear for the University Examination with a condition that if they do not pass the examination even in their last chance, they shall be discharged from the course. The Controller of Examinations will admit such candidate to the University examinations only after their producing an undertaking (as per format given in student's manual) to this effect.

4.16 Migration/transfer of candidates -

Vice Chancellor shall have the powers to approve any migration/transfer of candidates up to 2nd year of BOT, deems fit in the Board of Management of the university.

4.17 Vacation -

The University may declare a maximum of 30 days of vacation in an academic year to the students. The period(s) of vacation can be decided by the university.

4.18 Classification of successful candidates -

A successful candidate:

- Who secures 75% and above in the aggregate marks shall be declared to have secured 'FIRST CLASS WITH DISTINCTION' provided he/she passes the whole examination in the FIRST ATTEMPT;
- Who secures above 60% and less than 75% in the aggregate marks and completes the course within the stipulated course period shall be declared to have passed the examinations in the 'FIRST CLASS, provided he/she passes the whole examination in the FIRST ATTEMPT';
- Who secures above 50% and less than 60% in the aggregate marks and completes the course within the stipulated course period shall be declared to have passed the examinations in the 'SECOND CLASS';
- All other successful candidates shall be declared to have PASSED the examinations.

4.19 Credit, Grading and Transcript

Credit: A unit by which the course work is measured. It determines the number of hours of instructions. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field.

Credits will be assigned on the basis of the lectures (L) / tutorials (T) / Clinical Training (CR) / laboratory work (P) / Research Project (RP) and other forms of learning

L - One credit for one hour lecture per week (1 credit course = 15 hours)
P/T - One credit for every two hours of laboratory or practical (1 credit course = 30 hours)
CR - One credit for every three hours of Clinical training/Clinical rotation/posting (1 credit course = 45 hours)

RP - One credit for every two hours of Research Project per week – Max Credit 20- 25 (1 credit course = 30 hours)

Credit Point: It is the product of grade point and number of credits for a course. Calculation of credit (As per national credit framework)

Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.
Letter Grade: It is an index of the performance of students in a said course.
Grades are denoted by letters O, A+, A, B+, B, C and F.

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4.20 Computation of AGPA and CGPA

The UGC recommends the following procedure to compute the Annual Grade Point Average (AGPA) and Cumulative Grade Point Average (CGPA):

The following procedure should be used to compute the Annual Grade Point Average (AGPA) and Cumulative Grade Point Average (CGPA):

The AGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the years of a program

The AGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student overall years. The CGPA is the ratio of total credit points secured by a student in various courses in all year and the sum of the total credits of all courses in all the year. It is expressed up to two decimal places.

Letter Grades and Grade Points:

10- point grading system with the following letter grades will imply the performance of the students in said program.

Letter Grade	O	A+	A	B+	B	C	F/RA	AB	I / RC
Grade points	10	9	8	7	6	5	0	0	0

Table 4.1 Consolidated Grade Card - BOT Program (only if the student passes in first attempt)

Consolidated Grade Card - BOT Program		
Letter Grade	**%Mark range**	**Grade point**
O (Outstanding)	90-100	10
A+ (Excellent)	80-89	9
A (Very Good)	70-79	8
B+ (Good)	60-69	7
B (Above Average)	55-59	6
C (Average)	50-54	5
F/RA (Fails/Reappear)	Less than 50	0
AB (Absent)		0
In complete(I)		0
Repeat course (RC= **Detained due to shortage of Attendance/ failed in CIA**		0

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4.21 Supervised Clinical training/Fieldwork

It is mandatory to include demonstrations & practical sessions, supervised clinical work, seminars, hands on therapeutic workshops, throughout the course period to train the students for proficiency in Occupational Therapy applications to contribute towards the well-being of clients.

Actual clinical work in clinical settings, all hands-on procedures related to patient care involves patient evaluation, assessment, diagnosis, goal planning, writing, and execution of goals, intervention procedures, patient and family education & documentation of individual patients/clients. Each student is expected to maintain the log book for documentation/record of each patient in every clinical assignment throughout the program & which the respective clinical supervisor should sign regularly.

Fieldwork placement should be of sufficient duration to allow integration of theory with practice. The number of students placed at the clinical fieldwork should be in proportion to the number of available patients. The example of competencies of clinical placement of all the four years is shown in annexures.

4.22 ELECTIVE MODULE:

Guidelines for Elective module during clinical training for Competency Based Undergraduate Curriculum for Occupational Therapy

4.22.1 INTRODUCTION

Elective can be defined as a brief course made available to the learner during his/her occupational therapy undergraduate study period, where the student can choose from the available options depending upon their interest and career preferences. It is an integral part of Competency Based Education Curriculum. Electives are learning experiences, which are student centric and created in the curriculum itself to provide opportunities for the learner to explore, discover and experience areas or streams of interest in their profession.

It provides diverse opportunities to the students apart from the traditional learning process and creates a pathway for exploring and developing new fields of study

4.22.2 PURPOSE OF ELECTIVES

Customization: Elective courses allow students to tailor their educational experience to their interests, strengths, and career goals.

Diversification: Elective courses help students develop a well-rounded education by exposing them to a variety of subjects beyond their major or core requirements.

Specialization: Elective courses can also allow students to delve deeper into specific topics within their field of study.

Flexibility: Elective courses provide students to choose courses that fit their interests, learning style.

Personal growth: Elective courses can help students develop new skills, discover new passions, and grow both academically and personally.

4.22.3 OBJECTIVES

To provide an opportunity, where an undergraduate occupational therapy student can explore their interest in specialty areas, by working in hospital/ community setting.

To help the student in identifying his/her future career path by direct experiences in diverse areas as well as selecting their speciality areas in post graduate program. A direct individual experience will help in developing self-directed learning skills.

4.22.4 GUIDELINES FOR THE FORMATION OF ELECTIVES STRUCTURE

1. One month is designated for 2 elective fieldwork (2 weeks) after completion of the 3rd year University examination during the vacation period and before completion of 4th year University examinations.
2. It is mandatory for learners to do an elective. The elective time should not be used to make up for missed clinical postings, shortage of attendance or other purposes.
3. Elective 1 shall be done in any one of the areas relating to OT in musculoskeletal, Neurology, paediatrics area.
4. Elective 2 shall be done in any one of the areas relating to mental health, community based rehabilitation, geriatrics, onco rehabilitation and cardio-pulmonary rehabilitation. Both electives will be from a list of electives developed and available in the institution.
5. Institutions will develop their own electives with the supervisor's name, and the number of students in each elective based on the institution's available infrastructure and allocate electives to the students accordingly.
6. The student must submit a log book based on both the electives.Attendance in the electives should be minimum 85% and submission of log book maintained during elective postings is required for eligibility to appear in the 4th year university examination.
7. The salient features of each Elective and their differences are summarised in Table 4.2.

Table 4.2: Salient features of Elective 1 and Elective 2

	Elective 1	Elective 2
When	3rd year University examination during the vacation period and before completion of 4th year University examinations.	3rd year University examination during the vacation period and before completion of 4th year University examinations.
Duration	2 weeks	2 weeks
Focus of electives	OT in Musculoskeletal, Neurology and Paediatrics field	Mental health, community based rehabilitation, geriatrics, onco rehabilitation.
Nature of learning	Supervised Experiential Immersive Self-directed	Supervised Experiential Immersive Self-directed
Regular clinical postings	Will not be offered	Will not be offered
Attendance	Mandatory 85% attendance is required as a prerequisite to appear 4th year University examinations.	Mandatory 85% attendance is required as a prerequisite to appear 4th year University examinations.
Assessment	Formative Record of activities in log Book to be submitted as prerequisite to appear 4th year University examinations.	Formative Record of activities in log Book to be submitted as prerequisite to appear 4th year University examinations.
External institution in same city /Other city/ other state	To be decided by Institute	To be decided by Institute

4.22.4 PLANNING THE LEARNING EXPERIENCE

- The first step in the process is to plan the learning experience and having the diversity of electives, there will be some variation in the content, style and degree of learning.
- Steps for the institution to plan the elective modules:
- An identified preceptor responsible for guiding the student
- A pre-published timetable of activities identified for the learner during the elective
- List of learning resources for the learner to be used during the elective provision to be part of the team to obtain an immersive learning experience
- A well defined formative assessment with appropriate requirements for log book entry program evaluation by the stakeholders.
- Prerequisites, if any, to be completed before offering the elective by the institute

4.22.5 IDENTIFYING LEARNING EXPERIENCES

To ensure that there is an immersive learning experience and greater attention to the learner, each preceptor identified must be alloted with only a minimum number of students. Therefore, it is important to identify a sufficient number of preceptors and resources in the institute.

Students-initiated to select the elective posting from an external institute may be permitted as long as they do not violate institutional rules with prior permission from the respective University.

Examples of learning experiences for each of elective 1 and elective 2 in the template are found in Annexure 4.

Examples of elective 1 and elective 2 are provided in Table 4.3

Table 4.3 Example of Elective 1 and Elective 2.

Elective 1	Elective 2
Haemophillia Management	Barrier free environment (accessibility)
Sports Rehabilitation	Community-Based Rehabilitation
Cognitive Perceptual Rehabilitation	Day care center
PreSchool and School OT	Gericare
Diabetic Foot care	Virtual Reality
Advanced Pre-prosthetic and Prosthetic Management	Aqua Therapy
Early Intervention	Robotics
Sensory Integration Therapy	Driving Rehabilitation
Neurodevelopmental Therapy	Assistive Technology
Back School	Deaddiction
Hand therapy	Obesity Management
OT in Neonatology	Stress Management
Trauma care	Oncology Rehabilitation
Ergonomics in Hospital Set-Up	cardio-pulmonary rehabilitation

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4.22.6 STUDENT COUNSELING AND ALLOCATION OF ELECTIVES

The list of available learning experiences for each elective and the names of preceptors for each should be available to students on the institutional notice board at least three months before the commencement of the electives. A process for submitting applications for both electives with choices should be made available to the students. Written information on each learning experience must be available for students to examine and make an informed choice.

A counselling session with faculty mentors to help students choose electives is desirable.

Students must also be made aware of the rules regarding attendance, work schedule, documentation and assessment requirements for each elective. The allocation of electives may be done based on student choice and availability of faculty who have been identified to be in-charge of the electives posting.

4.22.7 EXTERNAL INSTITUTIONS

The need to provide a broad diverse experience for students, institutions should have MOU with external institutions within the country to accommodate students for undertaking an elective experience in both elective 1 and elective 2.

There should not be any conflict with the rules and policies of the University Also institute preceptor or faculty who can liaise with the external preceptor will help to solve problems and ensure smooth conduct of the elective.

4.22.8 STUDENT SAFETY AND SECURITY:

During the Internal/external elective posting, safety and security of the student is of utmost importance. It must be made clear to the preceptors by the college authorities that students need to be supervised and must not be involved in patient care as the responsible health provider.

4.22.9 ASSESSMENT

Assessment will be formative. Attendance of not less than 85% and successful completion and the submission of logbook is a requirement for the student to become eligible to appear for the 4th year University examination.

Assessment elements could include participation in clinic/OPD, case records, submission of assignments, reflection on learning, preparation of presentations, design and participation in patient education programs, fabrication of splints etc whichever is appropriate.

4.22.10 Elective EVALUATION

Provision for evaluation of the program based on information from all stakeholders should be made in order to evaluate the effectiveness of the elective posting and need for modifications and improvement.

4.23. Compulsory Rotatory Internship (CRI)

4.23.1 Introduction:

After completing the 4 academic years of the program, 52 weeks (1year) full-time CRI is mandatory. Internship shall be part of the curriculum of the Bachelor of Occupational Therapy and shall be called "Compulsory Rotatory Internship".

4.23.2 Eligibility:

Those candidates declared to have passed the final year examination in all subjects will be eligible for CRI which should be done in any of the medical colleges/district hospitals/rehabilitation centres recognized by the affiliated university, shall be presumed to be training centres for the purpose of Internship.

4.23.3 Duration:

- ✓ Total duration- One year or twelve months (52 weeks which includes public holidays and causal leave)
- ✓ The intern shall have to work minimum 42 hours per week.
- ✓ Total number of clinical hours = 2016 hours
- ✓ Total number of credits allotted= 45 credits
- ✓ Maximum of 26 weeks may be allowed for the externship if opted by the student

Stipend:

Occupational Therapy interns should be paid a stipend during the internship at par with medical/dental interns.

The title during placement of internship would be Occupational Therapy "B.OT. Intern"

4.23.4 Objectives and skill-based outcome:

- ✓ To enhance skills of the students in OT evaluation, assessment, diagnosis, clinical reasoning, judgment, programme planning, intervention, outcome of intervention, follow up, referral, and documentation pertaining to all the dysfunctions and impairments learnt throughout the curriculum of four years.
- ✓ To acquire following: safety regulations regarding self and others throughout the occupational therapy process; identify safety hazards and implement safety procedures.
- ✓ Effective interaction with members involved in the Occupational Therapy practice like client, family & also make liaison with other professionals (Rehab Team)
- ✓ Learn to improve their presentation and communication skills
- ✓ Learn research-related skills through research related activities
- ✓ Demonstrate knowledge of various services covered under the various health insurance plans, Employee's state insurance corporation schemes, and community-based health insurance schemes for below poverty line clients and hospital-based health discount cards.

- ✓ Document occupational therapy services to ensure accountability of services provided and record treatment outcomes objectively.
- ✓ Understand the application of the occupational therapy consultative process with individual clients, groups, organizations or communities.
- ✓ Discharging the client from occupational therapy services when outcomes have been met which may involve summarizing outcomes, making appropriate referrals or recommendations & plan others discharge needs after discussing with the clinical OT supervisor.
- ✓ Develops, builds, and maintains rapport, trust, and ethical professional relationships through effective communication.
- ✓ Establishes and maintains inter-professional relationships, which foster effective client-centered collaboration.
- ✓ Understand the principles of continuous quality improvement.
- ✓ Be able to carry out the daily/weekly Quality Control (QC) checks.
- ✓ Be able to review the literature & present it in the journal club.
- ✓ Be able to suggest implementation of research findings.
- ✓ Be able to suggest/ initiate topics for Occupational Therapy research
- ✓ Be able to interpret, apply, and disseminate information as a member of the Occupational Therapy team.
- ✓ Emphasis will be laid on practical applications of theoretical concepts in the form of clinical reasoning, and its application to the treatment situations to guide clinical decision making from evaluation. The CRI should cover all clinical areas concerned with Occupational therapy for inpatient and outpatient services. The student will work under the supervision of the clinical supervisors, and is expected to be involved in all aspects of the occupational therapy process: referral, assessment, intervention, reimbursement, billing and documentation.

4.23.5 Areas of Clinical placement during CRI:

- ✓ During the period of internship the student shall be posted in rotation in the OPD & IPD facilities of the clinical departments of the hospitals of the institution/university.
- ✓ The hospitals must have separate Occupational Therapy department with qualified and registered Occupational Therapy professionals under NCAHP.

Table 4.5 Distribution of assignment period throughout the internship of 52 weeks:

S No	Departments of Occupational Therapy	Period
1	Orthopedics & sports clinic	8 weeks
2	Psychiatry	8 weeks
3	Neuro & Neurosurgery	8 weeks
4	Paediatrics & Neonatology	8 weeks
5	Burns, Hand & Plastic Surgery	6 weeks
6	Community based Rehabilitation	8 weeks
7	Oncology	2 weeks
8	General Medicine	2 weeks
9	General Surgery	2 weeks
10	Cardio- Pulmonary rehabilitation	2 weeks

Responsibilities during CRI:

- ✓ Students must engage in practice/ skill-based learning of professional conduct. Their learning outcomes must be maintained in the form of logbooks, case studies, Short Research project and symposium and seminar.

4.23.6 DOCUMENTATION

Initial Assessment Documentation: An intern must document the following information:

1) Based on SOAP format
2) Subjective examination (symptomatic)
3) Objective examination (measurable, observable)
4) Action/Analysis (interpretation of current condition/intervention provided)
5) Plan of action
6) Written or verbal feedback to the client or caregivers
7) Agreement to treatment plan by the patient or "person responsible"
8) Discharge plan

Progress Documentation:

It may include the following information:

- Any individual intervention should be documented in SOAP format (including response to intervention/s using outcome measures)
- Oral consent is obtained and documented when there is a significant change in treatment/ treatment options/ status
- Written consent obtained for designated invasive procedures Change in status or events that may affect discharge plans/goals
- Documented consultation with key clinical team members

4.23.7 Evaluation of interns:

Formative assessment will be done based on their satisfactory attendance, performance in the clinical areas/ short term research project , submission of the logbook, and presentation during symposium/seminar/case presentation.

The internship assessment weightage will be based on the following criteria:

- ✓ Log book -40%
- ✓ Presentation during Symposium/Seminar/case presentation – 30%
- ✓ Project work -20%
- ✓ Attendance- 10%

Table 4.6 EVALUATION OF interns during each clinical posting:

S. No.	Description	Satisfactory/ Unsatisfactory
1	Attendance	
2	Discipline and general behavior in the Department	
3	Approach to patients	
4	Inquisitiveness regarding the subject	
5	Knowledge about evaluation of conditions	
6	Knowledge about various therapeutic modalities	
7	Knowledge about actual application of therapeutic skills	

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4.24 “Competency-based Undergraduate Curriculum in Occupational Therapy

4.24.1 Practical Competencies for the Occupational Therapy Graduate

The Foundational Elements of Practice

- Adheres strictly to the Code of Ethics regulation by NCAHP.
- Ensures compliance with safety regulations and accurately reports incidents.
- Demonstrates a commitment to safety by proactively assessing risks and implementing preventive measures during Occupational Therapy intervention, ensuring the well-being of all individuals involved.

4.24.2 Clinical Competencies for the Occupational Therapy Graduate:

Assessment and analysis

- Adequately supports the evaluation process using a clear and logical rationale that considers client information, contexts, theories, frames of reference, and/or practice models.
- Acquires adequate and essential information from pertinent sources during the assessment procedure.
- Utilizes appropriate screening and assessment tools based on diverse factors.The client's occupational profile and occupational performance are determined by conducting interviews and utilizing other appropriate evaluation methods.
- Acknowledges that assessment involves evaluating and analyzing client factors and contexts that either facilitate or impede occupational performance.
- The accurate and efficient administration of assessments and surveys, both standardized and non-standardized, is conducted to ensure the validity and reliability of the findings.

- Modifies evaluation procedures based on client factors and contexts.
- Analyzes & interprets the client's strengths and challenges in occupational performance.
- Employs systematic methods to record the client's occupational performance for clear, accurate, and concise synthesis and documentation of the evaluation process and results

INTERVENTION

- The therapist effectively presents a coherent and rational justification for the intervention process, drawing upon evaluation findings, contextual factors, theories, frames of reference, practice models, and evidence.
- Formulates a client-centered plan that is accurate and appropriate based on the evaluation results, contexts, theories, frames of reference, and/or practice models.
- Decisions regarding interventions are based on research, evidences and relevant resources
- The individual chooses interventions that prioritize the client's needs and are based on their occupation, aiming to motivate and challenge them towards achieving predetermined goals that align with desired outcomes.
- Executes intervention plans that are client-centered and emphasize the importance of occupation.
- Selects and, when necessary, adjusts the intervention strategy in order to attain predetermined objectives that align with the desired outcomes.

- Modifications are made to the task and/or environment in order to enhance the client's performance.
- Modifies the intervention plan and a determination is made regarding the need to continue or discontinue services based on the client's status.
- Documentation is used to illustrate the effectiveness of interventions by capturing the client's response to services.

Quality & patient safety

- Ensure that information is recorded in accordance with the latest laws, rules, ordinances, and
- customs of the State of India.
- Participate in systematic initiatives for quality assurance and improvement.
- Contribute to and/or engage in research and development within registered areas of expertise.
- Ensuring the safety of intervention recommendations and informing individuals about potential hazards, when necessary, is a crucial aspect of accountability.
- Establishes a safe environment for individuals, their families, and others, while also ensuring the proper upkeep of equipment used in occupational therapy treatments.
- Takes responsibility entails recognizing and documenting hazards and occurrences in healthcare and welfare settings, and subsequently undertaking actions to protect the safety and security of individuals.

MANAGEMENT OF OCCUPATIONAL THERAPY SERVICES

- The individual exhibits the capacity to collaborate with others and delegate suitable tasks, while retaining overall responsibility for treatment, as evidenced by practical application or discussion.
- Exhibits understanding of costs and funding systems associated with occupational therapy services, including federal, state, third party, and private payers, through practice or discussion.
- The individual displays a strong understanding of the organization.Meets the productivity standards or volume of work that occupational therapy students are expected to achieve.
- Provide supervision for students participating in occupational therapy training.
- Offer advisory support to official authorities, commercial enterprises, nonprofit organizations, and non-governmental entities.

COMMUNICATION AND PROFESSIONAL BEHAVIORS

- Exhibits the ability to communicate clearly and effectively, using both verbal and nonverbal methods.
- Guarantees the production of documentation that is both clear and precise.
- Engages in collaboration with fieldwork educator(s) to optimize the learning experience. e.g how one can initiate communication, seek feedback on performance,and identify their own strengths and challenges.
- The professional takes responsibility for developing professional competence by actively pursuing learning opportunities and collaborating with fieldwork educators and other professionals.

- Demonstrates the ability to promptly and constructively address feedback received.
- Demonstrates consistent adherence to acceptable work behaviors.
- Showcases proficient time management skills.
- Manages relationships effectively through therapeutic use of self and adjusts approach to meet the needs of clients and others.
- Demonstrates respect for diversity factors of others. Examples: culture, socioeconomic status, beliefs, identity

Sustainable Development

- Ensure the sustainable utilization of the existing resources in regards to the economy, society, and environment.

Disasters & crisis

- Engages in the activities conducted by specialized organizations established in response to significant accidents and disasters.
- Adapt their activities to the unique circumstances that arise during crises and catastrophic situations.
- Conducts risk assessments to identify potential crises and disasters that may affect vulnerable individuals, and implement measures to minimize the impact on their ability to engage in activities and participate.

Digital competencies

- Utilize digital platforms to conduct research, communicate, and engage professionally.
- Modify activities in accordance with the changes brought about by digitization in society.
- Highlight the opportunities and risks associated with digitalization for individual, group, and community engagement.
- Engage in the progression of digital systems, tools, and services that are significant to the profession.

4.24.3 Course-wise outcome :

It contains core course-wise outcomes so called "sub-competencies" that must be achieved at the end of instruction in that subject. These are organised in tables . The core course outcomes are in the first part. Outcomes (competencies) in each course are grouped according to topics number-wise. It is important to review the individual course outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined the learning domains (Knowledge, Skill, Attitude, and Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, 'perform' indicates independent performance without supervision and is required rarely in the pre-internship period. The outcome is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section "definitions used in this document". Last two columns indicate subjects within the same phase and other phases with which the topic can be taught - together - aligned (temporal coordination), shared, correlated or nested.

Section 3- understanding the competency table

A	B	C	D	E	F	G	H	I	J
No.	**Competencies**	**Domain**	**K/KH/SH/P**	**Core**	**Suggested Teaching Learning Method**	**Suggested Assessment method**	**No. required tocertify (P)**	**Vertical Integration**	**Horizontal Integration**
Physiology									
Summary **Name of Topic: General Physiology Number of Competencies: (08)**									
PY1.1	Describe the structure and functions of a	K	KH	Y	Lectures, Small group discussion	Written/Viva			Biochemistry
IM25.4	Elicit document and present a medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	Skill assessment		Community Medicine	

Unique number of the competency.

First two alphabets represent the subject (see list); number following alphabet reflects topic number, following period is a running number.

Description of competency

Identifies the domain

Identifies if the competency is core or

Skill assessment

no of times a skill needs to be done

Community Medicine

Subject (s) in the same phase with which the

illustrative purposes only and should not be compared with the same in curriculum documents

Table 4.11 DOMAINS OF Learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

Table 4.12 LEVELS OF COMPETENCIES

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyze
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Table 4.13 Definitions used.

Section 4: Definitions used	
Lecture	Any instructional large group methodincluding traditional lecture and interactive lecture
Small group discussion	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration- Observation - Assistance - Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill Assessment	A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demand
Core(Y)	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non -core(N)	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

4.24.4 Scheme of Examination:

1. Setting Question Paper will be done Section A and Section B (where ever applicable) in the Syllabus of annual pattern.
2. The examination of NUE Subjects will be at the college level and the students' needs to pass the college level examination with minimum 50% scoring before appearing for the University Examination. The marks/ grades of NUE subjects will not be added with University Marks but will be reflected in the Marks Sheet given by the University
3. Regular periodic examinations shall be conducted throughout the course. There shall be not less than 4 internal exams in annual pattern. Day to day records, attendance and log book should be given importance in CIA.
4. Learners must secure at least 50% marks of the total marks (theory and practical separetly) for CIA in a particular subject in order to be eligible for appearing at the final University examination of that subject

CIA (IA):

The final CIA marks shall be an average of all internal exams as below:

Annual pattern

For 100 marks course-

Institute have to conduct 2 periodical continuous CIA, one model examinations and converted into 30 marks for CIA.

For 50 marks course

Institute have to conduct 2 periodical continuous CIA, one model examinations and converted into 15 marks for CIA.

University Examination:

Mandatory 50% passing marks in theory and practical separately (practical = practical/clinical + viva)

(Theory= theory paper(s) only)

Continuous CIA (CIA) marks are not to be added to marks of the University examination and should be shown separately in the grade card

Table 4.14 Scheme of Examination for 50 marks course

Written		Eligibility/Passing Marks		Practicals		Eligibility/Passing Marks	
CIA	University exam	CIA	University exam	CIA	University exam	CIA	University exam
25	50	13	25	25	50	13	25

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Table 4.15 The CIA will be based on the following criteria -

Theory			Practical/Viva		
Written	Attendance Quiz/ Seminar/ Logbook/ Open book test/ Surprise test/ Capstone project, etc	Total	Practical	Clinical attendance/ Assignments/ Journals/Clinical Training card/Capstone Project/ Case presentations, etc	Total
15	10	25	15	10	25

For a candidate who fails in a subject(s), his/ her marks of CIA will be carried forward

Table 4.16 Scheme of Examination for 100 marks course

Written		Eligibility/Passing Marks		Practical		Eligibility/Passing Marks	
CIA	University exam	CIA	University exam	CIA	University exam	CIA	University exam
50	100	25	50	50	100	25	50

Table 4.17 The CIA will be based on the following criteria -

Theory			Practical/Viva		
Written	Attendance Quiz/ Seminar/ Logbook/ Open book test/ Surprise test/ Capstone project, etc	Total	Practical	Clinical attendance/ Assignments/ Journals/Clinical Training card/Capstone Project/ Case presentations, etc	Total
30	20	50	30	20	50

For a candidate who fails in a university examinations, his/ her marks of CIA will be carried forward

The results of CIA should be displayed on the notice board within a 2 weeks of the test. Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.

Summative assessment consists of University examinations. Each theory paper and practical will have 100 marks or 50 marks. It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only] is required to pass in the university examination.

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4.24.5 Designing of question paper

Designing of question paper should take into consideration all levels of knowledge domain e.g. Bloom's taxonomy of cognitive domain. Use appropriate verbs for the questions at each level to assess higher levels of learning. An example is given below in Table. Use combination of various types of questions e.g. structured essays (Long Answer Questions - LAQ), Short Answers Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part should be indicated separately. MCQ should not have more than 20% weightage

Scheme of Marks for University Theory exam 100 Marks

MCQs, Short answer questions , Brief answer questions and Long answer Questions

Scheme of Marks for University Theory exam 50 Marks

MCQs, Short answer questions , Brief answer questions .

The question paper should be evenly distributed to cover all the sections appropriately from competencies. The blueprint grid can help the paper setters to balance the question papers in content related aspects as depicted below in Table. Moderation of theory question paper by subject expert may be arranged by Universities.

Weightage

Bloom's Taxonomy helps educators create learning goals that cover a range of skills, from basic recall to critical thinking and problem-solving. The six hierarchical levels representing cognitive skills are depicted with their weighted percentage for effective learning experience for effective learning experience for Occupational Therapy students as described below in the table:

Table 4.18 of "Weightage of Levels of Taxonomy" for effective learning experience for BOT Graduates

Level	Total
Remember	20%
Understands	20%
Analyze	20%
Application	20%
Evaluate	10%
Create	10%

4.24.6 PRACTICAL/CLINICAL EXAMINATION

Include assessment in the psychomotor and affective domain. Assessment of clinical and procedural skills should be based on direct observations by the examiners.

Assessment tools like case presentations, Objective Structured Clinical Examination (OSPE OSCE and/or Objective Structured Practical Examination (OSPE) and Directly Observed Procedural Skills (DOPS) should be employed using checklists.

Practical/clinical examinations will be conducted in the laboratories and /or hospital wards/ OPD. Viva/oral examination should assess the approach to patient management, emergencies, and attitudinal, ethical, and professional values.

Practical examination should be conducted by pair of examiners (one internal from same university and one external from another university) only and not by a single examiner / examiners of same university

Summative assessment (For Universities)

Summative assessment consists of university examinations for various subjects is given in Table 4.19.

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Table 4.19: distribution of marks for various coures in university examinations. (Annual Pattern)

Phase of Course	Written –Theory - Total	Practicals / Orals/ Clinicals	Pass Criteria
I BOT			
Human Anatomy	100	100	**CIA:** It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only] is required to appear in the university examination. **University examination:** It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only] is required to pass in the university examination.
Human Physiology	100	100	
Biochemistry	50	-	
Fundamentals of OT I	100	100	
Fundamentals of OT II	100	100	
English & Communication Skills (NUE)	50	-	
Environmental Sciences(NUE)	50	-	
II BOT			
Pharmacology	50	-	
Pathology & Microbiology	100	-	
Psychology	100		
OT Diagnostics & Practice I	100	100	
OT Diagnostics & Practice II	100	100	
Biomechanics & Kinesiology	100	100	

First Aid & Emergency (NUE)	50	-	
Computer Sciences (NUE)	50	-	
III BOT			
Medicine & Cardiovascular Medicine	100	-	
Neurology & Paediatrics	100	-	
Occupational Therapy in Medical Conditions	100	100	
Work Physiology & Ergonomics	100		
Surgery & Orthopaedics	100	-	
Psychiatry	50	-	
Occupational Therapy in Surgical Condition	100	100	
Research Methodology & Biostatistics	50	-	
IV BOT			
Occupational Therapy in Musculoskeletal Condition	100	100	
Occupational Therapy Services and Management	50	-	
Community Medicine , Public Health & Sociology	50	-	

Community Occupational Therapy and Rehabilitation	100	-	
Occupational Therapy practice in Psychiatry	100	100	
Occupational Therapy in Paediatric Conditions	100	100	
Occupational Therapy in neurological Conditions	100	100	

NATIONAL COMMISSION FOR ALLIED AND HEALTHCARE PROFESSIONS
स्वास्थ्यम् सर्वार्थसाधनम्
NCAHP
Since-2021
राष्ट्रीय सहबद्ध और स्वास्थ्य देख-रेख वृत्ति आयोग

Competency-based undergraduate curriculum in Bachelors of Occupational Therapy

BOT I

***NUE- Non university Examination**
(Must be conducted by the OT institution before annual university exams)

First year BOT (FY BOT): Subject wise teaching hours, credits & Exam Marks distribution										
Sr. No.	**Course Code**	**Subject**	**Total teaching hours**			**Credits**			**Total Credits**	**Marks Distribution**
			Theory	**Practical/demo/ lab Work**	**Clinical**	**Theory**	**Practical/demo/ lab work**	**Clinical**		
1	AN	Human Anatomy	180	120		12	4		16	Theory-100 Practical-100
2	PI	Human Physiology	180	120		12	4		16	Theory-100 Practical-100
3	BC	Biochemistry	45	--		3			03	Theory- 50
4	FOT I	Fundamentals of Occupational Therapy I	90	120		6	4		10	Theory-100 Practical-100
5	FOT II	Fundamentals of Occupational Therapy II	90	120		6	4		10	Theory-100 Practical-100
6	ENCS	English & Communication Skills – NUE	30	30		2	1		3	Theory-50 NUE

First year BOT (FY BOT): Subject wise teaching hours, credits & Exam Marks distribution										
Sr. No.	**Course Code**	**Subject**	**Total teaching hours**			**Credits**			**Total Credits**	**Marks Distribution**
			Theory	**Practical/demo/ lab Work**	**Clinical**	**Theory**	**Practical/demo/ lab work**	**Clinical**		
7	EVS	Environmental Sciences- NUE	45	-		3	-		3	Theory-50 NUE
8		Supervised Clinical training/Field work			360			8		
Total no. of Teaching hours / Year =1560									69	
Total Marks										850

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HUMAN ANATOMY

COURSE DESCRIPTION: For first year BOT students this course gives the detail knowledge about the cells, different systems such as musculoskeletal, cardiovascular, pulmonary, digestive , Nervous also the functional anatomy of various systems

Course Goals : Give the detailed knowledge of Human structure ,body functions ,anatomical orientation of different systems .The knowledge about cardiovascular & circulatory system, cell functions ,the detail skeletal system & muscular system

Course Objectives

KNOWLEDGE

Student will be able to

1. Gain knowledge of human body's structure and function
2. Understand normal anatomical position, various planes, relation, comparison, laterality & movement in our body
3. Know different types of cells and describe their functions
4. Describe the major components of the skeletal system and describe their functions, different types of bones and provide an example of each type
5. Learn and identify the major components of the integumentary system and their functions.
6. Differentiate types of bones and provide an example of each type.
7. Learn and identify the three types of muscle and the muscular system's functions.
8. Learn and identify the major components of the digestive, circulatory, respiratory, endocrine, reproductive & urinary system and their functions.
9. Learn and explain the major components of the nervous system and their functions

SKILL

1. Identify or recognize various muscle tissues, bones and organs of the body
2. Identify the parts of the brain and other organs of the body.
3. Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical education.
4. Identify the fundamental role of a proper theoretic knowledge of the subject in the clinical practice.
5. Identify the possible use of the acknowledged skills in the future career.
6. Assess the importance of the acquired knowledge in the overall medical education process.

ATTITUDE

1. Knowledge of anatomy will help to communicate with the clients and peers efficiently

Scheme of examination for University Practical exam 100 Marks

Spots-Identification of soft parts (heart, RS, Circulatary system, Neuro system) & living Anatomy	Spots- Bones (Upper & lower limbs, Vertebral Column, Thorax), Viva Voce	Presentation & Communication skills	Total
40 marks	40 marks	20 marks	100 marks

Competency Table: Human Anatomy

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
HUMAN ANATOMY								
TOPIC: ANATOMICAL TERMINOLOGY NUMBER OF COMPETENCIES: (2)								
AN 1.1	Demonstrate normal anatomical position, various planes, relation, comparison, laterality & movement in our body	K, S	SH	Y	Lecture, DOAP session	Written/ Viva voce/skills assessment		
AN 1.2	Describe composition of bone and bone marrow	K	KH	Y	Lecture	Written/ Viva voce		
TOPIC: GENERAL FEATURES OF BONES & JOINTS NUMBER OF COMPETENCIES: (6)								
AN 2.1	Describe parts, blood and nerve supply of a long bone	K	K	Y	Lecture	Written		
AN 2.2	Enumerate laws of ossification	K	K	Y	Lecture	Written		
AN 2.3	Enumerate special features of a sesamoid bone	K	K, KH	Y	Lecture, DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 2.4	Describe various types of cartilage with its structure & distribution in body	K	K		Lecture, DOAP	Written		
AN 2.5	Describe various joints with subtypes and examples	K	K, KH		Lecture, DOAP	Written		
AN 2.6	Explain the concept of nerve supply of joints & Hilton's law	K	K, KH		Lecture, DOAP	Written		
TOPIC: GENERAL FEATURES OF MUSCLE NUMBER OF COMPETENCIES: (2)								
AN 3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written, Viva voce		
AN 3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	Written, Viva voce		
TOPIC: GENERAL FEATURES OF SKIN AND FASCIA NUMBER OF COMPETENCIES: (3)								
AN 4.1	Describe different types of skin & dermatomes in body	K	KH	N	Lecture, DOAP session	Written	OTDP II	
AN 4.2	Describe structure & function of skin with its appendages	K	H	Y	Lecture, DOAP session	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 4.3	Describe superficial fascia along with fat distribution in body	K	KH	Y	Lecture, DOAP session	Written, Viva voce		
Topic: General features of the cardiovascular system & Circulatory system Number of competencies: (9)								
AN 5.1	Differentiate between blood vascular and lymphatic system	K	KH	Y	Lecture	Written, Viva voce		
AN 5.2	Differentiate between pulmonary and systemic circulation	K	KH	Y	Lecture	Written, Viva voce		
AN 5.3	List general differences between arteries & veins	K	KH	Y	Lecture	Written, Viva voce		
AN 5.4	Explain functional difference between elastic, muscular arteries and arterioles	K	KH	Y	Lecture	Written, Viva voce		
AN 5.5	Describe portal system giving examples	K	KH	Y	Lecture	Written, Viva voce		
AN 5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 5.7	Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses	K	KH	N	Lecture	Written		
AN 5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	Written		
AN 5.9	Describe the types of circulation and its importance, classification of vessels (anatomical and physiological) Structure of blood vessels. Factors affecting venous return. anastomosis, end arterie. Pulmonary and systemic circulation, define portal circulation with examples							
Topic: General Features of lymphatic system Number of competencies: (3)								
AN 6.1	List the components and functions of the lymphatic system	K	KH	N	Lecture	Written		
AN 6.2	Describe structure of lymph capillaries & mechanism of lymph circulation	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 6.3	Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system	K	KH	N	Lecture	Written		
Features of individual bones (Upper Limb) Number of competencies: (6)								
AN 7.1	Identify the given bone, its side, important features & keep it in anatomical position	K, S	SH	Y	DOAP session	Viva voce, Practicals/, OSPE		
AN 7.2	Identify & describe joints formed by the given bone	K, S	SH	Y	Lecture, DOAP session	Viva voce		
AN 7.3	Enumerate peculiarities of clavicle	K	KH	Y	Lecture, DOAP session	Viva voce		
AN 7.4	Demonstrate important muscle attachment on the given bone	K, S	SH	Y	Practical, DOAP session, Small group teaching	Viva voce, Practicals	Orthopaedics	
AN 7.5	Identify and name various bones in articulated hand, Specify the parts of metacarpals and phalanges and enumerate the peculiarities of pisiform	K, S	SH	Y	Practical, DOAP session, Small group teaching	Viva voce, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 7.6	Describe scaphoid fracture and explain the anatomical basis of avascularnecrosis	K	KH	N	DOAP session	Viva voce		
Topic: Upper Limb regions-Shoulder, Axilla, Arm No of Competencies -20								
AN 8.1	Describe attachment, nerve supply & action of pectoralis major and pectoralis minor	K	KH	Y	Lecture, Practical	Written	Biomechanics & Kinesiology	FOT I
AN 8.2	Breast: Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	K	KH	Y	Practical, Lecture	Written, Viva voce		
AN 8.3	Describe development of breast	K	KH	N	Lecture	Written		
AN 8.4	Identify & describe boundaries and contents of axilla	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.5	Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.6	Describe, identify and demonstrate formation, branches, relations, area of supply of branches, course and relations of terminal branches of brachial plexus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.7	Explain variations in formation of brachial plexus	K	KH	Y	Practical, Lecture	Written, Viva voce		
AN 8.8	Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis	K	KH	N	Lecture	Written		
AN 8.9	Explain anatomical basis of enlarged axillary lymph nodes	K	KH	N	Lecture	Written		
AN 8.10	Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written, Viva voce, skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.11	Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation	K	KH	N	Lecture	Written		
AN 8.12	Describe and identify the deltoid and rotator cuff muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.13	Describe & demonstrate attachment of serratus anterior with its action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 8.14	Describe and demonstrate shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 8.15	Explain anatomical basis of Injury to axillary nerve during intramuscular injections	K	KH	N	Lecture	Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.16	Describe and demonstrate muscle groups of upper arm with emphasis on biceps and triceps brachii	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.17	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels in arm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.18	Describe the anatomical basis of Saturday night paralysis	K	KH	Y	Practical, Lecture	Written, Viva voce	Plastic surgery, OTSC, Orthopaedics	
AN 8.19	Identify & describe boundaries and contents of cubital fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.20	Describe the anastomosis around the elbow joint	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Upper limb regions -Forearm & Hand No of competencies -21								
AN 9.1	Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.3	Identify & describe flexor retinaculum with its attachments	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.4	Explain anatomical basis of carpal tunnel syndrome	K	KH	Y	Lecture			
AN 9.5	Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.6	Describe & demonstrate movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.7	Identify & describe course and branches of important blood vessels and nerves in hand	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture			
AN 9.9	Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.10	Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.11	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion DOAP session			
AN 9.12	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture			
AN 9.13	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.14	Identify & describe extensor expansion formation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.15	Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage	K	KH	Y	Lecture			
AN 9.16	Describe dermatomes of upper limb	K	KH	N	Lecture			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.17	Identify & describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, blood and nerve supply of elbow joint, proximal and distal radio- ulnar joints, wrist joint & first carpometacarpal joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.18	Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint	K	KH	N	Lecture			
AN 9.19	Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand	K/S	SH	Y	Practical, Small group discussion, DOAP session			
AN 9.20	Identify & demonstrate important bony landmarks of upper limb: Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end, Inferior angle of the scapula	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.21	Identify & demonstrate surface projection of: Cephalic and basilic vein, Palpation of Brachial artery, Radial artery, Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
Topic – Thoracic cage No of Competencies-7								
AN 10.1	Identify and describe the salient features of sternum, typical rib, Ist rib andtypical thoracic vertebra	K/S	SH	Y	Lecture, DOAP sessi0n	Viva voce/ skill assessment	Orthopaedics	
AN 10.2	Identify & describe the features of 2nd, 11th and 12th ribs, 1st, 11th and 12ththoracic vertebrae	K/S	SH	N	Lecture, DOAP session	Viva voce/ skill assessment		
AN 10.3	Describe & demonstrate the boundaries of thoracic inlet, cavity and outlet	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 10.4	Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 10.5	Describe & demonstrate mechanics and types of respiration	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 10.6	Describe costochondral and interchondral joints	K	KH	N	Lecture	Written		
AN 10.7	Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum	K	KH	Y	Practical, Lecture	Written/ Viva voce		
Topic – Heart , pericardium, Mediastinum No of Competencies-7								
AN 11.1	Describe & demonstrate subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Medicine, OTMC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 11.2	Describe & demonstrate external and internal features of each chamber of heart	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 11.3	Describe & demonstrate origin, course and branches of coronary arteries	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 11.4	Describe anatomical basis of ischaemic heart disease	K	KH	Y	Lecture	Written/ Viva voce		
AN 11.5	Describe & demonstrate the formation,course, tributaries and termination of coronary sinus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 11.6	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	Written		
AN 11.7	Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of oesophagus	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/OSPE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic Lungs &Trachea No of Competencies-6								
AN 12.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	K	KH	Y	Practical, Lecture	Written/ Viva voce		Medicine, OTMC
AN 12.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 12.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	Written/ Viva voce		
AN 12.4	Identify phrenic nerve & Describe its formation & distribution	K/S	SH	Y	Lecture, Practical	Written/ Viva voce		
AN 12.5	Mention the blood supply, lymphatic drainage and nerve supply of lungs	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 12.6	Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea	K	KH	N	Lecture	Written		
Topic: Radiological Anatomy Number of competencies: 2								
AN 13.1	Understand Various imaging techniques with Principles of plain radiograms and CT scan, Ultrasonography,	K	KH	N	Lecture	Written		
AN 13.2	Bones and joints seen in AP and lateral view radiographs of shoulder, elbow, wrist joints & hand	K	KH	N	Lecture	Written	Orthopaedics	
Features of individual bones (Lower Limb) No of Competencies-3								
AN 14.1	Identify the given bone, its side, important features & keep it in anatomical position	K/S	SH	Y	DOAP session	Viva voce		
AN 14.2	Identify & describe joints formed by the given bone	K/S	SH	Y	Lecture, DOAP session	Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	Viva voce/ Practicals	Medicine, Orthopaedics	
Topic-- Lower limb Region - Thigh		**No of competencies - 11**						
AN 15.1	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.2	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior, medial & gluteal region of thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.3	Describe and demonstrate major muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 15.4	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva voce/skill assessment		
AN 15.5	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		
AN 15.6	Explain the anatomical basis of Trendelenburg sign	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		
AN 15.7	Describe and demonstrate the hamstrings group of muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.8	Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 15.9	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.10	Describe anatomical basis of complications of fracture neck of femur	K	KH	N	Lecture	Written/ Viva voce		
AN 15.11	Describe dislocation of hip joint and surgical hip replacement	K	KH	N	Lecture	Written/ Viva voce		
Topic - Lower limb Region -Knee, Leg & Foot No of competencies - 16								
AN 16.1	Describe and demonstrate major muscles of anterolateral compartment ofleg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Orthopaedics	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.2	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of of leg	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.3	Explain the anatomical basis of foot drop	K	KH	Y	Lecture,	Written/ Viva voce	OTSC, Surgery	
AN 16.4	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.5	Explain the anatomical basis of locking and unlocking of the knee joint	K	KH	Y	Small Group teaching	Written/ Viva voce		
AN 16.6	Describe knee joint injuries with its applied anatomy	K	KH	N	Lecture	Written/ Viva voce		
AN 16.7	Explain anatomical basis of Osteoarthritis	K	KH	N	Lecture	Written/ Viva voce	Orthopaedics ,OTSC	
AN 16.8	Explain the anatomical basis of rupture of calcaneal tendon	K	KH	N	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.9	Describe factors maintaining importance arches of the foot with its importance	K	KH	Y	Lecture	Written/ Viva voce		
AN 16.10	Explain the anatomical basis of Flat foot & Club foot	K	KH	N	Lecture	Written/ Viva voce		
AN 16.11	Explain the anatomical basis of Metatarsalgia & Plantar fasciitis	K	KH	N	Lecture	Written/ Viva voce		
AN 16.12	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.13	Describe the subtalar and transverse tarsal joints	K	KH	N	Lecture	Written/ Viva voce		
AN 16.14	Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 16.15	Explain anatomical basis of varicose veins and deep vein thrombosis	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.16	Identify & demonstrate important bony landmarks of lower limb: -Vertebral levels of highest point of iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle, -Tibial tuberosity, head of fibula, -Medial and lateral malleoli, Condyles of femur and tibia, sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular	K/S	SH	Y	Practical, Lecture, Small group discussion	Viva voce/ OSPE		
Topic--Face, Scalp, neck No of Competencies-13								
AN 17.1	Demonstrate anatomical position of skull, Identify and locate individual skull bones in skull	K/S	SH	Y	Lecture,	Viva voce/ skill assessment	Medicine ,Surgery	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 17.2	Describe features of typical and atypical cervical vertebrae (atlas and axis)	K/S	SH	Y	Lecture,	Viva voce/ skill assessment		
AN 17.3	Describe the features of the 7th cervical vertebra	K/S	SH	N	DOAP session	Viva voce		
AN 17.4	Describe & demonstrate muscles of facial expression and their nerve supply	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.5	Describe sensory innervation of face	K	KH	Y	Practical, Lecture	Written/ Viva voce		
AN 17.6	Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.7	Describe & demonstrate branches of facial nerve with distribution	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment OSPE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 17.8	Identify superficial muscles of face, their nerve supply and actions of facial muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.9	Explain the anatomical basis of facial nerve palsy	K	KH	Y	Lecture	Written		
AN 17.10	Describe & demonstrate attachments, nerve supply, relations and actions of sternocleidomastoid	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.11	Explain anatomical basis of Erb's & Klumpke's palsy	K	KH	Y	Lecture	Written	Surgery, OTSC	
AN 17.12	Explain anatomical basis of wry neck	K	KH	N	Lecture	Written		
AN 17.13	Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2) scalenus anterior, 3) scalenus medius & 4) levator scapulae	K/S	SH	N	Lecture, Practical	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic-Facial region No of Competencies-10								
AN 18.1	Describe & identify extra ocular muscles of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Surgery	
AN 18.2	Describe & demonstrate nerves and vessels in the orbit	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 18.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	Written		
AN 18.4	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	Written		
AN 18.5	Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.6	Describe & demonstrate articulating surface, type & movements of temporomandibular joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.7	Explain the clinical significance of pterygoid venous plexus	K	KH	Y	Lecture	Written		
AN 18.8	Describe the features of dislocation of temporomandibular joint	K	KH	N	Lecture	Written		
AN 18.9	Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/		
AN 18.10	Describe the basis of formation of submandibular stones	K	KH	N	Lecture	Written		
Topic _-Vertebral column, Spinal Cord No of Competencies - 17								
AN 18.1	Describe the parts, extent, attachments, modifications of deep cervicalfascia	K	KH	Y	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.2	Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland	K/S	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce		
AN 18.3	Demonstrate & describe the origin, parts, course & branches subclavianartery	K/S	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	Surgery, Orthopedics	
AN 18.4	Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce/		
AN 18.5	Describe the course and branches of IX, X, XI & XII nerve in the neck	K	KH	Y	Lecture	Written		
AN 18.6	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	Written		
AN 18.7	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH		Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.8	Describe the contents of the vertebral canal	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.9	Describe the boundaries and contents of Suboccipital triangle	K	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.10	Describe the curvatures of the vertebral column	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.11	Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voc/eOSPE		
AN 18.12	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	Written		
AN 18.13	Identify external features of spinal cord	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	OTOC, OTNC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.14	Describe extent of spinal cord in child & adult with its clinical implication	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.15	Draw & label transverse section of spinal cord at mid- cervical & mid- thoracic level	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.16	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.17	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	Written	OTNC, Neurology	
Topic- Brain No of Competencies- 21								
AN 19.1	Identify external features of medulla oblongata	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce	Neurology, OTNC	
AN 19.2	Describe transverse section of medulla oblongata at the level of 1) Pyramidal decussation, 2) Sensory decussation 3) ION	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.3	Enumerate cranial nerve nuclei in medulla oblongata with their functionalgroup	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	Written		
AN 19.5	Identify external features of pons	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/		
AN 19.6	Draw & label transverse section of pons at the upper and lower level	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.7	Enumerate cranial nerve nuclei in pons with their functional group	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.8	Describe & demonstrate external & internal features of cerebellum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva voce/		
AN 19.9	Describe connections of Cerebellar cortex and intracerebellar nuclei	K	KH	Y	Lecture	Written/ Viva voce/		
AN 19.10	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.11	Identify external & internal features of midbrain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.12	Describe internal features of midbrain at the level of superior & inferior colliculus	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.13	Describe anatomical basis & effects of Benedikt's and Weber's syndrome	K	KH	N	Lecture	Written		
AN 19.14	Enumerate cranial nerve nuclei with its functional component	K	KH	Y	Lecture	Written/ Viva voce	Neurology, OTNC	
AN 19.15	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.16	Describe the white matter of cerebrum	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.17	Enumerate parts & major connections of basal ganglia & limbic lobe	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.18	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.19	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.20	Describe & demonstrate parts, boundaries & features of IIIrd, IVth & lateral ventricle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.21	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: : Abdominal cavity Number of competencies: 4								
AN 20.1	Describe boundaries and recesses of Lesser & Greater sac	K	KH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce	Surgery	
AN 20.2	Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery	K	KH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 20.3	Describe important nerve plexuses of posterior abdominal wall, describe the abdominal muscles in different layers	K	KH	N	Lecture	Written		
AN 20.4	Describe & demonstrate the attachments, openings, nerve supply &action of the thoracoabdominal diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Perenial Region ,Sacral Plexus Number of competencies: 8								
AN 21.1	Describe the (position, features, important eritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera	K	KH	Y	Practical, Lecture, Small group discuss	Written/ Viva voce/		
AN 21.2	Desccribe the origin, course, important relations and branches of internal iliac artery	K	H	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		
AN 21.3	Describe the branches of sacral plexus	K	KH	Y	Lecture	Written		
AN 21.4	Describe the neurological basis of Automatic bladder	K	KH	N	Lecture	Written		
AN 21.5	Describe the superficial & deep perineal pouch (boundaries and contents)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voc		
AN 21.6	Describe & identify Perineal body	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 21.7	Describe Perineal membrane in male & female	K/S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/		
AN 21.8	Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure	K	KH	N	Lecture	Written		
Topic: Larynx, Eyes,hearing & organs of equilibrium Number of competencies: 4								
AN 22.1	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		OTSC
AN 22.2	Describe the anatomy of ear	K	KH	N	Lecture	Written		
AN 22.3	Describe anatomy of eyes & muscles	K	KH	N	Lecture	Written		
AN 22.4	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Radiological Anatomy Number of competencies: 2								
AN 23.1	Understand Various imaging techniques with Principles of plain radiograms and CT scan, Ultrasonography,	K	KH	N	Lecture	Written	orthopaedics	
AN 23.2	. Bones and joints seen in AP and lateral view radiographs of hip, knee, ankle joints and foot	K	KH	N	Lecture	Written		
Topic: Applied Anatomy Number of competencies: 3								
AN 24.1	**Muscles Describe** Classification, each type: structure, ultrastructure, function, applied anatomy	K	KH	N	Lecture	Written		
AN 24.2	**Nervous Tissue** Describe structure, coverings, functions of Peripheral nerve&. Ganglia:	K	KH	N	Lecture	Written		
AN 24.3	**Skin** Describe Types: features of skin with examples and functions, cells, appendages	K	KH	N	Lecture	Written		

Reference Book

S. No.	Name of the Book	Edition
	Gross Anatomy	
1.	B. D. Chaurasia's Human Anatomy. Volume: 1, 2, 3, 4	8th
2.	Vishram Singh's Textbook of Anatomy. Volume: 1, 2, 3	3rd
3.	Vishram Singh's Textbook of Neuroanatomy	4th
4.	B. D. Chaurasia's General Anatomy	6th
5.	Netter's Human Anatomy Atlas	7th
6.	Grant's Human Anatomy Atlas	13th
7.	Vishram Singh's General Anatomy	
8.	Gray's Anatomy for Students	
	Histology	
9.	Histology Text and Atlas. Brijesh Kumar	2nd
	Surface Anatomy and Radiology	
10.	Surface and Radiological Anatomy. A. Halim	3rd
11.	Cunninghams Practical Anatomy	

HUMAN PHYSIOLOGY

Course Description

An overall goal of this course is to enable students to understand the role of molecules, cells, tissues, organs, and organ systems (endocrine, nervous, muscular and immune systems) in human health and disease. This class focuses on understanding physiology –the functioning of a living organism and its component parts. This requires going beyond memorization of facts to acquire an understanding of how and why the body functions the way it does, and what happens when it does not function properly.

COURSE OBJECTIVES

A. KNOWLEDGE

1. Understanding of the physiology and basic regulatory concepts related to the functioning of life processes
2. Understand the functions of important physiological systems including the cardio- respiratory, renal, reproductive and metabolic systems;
3. Define homeostasis and explain how homeostatic mechanisms normally maintain a constant interior milieu.
4. State the functions of each organ system of the body, explain the mechanisms by which each functions, and relate the functions and the anatomy and histology of each organ system.
5. Understand and demonstrate the interrelations of the organ systems to each other
6. Predict and explain the integrated responses of the organ systems of the body to physiological and pathological stresses.

7. Understand physiology of the neuromuscular system, particularly the regulation of strength and velocity of a contraction by muscle receptors interacting with the nervous system.
8. Understand the function of the cardiovascular, circulatory and respiratory systems at rest and during exercise, and their adaptations to training.
9. Explain the pathophysiology of common diseases related to the organ systems of the body receptors interacting with the nervous system.
10. Understand the function of the cardiovascular, circulatory and respiratory systems at rest and during exercise, and their adaptations to training.
11. Explain the pathophysiology of common diseases related to the organ systems of the body.

B. SKILL

1. Perform, analyse and report on experiments and observations in physiology
2. Recognise and identify principal tissue structures.
3. Identify different blood cells in a film, and indicate the identifying features of each type of leukocyte.
4. Clinically examine the Cardiovascular and respiratory system and record BP and pulse at rest and in different postures

C. ATTITUTE

1. Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients and colleagues.
2. Demonstrate ability to apply newly gained knowledge.

Examination scheme

Scheme of examination for University Practical exam 100 Marks

Spots- Identification	Clinical Examination- CVS, Pulse, BP, PNF, CNS & Viva Voce	Presentation & Communication skills	Total
40marks	40 marks	20marks	100 marks

Competency Table: Human Anatomy

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
HUMAN PHYSIOLOGY								
Topic: General Physiology		**Number of competencies: 7**						
PI 1.1	Introduction to Physiology, Organisation of Human Body	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce		Biochemistry
PI 1.2	Compartments of Body Fluid	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.3	Homeostasis and Biofeedback Mechanism	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.4	Cell Physiology	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.5	Cell Membrane and Concept of Membrane Potentials	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.6	Transport Across Cell Membrane	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.7	Concept of Osmolar and Tonicity Units	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Haematology		**Number of competencies: (10)**						
PI 2.1	Describe the composition and functions of blood components	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Pathology	
PI 2.2	Discuss the origin, forms, variations and functions of plasma proteins	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.3	Describe and discuss the synthesis and functions of Haemoglobin and explain its breakdown. Describe variants of haemoglobin	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.4	Describe RBC formation (erythropoiesis & its regulation) and its functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.5	Describe different types immunity and its regulation	K	KH	Y	Lecture, Small discussion	Written/Viva voce		
PI 2.6	Describe WBC formation (granulopoiesis) and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 2.7	Describe the physiological basis of hemostasis and, anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.8	Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion	K	KH	Y	Lecture, Small group discussion, ECE- Visit to blood bank	Written/Viva voce		
PI 2.9	Define and classify different types of immunity. Describe the development of immunity and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.10	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	K	KH	Y	Lecture, DOAP sessions	Practical/OSPE/ Viv a voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Cardiovascular Physiology (CVS) Number of competencies: 13								
PI 3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written/ Viva voce	Medicine, OTM C	
PI 3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	Written/ Viva voce		
PI 3.3	Describe the functional anatomy of heart including chambers, sounds; and Pacemaker tissue and conducting system.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.4	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.5	Discuss the events occurring during the cardiac cycle	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.6	Describe generation, conduction of cardiac impulse	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 3.7	Describe and discuss haemodynamics of circulatory system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.8	Describe and discuss local and systemic cardiovascular regulatory mechanisms	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.9	Describe the factors affecting heart rate, regulation of cardiac output& blood pressure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.10	Describe & discuss regional circulation including microcirculation, lymphatic circulation, coronary, cerebral, capillary, skin foetal pulmonary and splanchnic circulation,	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.11	Describe the patho-physiology of shock, syncope and heart failure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 3.12	Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce		
PI 3.13	Describe interpretation of normal ECG in a volunteer or simulated environment	K	KH	Y	Lecture, DOAP sessions	Practical/OSPE/ Viva voce		
Topic: Respiratory Physiology Number of competencies (7)								
PI 4.1	Describe the functional anatomy of respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP II, OTMC, Medicine	
PI 4.2	Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar, Surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 4.3	Describe and discuss the transport of respiratory gases: Oxygen and Carbon dioxide	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.4	Describe and discuss the physiology of high altitude and deep sea diving	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.5	Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis asphyxia; drowning, periodic breathing	K	KH	Y	Lecture, Small group discussion	Written/Vivavoce		
PI 4.6	Describe and discuss lung function tests & their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.7	Demonstrate the correct technique to perform & interpret Spirometry	S	SH	Y	DOAP sessions	Skill assessment/ Viva voce		
Topic: Renal Physiology Number of competencies: (6)								
PI 5.1	Describe structure and function of kidney	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTMC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 5.2	Describe the structure and functions of juxta glomerular apparatus and role of renin-angiotensin system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.3	Describe the mechanism of urine formation involving processes of filtration, tubular reabsorption & secretion; concentration and diluting mechanism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.4	Describe & discuss the significance & implication of Renal clearance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.5	Describe the renal regulation of fluid and electrolytes & acid-base balance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Endocrine Physiology		**Number of competencies: (6)**						
PI 6.1	Describe the physiology of bone and calcium metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.2	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas and hypothalamus	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.3	Describe the physiology of Thymus & Pineal Gland	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 6.5	Describe the metabolic and endocrine consequences of obesity & metabolic syndrome, Stress response. Outline the psychiatry component pertaining to metabolic syndrome.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.6	Describe & differentiate the mechanism of action of steroid, protein and amine hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
Topic: Muscle Physiology No of Competencies: 15								
PI 7.1	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & Other growth factors/cytokines	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.2	Describe the types, functions & properties of nerve fibers	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I
PI 7.3	Describe the degeneration and regeneration in peripheral nerves	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 7.4	Describe the structure of neuro-muscular junction and transmission of impulses	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I
PI 7..5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.6	Describe the Pathophysiology of Myasthenia gravis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTNC	
PI 7.7	Describe the different types of muscle fibres and their structure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.8	Describe action potential and its properties in different muscle types (skeletal & smooth)	K	KH	Y	Lecture, Small Group discussion	Written/Viva voce		
PI 7.9	Describe the molecular basis of muscle contraction in skeletal andin smooth muscles	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.10	Describe the mode of muscle contraction (isometric and isotonic)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		FOT I, OTDP I
PI 7.11	Explain energy source and muscle metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 7.12	Explain the gradation of muscular activity	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.13	Describe muscular dystrophy: myopathies	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.14	Perform Ergography	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce		
PI 7.15	Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce	Work physiology, OTMC	FOT I
Topic: Physiology of digestive system			**No of Competencies: (8)**					
PI 8.1	Describe the structure and functions of digestive system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.2	Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 8.3	Describe GIT movements, regulation and functions. Describe defecation reflex. Explain role of dietary fibre.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.4	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.5	Describe the source of GIT hormones, their regulation and functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.6	Describe the Gut-Brain Axis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.7	Describe & discuss the structure and functions of liver and gallbladder	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.8	Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests	K	KH	Y	Lecture, Small group discussion, Demonstration Esophageal Manometry & endoscopy	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Reproductive Physiology		**No of competencies: 5**						
PI 9.1	Describe and discuss sex determination; sex differentiation and their abnormities and outline psychiatry and practical implication of sex determination.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Orthopaedics
PI 9.2	Describe and discuss puberty: onset, progression, stages; early and delayed puberty and outline adolescent clinical and psychological association.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 9.3	Describe male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 9.4	Describe female reproductive system: (a) functions of ovary and its control; (b) menstrual cycle - hormonal, uterine and ovarian changes	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 9.5	Describe and discuss the physiological effects of sex hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
Topic: Neuro physiology			**No of competencies: 17**					
PI 10.1	Describe and discuss the organization of nervous system							
PI 10.2	Describe and discuss the functions and properties of synapse, reflex, receptors							
PI 10.3	Describe and discuss somatic sensations & sensory tracts							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements, posture and equilibrium & vestibular apparatus							
PI 10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)							
PI 10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances							
PI 10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities							
PI 10.8	Describe and discuss behavioural and EEG characteristics during sleep and mechanism responsible for its production							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.9	Describe and discuss the physiological basis of memory, learning and speech							
PI 10.10	Describe and discuss chemical transmission in the nervous system. (Outline the psychiatry element).							
PI 10.11	Demonstrate the correct clinical examination of the nervous system: Higher functions, sensory system, motor system, reflexes, cranial nerves in a normal volunteer or simulated environment							
PI 10.12	Identify normal EEG forms							
PI 10.13	Describe and discuss perception of smell and taste sensation							
PI 10.14	Describe and discuss patho-physiology of altered smell and taste sensation							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing							
PI 10.16	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex							
PI 10.17	Describe and discuss the physiological basis of lesion in visual pathway							
Topic: Cardiorespiratory Physiology No of Competencies: 9								
PI 11.1	Describe and discuss mechanism of temperature regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.2	Describe and discuss adaptation to altered temperature (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 11.3	Describe and discuss cardio-respiratory and metabolic adjustments during exercise; physical training effects	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.4	Discuss & compare Cardio respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.5	Describe physiology of Infancy	K	KH	N	Lecture, Small group discussion	Written/Viva voce		
PI 11.6	Interpret growth charts	K	KH	N	Small group teaching	Practical/OSPE/ Vivavoce		
PI 11.7	Interpret anthropometric assessment of infants	K	KH	N	Small group teaching	Practical/OSPE/ Vivavoce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 11.8	Discuss the physiological effects of meditation	K	KH	N	Lecture, Small group discussion	Written/Viva voce		
PI 11.9	Describe and discuss physiology of aging; free radicals and antioxidants	K	KH	N	Lecture, Small group discussion	Written/Viva voce		

REFERENCE BOOKS:

1. Text book on Medical Physiology – Guyton
2. Textbook of Physiology – A K Jain .
3. Review of Medical Physiology – Ganong
4. Samson & Wright"s Applied Physiology

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BIOCHEMISTRY

COURSE DESCRIPTION:

Biochemistry, the study of biological phenomena at cellular and molecular level, is studied to gain knowledge about the principles that govern complex biological systems. The primary objective of this course is to give students a solid foundation in biochemical processes, to develop analytical, technical and critical thinking skills and to make them scientifically literate.

COURSE OBJECTIVES

At the end of first year BOTH students will be able to

A. **KNOWLEDGE:**

1. Explain the scientific basis for an understanding of the mechanisms of metabolic and functional disturbances
2. Gain knowledge and understand the principles that govern the structures of macromolecules and their participation in molecular recognition
3. Understand molecular and functional organization of cell and its subcellular components
4. Provide concept of enzymes
5. Describe the chemistry, metabolism of Carbohydrates, lipids and proteins and its related disorders
6. Understand the Integration and homeostasis of various metabolism
7. Understand the metabolism of Purines, Pyrimidines, Minerals and its related disorders
8. Understand the process of Acid- base and Water- Electrolyte balance and imbalance
9. Recognize the Biochemical role of vitamins and manifestations of its deficiencies

Competency Table: Biochemistry

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Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BIOCHEMISTRY								
Topic: : Fundamental Unit of Life: The Cell and Chemistry of Biomolecules (Carbohydrates, Lipids, Proteins, Nucleic Acids) Number of competencies: (6)								
BC 1.1	Describe Plasma membrane; structure and function	K	SH	Y	Lecture	Written/ Viva voce	Pathology, Microbiology	
BC 1.2	Understand Function of intracellular organelle in brief (no structural details)	K	KH	Y	Lecture	Written/Viva voce		
BC 1.3	Define & explain the Classification (with proper examples) and their functions	K	KH	Y	Lecture	Written/ Viva voce		
BC 1.4	Define& explain the Various ways of Classification (with proper examples) proteins, amino acids, peptides & their biochemical importance, Denaturation, coagulation, isoelectric pH and its significance	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 1.5	Definition, Class Define& explain the ification (with proper examples) and functions of Lipids and fatty acids.	K	KH	Y	Lecture	Written/ Viva voce		
BC 1.6	Describe Structure & functions of DNA, RNA, Nucleotides & their biological importance	K	KH	Y	Lecture	Written/ Viva voce		
Topic: Enzymes Number of competencies: (4)								
BC 2.1	Describe Classification of enzymes, Factors affecting enzyme activity.	k	K	Y	Lecture	Written		
BC 2.2	Enumerate Enzyme inhibitors (kinetic is not required)	K	K	Y	Lecture	Written		
BC 2.3	Describe Diagnostic clinical importance of enzymes & Isoenzymes	K	K, KH	Y	Lecture, DOAP	Written		
BC 2.4	Diagnostic uses of enzymes	K	K, KH		Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Biological Oxidation Mechanism of Hormone Action and Metabolism of Carbohydrate, Lipid, Protein and Nucleic Acid No of Competencies -19								
BC 3.1	Describe the Electron transport chain	K	KH	Y	Lecture, Practical	Written		FOT II
BC 3.2	Describe Substrate level & oxidative phosphorylation	K	KH	Y	Practical, Lecture	Written/ Viva voce		
BC 3.3	Definition, Describe Classification OF Enzymes	K	KH	N	Lecture	Written		
BC 3.4	Describe Mechanism of hormone action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
BC 3.5	Describe Biochemical aspects of digestion and absorption of carbohydrates	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 3.6	Describe Glycolysis (Aerobic and Anaerobic)	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/		
BC 3.7	Describe Glycogen metabolism, its regulation and glycogen storage diseases	K	KH	Y	Practical, Lecture	Written/ Viva voce		
BC 3.8	Explain Gluconeogenesis-Cori's cycle, HMP shunt and its significance	K	KH	N	Lecture	Written		
BC 3.9	Explain: Blood glucose regulation, Lactose intolerance and Diabetes mellitus	K	KH	N	Lecture	Written		
BC 3.10	Describe Biochemical aspects of digestion and absorption of proteins	K	KH	Y	Lecture,	Written/ Viva voce/		
BC 3.11	Describe Fate of amino acids in the body (deamination, Transamination, transmethylation), fates of ammonia and urea cycle & disorders	K	KH	N	Lecture	Written		
BC 3.12	Describe Biochemical aspects of digestion and absorption of lipids	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 3.13	Describe Beta oxidation of fatty acids and its energetics Ketogenesis, ketolysis & ketosis	K	KH	N	Lecture	Written		
BC 3.14	Describe Cholesterol and its importance (No biosynthesis y	K	KH	N	Lecture	Written		
BC 3.15	Explain Classification and functions of Lipoproteins	K	KH	N	Lecture	Viva voce		
BC 3.16	Describe Fates of- acetyl CoA and glycerol	K	KH	N	Lecture	Written		
BC 3.17	Describe Catabolism of purines and related disorders	K	KH	N	Lecture	Written		
BC 3.18	Describe Lipid Profile- Triacylglycerol, cholesterol (HDL, LDL & VLDL)	K	KH	Y	Lecture	Written/ Viva voce	Pathology, Microbiology	
BC 3.19	Describe. Catabolism of purines and related disorders	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Vitamins, Mineral & Nutrition **No of competencies - 13**								
BC 4.1	Describe Classification, sources, functions and RDA of fat soluble and Water-soluble vitamins.	K	KH	N	Lecture	Written		
BC 4.2	Describe Active forms & metabolic role, deficiency manifestations	K	K	N	Lecture	Written		
BC 4.3	Describe Co-enzyme firms of vitamin B-complex group	K	K	N	Lecture	Written		
BC 4.4	Explain Hypervitaminosis	K	KH	Y	Lecture	Written/ Viva voce		
BC 4.5	Describe Calcium and Phosphorous: Sources, RDA, functions and disorders	K	K	N	Lecture	Written		
BC 4.6	Describe Trace elements: Iron, Manganese, Selenium, Zinc & Fluoride	K	K	N	Lecture	Written		
BC 4.7	Describe Importance of nutrition	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 4.8	Describe Calorimetry, Respiratory Quotient and its significance	K	K	Y	Lecture	Written/ Viva voce		
BC 4.9	Describe Energy requirement with reference to age and sex	K	KH	N	Lecture	Written		Physiology
BC 4.10	Describe Thermogenesis and specific dynamic action	K	KH	N	Lecture	Written		
BC 4.11	Discuss the Balance diet for normal adult and role of fibres in diet	K	KH	N	Lecture	Written		
BC 4.12	Describe Nitrogen balance and its significance.	K	K	Y	Lecture	Written/ Viva voce		
BC 4.13	Describe Protein energy malnutrition (Kwashiorkor & Marasmus)	K	K	N	Lecture	Written		
Topic: Acid Base and Water Electrolyte Balance and Imbalance **No of competencies -6**								
BC 5.1	Describe Sodium, Potassium and their importance in body	K	KH	N	Lecture	Written	Microbiology	
BC 5.2	Describe Balance & imbalance of Water, Electrolytes	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 5.3	Describe Balance & imbalance of Water, Electrolytes	K	KH	N	Lecture	Written		
BC 5.4	Describe Liver function tests and Renal function tests	K	KH	N	Lecture	Written		
BC 5.6	Describe Relevance of blood levels of glucose, urea, calcium, phosphorus and uric acid	K	KH	N	Lecture	Written		
Topic – Muscle Contraction and Connective Tissue No of Competencies- 4								
BC 6.1	Enumerate Contractile elements	K	KH	Y	Lecture	Written		Physiology
BC 6.2	Describe Biochemical events during contraction	K	KH	Y	Lecture	Written		
BC 6.3	Describe Energy metabolism in skeletal and cardiac muscles	K	KH	Y	Lecture	Written		
BC 6.4	Describe Biochemistry of connective tissue	K	KH	Y	Lecture	Written/ Viva voce		

Reference Books:

1. Essentials of Biochemistry, 1st Edition: Dr. Pankaja Naik
2. Essentials of Biochemistry 7th Edition: Dr. D M Vasudeva
3. Biochemistry 2012 Edition: Dr. U Satyanarayan
4. Review of Biochemistry (24th edition) – Harpar

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राष्ट्रीय सहबद्ध और स्वास्थ्य देख-रेख वृत्ति आयोग

FUNDAMENTALS OF OCCUPATIONAL THERAPY - I

Course description:

This course gives an introduction to the foundational concepts of Occupational Therapy. This course introduces students to the professional standards, ethical principles, and documentation in occupational therapy practice. It also gives an overview of the Occupation Therapy process, its frameworks, components – OTPF, Rehabilitation Philosophy, methods of assessment of ROM & muscle strength

Goal:

The primary goal of a first-year occupational therapy program is to lay the foundational knowledge and skills necessary for students to become competent and ethical occupational therapy practitioners. The program encourages students to progress through their education with a solid understanding of the profession and the skills needed to begin their journey as occupational therapy professionals

Objectives:

A. Knowledge

At the end of the first year, the student should be able to

1. Remember and understand conceptual foundations of ethics and documentation
2. Understand the therapeutic relationship among the rehabilitation team members, the patient and the therapist.
3. Understand the assessment methods to improve participation in social and community life
4. Understand use of therapeutic activity and apply knowledge of activity analysis to choose appropriate activity for therapeutic use
5. Understand the principles & application of ROM ,muscle strength assessment ,its importance in Occupational Therapy

B. Skills

At the end of the first year, the student should be able to

1. Analyse various Therapeutic activities & match them with clients demands for participation in daily skills
2. Demonstrate assessment skills for ROM & muscle strength
3. Attitude
4. Demonstrate understanding of respect and empathy in conduct with patients

Scheme of examination for University Practical exam 100 Marks

Activity Analysis (any two from adjunctive, enabling, purposeful & occupation based activities) & Viva Voce	Assessment of Range of Motion Upper extremity & Lower Extremity (on normal subjects) & Viva Voce	Gross Muscle testing (On Normal subjects Upper & Lower extremity) & Viva Voce	Presentation & communication skills	Total
20 marks	40 marks	20 marks	20 marks	100 marks

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Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY - I

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FUNDAMENTALS OF OCCUPATIONAL THERAPY – I									
Topic: Introduction to Occupation, Occupational Science and Occupational Therapy Number of Competencies: 8 Number of procedures for certification: (NIL)									
FOTI 1.1	Define and describe occupation, theory of occupation and evolutionary traits.	K/C	K	Y	Lecture	Written			
FOTI 1.2	Enumerate and describe dimensions of occupation.	K	K/KH	Y	Lecture	Written			
FOTI 1.3	Enumerate and describe forms of occupation.	K	K/KH	Y	Lecture	Written			
FOTI 1.4	Explain the need to understand occupation.	K	K	N	Lecture	Written			
FOTI 1.5	Understand the philosophy and concept of occupation.	K	K	Y	Lecture	Written			
FOTI 1.6	Explain therapeutic application of occupation.	K/C	K/KH	Y	Lecture	Written			
FOTI 1.7	Explain occupational science and application of its theory to occupational therapy.	K/C	K/KH	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 1.8	Define and explain the scope of occupational therapy.	K/A/C	K	Y	Lecture	Written			
Topic: History & Evolution of Occupational Therapy Number of procedures for certification: (NIL)				**Number of Competencies:8**					
FOTI 2.1	Describe the Historical Context of Occupational Therapy Across the World	K	K	Y	Lecture	Written/ Viva-Voce			
FOTI 2.2	Explain the influences on Evolution of Occupational Therapy	K	K/KH	Y	Lecture	Written			
FOTI 2.3	Explain Rehabilitation philosophy	K	K	Y	Lecture	Written			
FOTI 2.4	Describe Principles of Physical Medicine and Rehabilitation	K	K/KH	Y	Lecture	Written			
FOTI 2.5	Enlist International /National/State Organizations of Occupational Therapy	K	K	Y	Lecture	Written			
FOTI 2.6	Describe how Professional Organizations Supports Professional Development and Enlist Benefits of Professional Associations	K/A/C	K	Y	Lecture	Written/ Viva-Voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 2.7	Historical Context of Occupational Therapy in India Including State Council and NCAHP (National Commission for Allied & Healthcare professions)	K	K	Y	Lecture	Written			
FOTI 2.8	Describe composition and Functions of NCAHP, SCAHP	K	K	Y	Lecture	Written			
Topic: Human Development and Maturation Number of competencies: 4 Number of procedures for certification: (NIL)									
FOTI 3.1	Define and describe importance of knowledge of human development.	K/C	K	Y	Lecture	Written			
FOTI 3.2	Describe aspects of human development.	K/C	K	Y	Lecture	Written			
FOTI 3.3	Describe factors influencing human growth and development.	K/C	K	Y	Lecture	Written			
FOTI 3.4	Describe general principles of human development and specific principles of maturation.	K/C	K	Y	Lecture	Written			Anatomy

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Principles and Methods of Assessments **Number of Competencies: 18** **Number of procedures for certification: (NIL)**									
FOTI 4.1	Define active, passive, and functional range of motion (ROM), total active and total passive motion.	K/C	K	Y	Lecture	Written			
FOTI 4.2	Describe various methods of range of motion evaluation.	K/C	K	Y	Lecture	Written			
FOTI 4.3	Enlist the purposes of measuring joint range of motion	K/C	K	Y	Lecture	Written			
FOTI 4.4	Enlist precautions for and contraindications to joint Measurement Understand and recognize norms of joint range of motion of various	K/C	K	Y	Lecture	Written			
FOTI 4.5	joints of upper extremity, lower extremity and spine and end feels for each motion and describe how to establish ROM norms for clients with bilateral as well as unilateral involvement.	K/C	K	Y	Lecture	Written			
FOTI 4.6	Describe various types of goniometers and parts of goniometers.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.7	Evaluate range of motion of the upper extremity joints using a goniometer based on joint range of motion principles and procedures on normal individuals and patients.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.8	Evaluate range of motion of the lower extremity joints using a goniometer based on joint range of motion principles and procedures on normal individuals and patients.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.9	Evaluate range of motion of the spinal joints using a goniometer, inclinometer and tape method based on joint range of motion principles and procedures on normal individuals and patients	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.10	Understand evaluation of range of motion of the temporomandibular joint using a goniometer, and tape method based on joint range of motion principles and procedures on normal individuals.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.11	Define types of muscle contractions, types of muscle strength and muscle power.	K/C	K	Y	Lecture	Written			
FOTI 4.12	Enlist the steps of the manual muscle test procedure in correct order and describe the limitations of the procedure.	K/C	K	Y	Lecture	Written			
FOTI 4.13	Enumerate and explain the various muscle strength grading systems	K/S/A/C	K	Y	Lecture	Written			
FOTI 4.14	Perform/administer a manual muscle test to evaluate strength of the upper extremity group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.15	Perform/administer a manual muscle test to evaluate strength of the lower extremity group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.16	Perform/administer a manual muscle test to evaluate strength of the spine group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.17	Define and explain muscle endurance and general endurance or aerobic capacity.	K/C	K	Y	Lecture	Written			
FOTI 4.18	Perform/administer a muscle endurance test based on the principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
Topic: Therapeutic Exercises Number of Competencies: 8 **Number of procedures for certification: (NIL)**									
FOTI 5.1	Explain principles of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.2	Enumerate purposes and indications of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.3	Enumerate precautions and contraindications of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.4	Determine pre-requisites of prescriptions of therapeutic exercises.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 5.5	Define, classify, differentiate and demonstrate types of therapeutic exercises and give examples of its application to activities.	K/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.6	Describe treatment goals and enlist therapeutic activities for patients who have problems with range of motion and flexibility.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.7	Describe treatment goals and enlist therapeutic activities for patients who have problems with muscle strength.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.8	Describe treatment goals and enlist therapeutic activities for patients who have problems with muscle and general endurance.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
Topic: Activity Analysis Number of Competencies: 4 **Number of procedures for certification: (NIL)**									
FOTI 6.1	Explain principles of activity analysis with respect to biomechanical, sensory motor & socio-cultural aspects including the criteria for selection of an activity for a client.	K/C/A	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 6.2	Determine grading of occupations/activities/tasks to challenge the person's abilities to improve performance.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
FOTI 6.3	Determine adaptation of occupations/activities/tasks to increase their therapeutic value or to bring them within the capability of a person.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
FOTI 6.4	Administer, demonstrate and explain activity analysis of any adjunctive activities, enabling activities (occupation-as-means), purposeful activities (occupation-as- end) and occupation.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
Topic: Media, Methods and Therapeutic and Physical Agent Modalities **Number of Competencies: 4** **Number of procedures for certification: (NIL)**									
FOTI 7.1	Define media, methods and modalities.	K/C	K	Y	Lecture	Written			
FOTI 7.2	Describe the phases of tissue healing.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 7.3	Describe the appropriate indications, precautions and contraindications for use of superficial thermal agents, deep thermal agents, and electrotherapeutic agents (Physical agent modalities are used only as an adjunct to Occupational Therapy only)	K/C	K	Y	Lecture	Written			
FOTI 7.4	Enlist the role of physical agent modalities in occupational therapy practice. (Physical agent modalities are used only as an adjunct to Occupational Therapy only)	K/C	K	Y	Lecture	Written			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel lCrepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
2. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
3. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone
5. Introduction to Occupational Therapy by Hussey Subonis, Chafea O Brien

ENGLISH & COMMUNICATION SKILLS

Course Description:

This course gives a brief overview of understanding of the importance of grammar for writing & speaking of English language.& communication skills in Occupational Therapy practice, Gives the guidelines for developing communication skills for professional

Goal:

The primary goal of delivering the effective communication & English speaking & writing for the first year Occupational Therapy under graduate aware about the effective communication skills & need for addressing them.

Objectives:

Knowledge

At the end of the first year, the student should be able to

1. Converse & write the texts/ documents in English
2. Remember and understand the importance and process of communication
3. Explain education and career skills, planning, decision making and organization, culture and etiquette.
4. Describe the method of creating a first impression and explain the way of introduction & presentation of self (physical appearance) at the university and during academic meetings and conferences.
5. Enlist online and offline meeting etiquette Scheme of Examination:

Total Theory Marks: 50 (Non university Exam) MCQs, Short answer questions, Brief answer questions

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Competency Table: English & Communication Skills

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
English & Communication Skills						
Topic No 1	**English Language**	**No of Competencies:2**				
ENCS 1.1	Understand English Language Grammar & Converse in English	K/SA/C	k/KH/ SH/P	Y	Lecture/Small group discussion	Written, Viva Voce/Group Assignment
ENCS 1.2	Explain & demonstrate the different methods of writing like letters, E- mails, report, case study, collecting the patient data etc. Basic compositions, journals, with a focus on paragraph form and organization.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
Topic No 2	**Concept, Purpose & Process of Communication skills**		**No of Cometencies:9**			
ENCS 2.1	Enlist the importance and process of communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.2	Enumerate the Barriers to effective communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.3	Differentiate between verbal and non-verbal communication.	K/S/A/C	K/KH/SH	Y	Lecture/ Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.4	Define types of and describe communication skills and etiquettes.	K/S/A/C	K/KH/SH/P	Y	Lecture/ Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.5	Describe purpose of communication skills and define roles of varied stakeholders of communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
ENCS 2.6	Define and explain the concept of self-care, self-development, self- appraisal, goal setting and time management.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.7	Enlist the goals of education and career skills, planning, decision making and organization, culture and etiquette.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.8	Define and describe the concept of group discussion and team skills, interpersonal and intrapersonal people skills.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.9	Understand the process of preserving documents in hard and soft copy [In various National portals e.g. Digi locker]	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

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Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
Topic 3	**Behaviors & Methods of Communication**		**No of Competencies:3**			
ENCS 3.1	Define and classify behaviours and describe the concept of behaviour training.	K/S/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 3.2	Define and describe the method of creating a first impression and explain the way of introduction & presentation of self (physical appearance) at the university and during academic meetings and conferences.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 3.3	Understand how to exhibit professionalism in social settings. Describe and enlist online and offline meeting etiquette.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Reference Books:

1. Cole K. Crystal clear communication. 2nd ed. Chennai: East West Books, 2001.
2. Taylor G. English conversation practice. New Delhi: Tata Mc Graw Hill Publishing Company; 2001.
3. Thomas EB. The most common mistakes in English. New Delhi: Tata Mc Graw Hill Publishing Company; 2001.
4. English for all (Beginners to advanced)

FUNDAMENTALS OF OCCUPATIONAL THERAPY - II

Course description:

This course gives an introduction to the foundational concepts of Occupational Therapy. This course introduces students to the professional standards, ethical principles, and documentation in occupational therapy practice. It also gives an overview of the Occupation Therapy process, its frameworks, components – Activities of daily living, Work, hand functions and hand splinting.

Goal:

The primary goal of a first-year occupational therapy program is to lay the foundational knowledge and skills necessary for students to become competent and ethical occupational therapy practitioners. The program encourages students to progress through their education with a solid understanding of the profession and the skills needed to begin their journey as occupational therapy professionals.

Objectives:

A. **Knowledge**

At the end of the first year, the student should be able to

1. remember and understand conceptual foundations of ethics and documentation
2. understand the therapeutic relationship between the patient and the therapist.
3. understand the role of activities of daily living for maintaining health, well-being, and participation in social and community life

4. understand concept of work and work evaluation and apply knowledge for return to work when dealing with clients in the forthcoming years
5. understand the basic hand functions and assessment tools used
6. identify equipment, material, and tools used in occupational therapy practice
7. understand basics of hand splint making.

B. **Skills**

At the end of the first year, the student should be able to

1. Analyse various jobs with respect to psychological and physical demands
2. Demonstrate making a paper pattern of commonly used hand splints by applying the principles of splint making.

C. **Attitude**

At the end of the first year, the student should be able to

1. Demonstrate understanding of respect and empathy in conduct with patients

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Scheme of examination for University Practical exam

Job Analysis (Any of any two from Heavy, moderate, Light, sedentary jobs) & Viva Voce	Identification of Splint Tools, Materials & equipments) (Spots any 4) & Viva Voce	Splints Paper Patterns & Viva Voce	Presentation & communication skills	Total
20 marks	40 marks	20 marks	20 marks	100 marks

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Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY – II

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FUNDAMENTALS OF OCCUPATIONAL THERAPY - II									
Topic : Code of Ethics and Conduct in Occupational Therapy Number of Competencies: 5 Number of procedures for certification: (NIL)									
FOT-II 1.1	Define the terms ethics, morality and moral reasoning	K	K	Y	Lecture	Written, viva			
FOT-II 1.2	Discuss ethical implications of trends in healthcare and Occupational therapy practice	K, A	K/KH	Y	Lecture, Small group discussion, Role play	Written, viva			
FOT-II 1.3	Enumerate the ethical theories and principles that apply to clinical practice of occupational therapy	K	K	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 1.4	Enumerate the code of ethics and the principles of National Commission of Allied & Healthcare Professions (NCAHP)	K	K	Y	Lecture	Written			
FOT-II 1.5	Outline the ethical elements of the therapeutic relationship between client and Therapist	K, A	KH	Y	Lecture, Small group discussion, Role play	Written, viva			
Topic : Uniform Terminology and Occupational Therapy Practice Framework Number of Competencies:4 **Number of procedures for certification : (NIL)**									
FOT-II 2.1	Describe historical overview of uniform terminology	K	K	Y	Lecture	Written			
FOT-II 2.2	Describe the evolution of the occupational therapy practice framework (OTPF)	K	K	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 2.3	Describe Domains (Occupations, Contexts, Performance Patterns, Performance Skills & Client Factors) and Practice (Evaluation, Intervention & Outcomes) of OTPF	K	K/KH	Y	Lecture	Written, viva			
FOT-II 2.4	Give brief overview of ICF	K	K	Y	Lecture	Written, viva			
Topic : Overview of the Occupational Therapy process and outcome Number of competencies: 2 **Number of procedures for certification : (NIL)**									
FOT-II 3.1	Describe Occupational therapy as a process and enumerate its components	K	K/KH	Y	Lecture	Written, viva			
FOT-II 3.2	Describe the evaluation related to Occupational profile, occupational performance and targeted outcomes	K	K/KH	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic : Documentation of Occupational Therapy Services Number of Competencies: 3 Number of procedures for certification : (NIL)									
FOT-II 4.1	Describe the terms Screening, Evaluation and Assessment	K	K	Y	Lecture	Written, viva			
FOT-II 4.2	Differentiate standardised, non standardised, subjective and objective assessments	K	K/ KH	Y	Lecture	Written, viva			
FOT-II 4.3	Understand purpose and types of documentation	K	K	Y	Lecture	Written , viva			
Topic : Activities of Daily Living Number of Competencies: 4 Number of procedures for certification : (NIL)									
FOT-II 5.1	Define and classify activities of daily living (ADL)	K	K	Y	Lecture	Written, viva			
FOT-II 5.2	Discuss ADL evaluation and describe various scales used in evaluation of both basic and instrumental ADL	K	K/KH	Y	Lecture, DOAP, CASE STUDY	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 5.3	Discuss and understand principles and Specific Techniques in ADL Training for: Weakness, Low Endurance, Limited Range of Motion, Inco-ordination, Loss of Use of One Side of the Body, Limited Vision, Decreased Sensation, Access to Home, Community and Workplace	K	K/ KH	Y	Lecture, demonstration	Written, viva			
FOT-II 5.4	Define Adaptation and explain its process	K	K	Y	Lecture,	Written, viva			
Topic : Return to Work		**Number of Competencies: 5**			**Number of procedures for certification : (NIL)**				
FOT-II 6.1	Define and classify work	K	K	Y	Lecture	Written, viva			
FOT-II 6.2	Understand and describe Work Evaluations & its assessment tools –	K	K/KH	Y	Lecture, Tutorial, Small Group discussion Demonstration	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 6.3	Define Prevocational Testing and Training and describe work conditioning and work hardening	K	K/KH	Y	Lecture, small group discussion	Written, viva			
FOT-II 6.4	Enumerate assessment needs and components of job analysis	K	K/KH	Y	Lecture	Written, viva			
FOT-II 6.5	Understand and explain job analysis of Tailoring, carpentry, Driving, data entry on computers	K/S	K/KH/SH	Y	Lecture, Tutorial, Demonstration	Written, viva			
Topic : Hand Functions & its Evaluation Methods Number of Competencies: 4 **Number of procedures for certification : (NIL)**									
FOT-II 7.1	Define and classify normal hand functions	K	KH	Y	Lecture	Written, viva			
FOT-II 7.2	Describe resting and functional position of the hand	K	KH	Y	Lecture, Demonstrate	Written, viva			
FOT-II 7.3	Describe various assessment methods for hand functions	K/S	K/KH/SH	Y	Lecture, DOAP	Written, viva, DOP			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 7.4	Define oedema and describe its assessment by various methods	K/S	K/KH/SH	Y	Lecture, DOAP	Written, viva, DOP			
Topic: Tools, Equipment and Materials Used in Splint Fabrication Number of Competencies: 4 **Number of procedures for certification: (NIL)**									
FOT-II 8.1	Identify and explain the types, components, therapeutic values & demonstrate the uses of various tools used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.2	Identify and explain the uses of various equipment used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.3	Identify and explain the uses of various materials used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.4	understand and apply its knowledge in use, storage and maintenance of tools and equipments	K	K/KH	Y	Lecture, demonstration	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic : Introduction to Hand Splinting Number of Competencies:6 **Number of procedures for certification : (NIL)**									
FOT-II 9.1	Define & classify hand splints	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.2	Explain the various characteristics of splint fabrication materials	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.3	Enumerate the indications and therapeutic uses of hand splints	K	KH	Y	Lecture	Written, viva			
FOT-II 9.4	Describe the various principles of hand splints	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.5	Demonstrate the fitting and the check out of hand splints	K/S	KH/SH	Y	Lecture, demonstration	Written, viva			
FOT-II 9.6	Prepare the paper model of following splints – finger gutter , functional hand splint, short opponens, radial bar cock up, dynamic extension outrigger splint.	K/S	KH/SH	Y	DOAP	DOP, Practical			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
2. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
3. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone
5. Therapeutic Exercise by John V. Basmajian& Steven L. Wolf. Published by Williams & Wilkins
6. Therapeutic Exercise, Foundation & Techniques by Carolyn Kisner & Lynn Allen Colby. Published by F. A. Davis Company
7. Muscle Testing & Function by F.P. Kendall
8. Daniel's &Worthingham's Muscle Testing.
9. Measurement of Joint Motion: A guide to goniometry by C.C. Norkin & D. J. White
10. Principle of Exercise Therapy by Dena Gardiner

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ENVIRONMENTAL SCIENCES

Course Description:

This course gives a brief overview of understanding of the effects of climate change on the natural systems and processes on earth, need for substantive environmental laws and growing public awareness of a need for action in addressing environmental problems

Goal:

The primary goal of environmental sciences is to make the first year Occupational Therapy under graduate aware about the environmental problems and need for action in addressing them.

Objectives:

A. Knowledge

At the end of the first year, the student should be able to

1. Remember and understand the ecological and biological concepts of environment
2. Explain forms of energy, effects of climate change and conservation methods as relating to green house gas emissions
3. Understand and be aware about the policy and governance and ethics related to environment

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
ENVIRONMENTAL SCIENCES								
Topic : Introduction to Ecology and Biology Number of Competencies: 8								
EVS 1.1	Explain the concepts of ecosystems and ecology	K	K	Y	Lecture	Written		
EVS 1.2	Describe Biotic and abiotic components of ecosystem and the Interactions between populations and communities in an ecosystem	K	KH	N	Lecture	Written		
EVS 1.3	Describe cycling and importance of essential and nonessential chemicals in biosphere	K	KH	Y	Lecture	Written		
EVS 1.4	Describe the two main kingdoms of Biology i.e. plant and animal kingdoms	K	K	Y	Lecture	Written		
EVS 1.5	Discuss the functioning of basic unit of life i.e. cell	K	K	Y	Lecture	Written		
EVS 1.6	Enumerate Principles of Biological diversity	K	K	Y	Lecture	Written		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
EVS 1.7	Enumerate causes and consequences of biodiversity loss	K	K	Y	Lecture	Written		
EVS 1.8	Explain established and emerging conservation actions and measures.	K	KH	Y	Lecture	Written		
Topic : Energy, Climate change, Economics and Environment Number of Competencies: 8 certification : (NIL)								
EVS 2.1	Enumerate the various forms of energy	K	K	Y	Lecture	Written		
EVS 2.2	Describe the effect of the various forms of energy on the climate of the planet	K	KH	Y	Lecture	Written		
EVS 2.3	Explain economics of energy use	K	K	Y	Lecture	Written		
EVS 2.4	Enumerate the factors that determine the climate of our planet	K	K	Y	Lecture	Written		
EVS 2.5	Explain the natural variability and variations in climate due to anthropogenic causes	K	KH	Y	Lecture	Written		
EVS 2.6	Discuss the policies related to climate change	K	K	Y	Lecture	Written		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
EVS 2.7	Describe Procedures, tools and technique for Environmental Impact Assessment (EIA)	K	K	Y	Lecture	Written		
EVS 2.8	Explain the Concepts of carbon accounting & carbon footprint and greenhouse gas emission	K	KH	Y	Lecture	Written		
Topic : Policy and Governance Number of Competencies: 4 Number of procedures for certification : (NIL)								
EVS 3.1	Explain the concept of Environmental Law and Governance	K	K	Y	Lecture	Written		
EVS 3.2	Describe Formulation of Environmental Policy, and its Implementation and Evaluation	K	KH	Y	Lecture	Written		
EVS 3.3	Explain Environmental Ethics and Justice	K	KH	Y	Lecture	Written		
EVS 3.4	Describe role of research in conservation science	K	KH	N	Lecture	Written		

Reference and Recommended Books

1. Sustainable Environmental Science by Sahu DD. New India Publishing Agency
2. Textbook of Environmental Sciences by Shivashanmugam P. New India Publishing Agency

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II BOT ANNUAL PATTERN

Sr. No.	Course Code	Subject	Total Teaching Hours/Semester			Credits			Marks (University Examination)
			Theory	Practical/ Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical	Total
1	PM	Pathology & Microbiology	90	--	--	6		--	Theory-100
2	PH	pharmacology	45	--	--	3		--	Theory-50
3	PSY	Psychology	90	-	--	6	-		Theory-100
4	BMK	Biomechanics & Kinesiology	90	120	--	6	4		Theory-100 Practical-100
5	OTDP I	Occupational Therapy Diagnostic & practice I	90	120	--	6	4		Theory-100 Practical-100
6	OTDP II	Occupational Therapy Diagnostic & practice II	90	120	--	6	4		Theory-100 Practical-100
7	COMP	Computer Sciences	30	30		2	1		Theory-50 (NUE)

Sr. No.	Course Code	Subject	Total Teaching Hours/Semester			Credits			Marks (University Examination)
			Theory	Practical/ Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical	Total
8	FAE	First aid & Emergency Care	30	30		2	1		Theory-50(NUE)
9		Supervised Clinical Training / Field Work			585			13	

Total Hours	1560				
Total Credits		64			
Total Marks					850

"NUE-- Non University Examinations (Must be conducted by the OT institution before annual university exams) "

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Pathology and Micro biology

COURSE DESCRIPTION:

This course follows the basic subjects of Anatomy, Physiology, and Biochemistry and it forms a vital link between pre-clinical subjects and clinical subjects. Pathology involves the study of cause and mechanism of diseases. The knowledge and understanding of pathology of diseases is essential to institute appropriate treatment or suggest preventive measures to the patent. Particular. effort is made in this course to avoid burdening of the student

GOAL:

Give the concept of cell injury and changes in relation towards the pathological effects of infectious and non-infectious diseases and understand the disease process, the clinical significance (with special emphasis on musculoskeletal, neuro pathological and cardio respiratory system). Utilize concepts on microbiology, diagnosis of infections and immunology. Identify structure and features of disease-causing bacteria and viruses.

COURSE OBJECTIVES:

Knowledge

I. Describe etiology pathogenesis and clinico-pathological co-relation of common infectious and non-infectious disease.
II. Describe the changes in cells after cell injury and its healing process.
III. Describe the normal and altered in different organ system in different disease and their clinical significance.
IV. Understand the common hematological disorders and investigations necessary to diagnose them.
V. Understand in brief about the hematological disease and their resultant effects on the human body.
VI. Describe process of diseases, diagnosis of it and the role of immunity.
VII. Define characteristics of the micro-organisms causing diseases..

Setting Question Paper will be done as per Section A (Pathology) and Section B (Microbiology) , 50 Marks allotted to each section

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PATHOLOGY									
Topic: Introduction to Pathology **Number of competencies: (02)** **Number of procedures that require certification: (NIL)**									
PM 1.1	Describe the role of a pathologist in diagnosis and management of disease	K	K	Y	Departmental orientation	Written/ Viva voce			
PM 1.2	Enumerate common definitions and terms used in Pathology	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Cell Injury and Adaptation		**Number of competencies: (07)**				**Number of procedures that require certification: (NIL)**			
PM 2.1	Demonstrate knowledge of the causes, mechanisms, types and effects of cell injury and their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.2	Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.3	Intracellular accumulation of fats, proteins, carbohydrates, pigments	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.4	Describe and discuss Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 2.5	Describe and discuss pathologic calcifications, gangrene.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.6	Describe and discuss cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.7	Describe and discuss the mechanisms of cellular aging and apoptosis.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Amyloidosis Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 3.1	Describe the pathogenesis and pathology of amyloidosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Inflammation Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 4.1	Define and describe the general features of acute and chronic Inflammation including stimuli, vascular and cellular events	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 4.2	Enumerate and describe the mediators of acute inflammation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 4.3	Define and describe chronic inflammation including causes, types, non-specific and granulomatous; and enumerate examples of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Healing and repair		**Number of competencies: (01)**			**Number of procedures that require certification: (NIL)**				
PM 5.1	Define and describe the process of repair and regeneration including wound healing and its types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hemodynamic disorders		**Number of competencies: (06)**			**Number of procedures that require certification: (NIL)**				
PM 6.1	Define and describe edema, its types, pathogenesis and clinical correlations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 6.2	Define and describe hyperaemia, congestion, haemorrhage	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.3	Define and describe shock, its pathogenesis and its stages	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 6.4	Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.5	Define and describe embolism and its causes and common types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.6	Define and describe Ischaemia/infarction its types, etiology, morphologic changes and clinical effects	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Neoplastic disorders		**Number of competencies: (05)**				**Number of procedures that require certification: (NIL)**			
PM 7.1	Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, biologic, behaviour and spread. Differentiate between benign from malignant neoplasm	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 7.2	Describe the molecular basis of cancer	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.3	Enumerate carcinogens and describe the process of carcinogenesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.4	Describe the effects of tumor on the host including paraneoplastic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.5	Describe immunology and the immune response to cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Immunopathology and AIDS Number of competencies: (07) Number of procedures that require certification: (NIL)									
PM 8.1	Describe the principles and mechanisms involved in immunity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
PM 8.2	Describe the mechanism of hypersensitivity reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 8.3	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 8.4	Define autoimmunity. Enumerate autoimmune disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 8.5	Define and describe the pathogenesis of systemic Lupus Erythematosus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 8.6	Define and describe the pathogenesis and pathology of HIV and AIDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 8.7	Define and describe the pathogenesis of other common autoimmune diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Infections and Infestations Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 9.1	Define and describe the pathogenesis and pathology of malaria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 9.2	Define and describe the pathogenesis and pathology of cysticercosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 9.3	Define and describe the pathogenesis and pathology of leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 9.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Genetic and paediatric diseases Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 10.1	Describe the pathogenesis and features of common cytogenetic abnormalities and mutation in childhood.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 10.2	Describe the pathogenesis and pathology of tumour and tumour-like conditions in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PM 10.3	Describe the pathogenesis of common storage disorders in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Environmental and nutritional diseases Number of competencies: (03) **Number of procedures that require certification: (NIL)**									
PM 11.1	Enumerate and describe the pathogenesis of disorders causedby air pollution, tobacco and alcohol	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
PM 11.2	Describe the pathogenesis of disorders caused by proteincalorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 11.3	Describe the pathogenesis of obesity and its consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Introduction to haematology			**Number of competencies: (05)**			**Number of procedures that require certification: (NIL)**			
PM 12.1	Describe haematopoiesis and extramedullary haematopoiesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.2	Describe the role of anticoagulants in haematology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.3	Define and classify anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.4	Enumerate and describe the investigation of anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 12.5	Perform, Identify and describe the peripheral blood picture in anaemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
Topic: Microcytic anaemia		**Number of competencies: (02)**			**Number of procedures that require certification: (NIL)**				
PM 13.1	Describe iron metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PM 13.2	Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Macrocytic anemia		**Number of competencies:(04)**			**Number of procedures that require certification: (NIL)**				
PM 14.1	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 14.2	Describe laboratory investigations of macrocytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 14.3	Identify and describe the peripheral blood picture of macrocytic anemia.	S	SH	Y	DOAP session	Skill assessment			
PM 14.4	Enumerate the differences and describe the etiology and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Haemolytic anemia Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 15.1	Define and classify haemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.2	Describe the pathogenesis and clinical features and hematologic indices of haemolytic anemia.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 15.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.4	Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired haemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.5	Describe the peripheral blood picture in different haemolytic anemias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Aplastic anemia Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 16.1	Enumerate the etiology, pathogenesis and findings in aplastic anemia	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Leukocyte disorders Number of competencies: (02) Number of procedures that require certification: (NIL)									
PM 17.1	Enumerate and describe the causes of leucocytosis leukopenia lymphocytosis and leukemoid reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 17.2	Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lymph node and spleen Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 18.1	Enumerate the causes and describe the differentiating features of lymphadenopathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 18.2	Describe the pathogenesis and pathology of tuberculous lymphadenitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 18.3	Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 18.4	Enumerate and differentiate the causes of splenomegaly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
Topic: Haemorrhagic disorders Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 19.1	Describe normal haemostasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 19.2	Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and haemophilia's	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 19.3	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 19.4	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of Vitamin K deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Blood banking and transfusion Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 20.1	Classify and describe blood group systems (ABO and RH)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 20.2	Enumerate blood components and describe their clinical uses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 20.3	Enumerate and describe infections transmitted by blood transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 20.4	Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 20.5	Enumerate the indications and describe the principles and procedure of autologous transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Clinical Pathology Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 21.1	Describe abnormal findings in body fluids in various disease states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Gastrointestinal Tract Number of competencies: (06) Number of procedures that require certification: (NIL)									
PM 22.1	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dentistry	
PM 22.2	Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 22.3	Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 22.4	Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 22.5	Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 22.6	Describe and etiology and pathogenesis and pathologic and distinguishing features of carcinoma of the colon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hepatobiliary system Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 23.1	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 23.2	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PM 23.3	Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 23.4	Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 23.5	Describe the etiology, pathogenesis and complications of portal hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
Topic: Respiratory system Number of competencies: (07) Number of procedures that require certification: (NIL)									
PM 24.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 24.4	Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.5	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
PM 24.6	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance, metastases and complications of tumors of the lung and pleura	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 24.7	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma	K	KH	N	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
Topic: Cardiovascular system Number of competencies: (09) Number of procedures that require certification: (NIL)									
PM 25.1	Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 25.2	Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 25.3	Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PM 25.4	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 25.5	Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

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PM 25.6	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 25.7	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 25.8	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 25.9	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Urinary Tract Number of competencies: (16) Number of procedures that require certification: (NIL)									
PM 26.1	Describe the normal histology of the kidney	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 26.2	Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.3	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.4	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

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PM 26.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 26.6	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.7	Enumerate and describe the findings in. glomerular manifestations of systemic disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.8	Enumerate and classify diseases affecting the tubular interstitium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.9	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.10	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.11	Define classify & describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the Kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.12	Define classify & describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.13	Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 26.14	Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PM 26.15	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.16	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Male & Female Genital system Number of competencies male: (05) **Number of procedures that require certification: (NIL)** **a) Male Genital system**									
PM 27.1	Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.2	Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

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PM 27.3	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.4	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.5	Describe the etiology, pathogenesis, pathology and progression of prostatitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Male & Female Genital system Number of competencies female: (09) **Number of procedures that require certification: (NIL)** **b) Female Genital system**									
PM 27.1	Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.2	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.3	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 27.4	Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.5	Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.6	Describe the etiology and morphologic features of cervicitis.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.7	Describe the etiology, hormonal dependence, features and morphology of endometriosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 27.8	Describe the etiology and morphologic features of adenomyosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.9	Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: Breast Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 28.1	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PM 28.2	Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 28.3	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
Topic: Endocrine system Number of competencies: (09) Number of procedures that require certification: (NIL)									
PM 29.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine,	
PM 29.2	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.3	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism	K	KH	Y	Lecture, Small group	Written/ Viva voce		Physiology, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 29.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.5	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.6	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 29.7	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.8	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Bone and soft tissue Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 30.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopaedics	Microbiology
PM 30.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PM 30.3	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 30.4	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PM 30.5	Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Skin Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 31.1	Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 31.2	Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PM 31.3	Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
Topic: Central Nervous System Number of competencies: (02) Number of procedures that require certification: (NIL)									
PM 32.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 32.2	Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Eye Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 33.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
MICROBIOLOGY									
Topic: General Microbiology and Immunity Number of competencies: (10) **Number of procedures that require certification: (NIL)**									
PM 34.1	Describe the different causative agents of Infectious diseases, the methods used in their detection, and discuss the role of microbes in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 34.2	Describe the epidemiological basis of common infectious diseases	K	KH	Y	Lecture	Written/ Viva voce			Community Medicine
PM 34.3	Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 34.4	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	K	KH	Y	Small group discussion, Case discussion	Written/Viva voce/OSPE		General Surgery	
PM 34.5	Describe the mechanisms of drug resistance, and the methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
PM 34.6	Describe the immunological mechanisms in health	K	KH	Y	Lecture	Written/ Viva voce			Pathology
PM 34.7	Describe the mechanisms of immunity and response of the host immune system to infections	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 34.8	Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
PM 34.9	Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection.	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
PM 34.10	Describe the immunological mechanisms of transplantation and tumor immunity	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: CVS and Blood Number of competencies: (06) Number of procedures that require certification: (NIL)									
PM 35.1	Describe the etiologic agents in rheumatic fever and their diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.2	Describe the classification etio- pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.3	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 35.4	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kalaazar, malaria, filariasis and other common parasites prevalent in India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.5	Identify the causative agent of malaria and filariasis	K	SH	Y	DOAP session	Skill assessment		General Medicine	
PM 35.6	Describe the epidemiology, the etio-pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Gastrointestinal and hepatobiliary system Number of competencies: (06) **Number of procedures that require certification: (NIL)**									
PM 36.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Paediatrics	Pathology
PM 36.2	Describe the enteric fever pathogens and discuss the evolution of the clinical course and the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
PM 36.3	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 36.4	Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
PM 36.5	Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis and prevention of viral hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 36.6	Choose the appropriate laboratory test in the diagnosis of viral hepatitis with emphasis on viral markers	K	KH	Y	Small group discussion, Case discussion	Written/ Viva voce/ OSPE		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Musculoskeletal system skin and soft tissue infections Number of procedures that require certification: (NIL)					**Number of competencies: (03)**				
PM 37.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PM 37.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections	K	KH	Y	Lecture	Written/ Viva voce		Orthopaedics	
PM 37.3	Describe the etio-pathogenesis of infections of skin and soft tissue and discuss the clinical course and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Central Nervous System Infections Number of competencies: (02) **Number of procedures that require certification: (NIL)**									
PM 38.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
PM 38.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
Topic: Genitourinary & Sexually transmitted infections Number of competencies: (03) **Number of procedures that require certification: (NIL)**									
PM 40.1	Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 40.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology	
PM 40.3	Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Zoonotic diseases and miscellaneous Number of competencies: (09) **Number of procedures that require certification: (NIL**									
PM 41.1	Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 41.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology
PM 41.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 41.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PM 41.5	Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PM 41.6	Describe the basics of Infection control	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
PM 41.7	Describe the methods used and significance of assessing the microbial contamination of food, water and air	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 41.8	Discuss the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing infectious diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 41.9	Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM)	K	K	Y	Lecture	Written/ Viva voce			Community Medicine

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Recommended Books

PATHOLOGY

1. Text book of Pathology –Harsh Mohan
2. Basic Pathology-Robbins
3. Pathologic Basis of Disease – Robbins and Cotran
4. . General Pathology – Bhende

MICROBIOLOGY

1. Concise Textbook of Microbiology –Ananthnarayan
2. Concise Textbook of Microbiology –C.P. Baweja
3. Textbook of Microbiology –Nagoba
4. Text books of Microbiology – R. Ananthnarayan& C.K. Jayrampanikar

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PHARMACOLOGY

Course Description: This course introduces the student to basic pharmacology of common drugs used, their importance in the overall treatment including Occupational Therapy. The student after completing the course will be able to understand the general principles of drug action and the handling of drugs by the body. The student will be aware of the contribution of both drug and Occupational Therapy factors in the outcome of treatment. Details of chemistry of molecules should be avoided.

Goals:

Second year Occupational Therapy student to acquire knowledge on action of pharmacokinetics and pharmacodynamics. The students to acquire knowledge on blood, behavioral and cardiovascular pharmacology.:

Course Objectives KNOWLEDGE

Student will be able to

I. Describe the concepts of pharmacology (including pharmacokinetics and pharmacodynamics) of commonly used drugs. (K)
II. Discuss the effects of commonly used drugs on body function. Know different types of cells and describe their functions
III. Discuss the therapeutic and adverse effects, contraindications, and precautions for commonly used drugs. (KH)
IV. Discuss the pharmacological effects of drugs used in the management pain, inflammatory, cardio-vascular, respiratory, neurological and oncological disorders.
V. Explain the effect of commonly prescribed on exercise and movement. (KH)
VI. Identify the red and yellow flags for Occupational Therapy prescription based on the pharmacological effect of commonly prescribed drugs. (KH)

COMPETENCY TABLE: PHARMACOLOGY

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PHARMACOLOGY									
Topic: General Pharmacology		**Number of competencies: (07)**				**Number of procedures that require certification: (NIL)**			
PH 1.1	Describe Sources of drugs, Routes of drug administration, Distribution of drugs,	K	K	Y	Lecture	Written/ Viva voce			
PH 1.2	Discuss Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, adverse effects.	K	KH	Y	Lecture	Written/ Viva voce			
PH 1.3	Define and, Classify drugs. Inflammatory/Immune Diseases	K	K	Y	Lecture	Written/ Viva voce			
PH 1.4	Describe Non-narcotic Analgesics and Nonsteroidal Anti-Inflammatory Drugs: Acetaminophen, NSAIDs, Aspirin, non-aspirin NSAIDs, drug Inter-actions with NSAIDs	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 1.5	Discuss Pharmacological Uses of Glucocorticoids, adverse effects, Physiologic Use of Glucocorticoids	K	KH	Y	Lecture	Written/ Viva voce		Physiology	
PH 1.6	Discuss Drugs Used in Treatment of Arthritic Diseases: Rheumatoid Arthritis, Osteoarthritis, Gout	K	K	Y	Lecture	Written/ Viva voce			
PH 1.7	Discuss Drugs Used in the Treatment of Neuromuscular Immune/Inflammatory Diseases: Myasthenia gravis, Idiopathic Inflammatory Myopathies, systemic lupus Erythematous, Scleroderma, Demyelinating Disease	K	K	Y	Lecture	Written/ Viva voce			
Topic: Autonomic Nervous System Number Of Competencies: (07) Number Of Procedures That Require Certification: (Nil)									
PH 2.1	Describe General considerations – The Sympathetic and Parasympathetic Systems, Receptors, Somatic Nervous System.	K	K	Y	Lecture	Written/ Viva voce			
PH 2.2	Discuss cholinergic and Anti-Cholinergic drugs, Adrenergic and Adrenergic blocking drugs, Peripheral muscle relaxants.	K	K	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 2.3	Describe Drugs used in the treatment of heart failure: Digitalis, Diuretics, Vasodilators, ACE inhibitors	K	K	Y	Lecture	Written/ Viva voce			
PH 2.4	Describe Antihypertensive Drugs: Diuretics, Beta Blockers, Calcium Channel Blockers, ACE Inhibitors, Central Acting Alpha Agonists, Peripheral Alpha Antagonists, Direct acting Vasodilators.	K	KH	Y	Lecture	Written/ Viva voce			
PH 2.5	Describe Antiarrhythmic Drugs	K	K	Y	Lecture	Written/ Viva voce			
PH 2.6	Discuss the Drugs used in the treatment of vascular disease and tissue ischemia: Vascular Disease, Hemostasis Lipid- Lowering agents, Antithrom- botics, Anticoagulants and Thrombolytics	K	KH	Y	Lecture	Written/ Viva voce			
PH 2.7	Discuss the Drugs used in the treatment of ischemic heart disease – Nitrates, Beta- Blockers, Calcium Channel Blockers, Cerebral Ischemia, Peripheral Vascular Disease	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
Topic: Neuropharmacology Number Of Competencies: (13) Number of Procedures That Require Certification: (Nil)									
PH 3.1	Discuss Sedative-Hypnotic Drugs: Barbiturates, Benzodiazepines	K	K	Y	Lecture	Written/ Viva voce			
PH 3.2	Describe Antianxiety Drugs: Benzodiazepines, Other Anxiolytics	K	K	Y	Lecture	Written/ Viva voce			
PH 3.3	Discuss Drugs Used in Treatment of Mood Disorders: Monoamine Oxidase Inhibitors, Tricyclic Antidepressants, Atypical Antidepressants, Lithium	K	K	Y	Lecture	Written/ Viva voce			
PH 3.4	Describe Antipsychotic drugs.	K	K	Y	Lecture	Written/ Viva voce			
PH 3.5	Disorders of Movement								
PH 3.6	Discuss Drugs used in Treatment of Parkinson 's disease.	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 3.7	Describe Antiepileptic Drugs	K	K	Y	Lecture	Written/ Viva voce			
PH 3.8	Discuss Spasticity and Skeletal Muscle Relaxants.	K	K	Y	Lecture	Written/ Viva voce			
PH 3.9	Discuss respiratory pharmacology and drugs used in treatment of obstructive airway diseases, allergies rhinitis	K	KH	Y	Lecture	Written/ Viva voce			
PH 3.10	Describe Gastrointestinal Pharmacology and drugs used in Peptic Ulcer Disease	K	K	Y	Lecture	Written/ Viva voce			
PH 3.11	Describe Hormones and drugs affecting endocrine functions Used in Treatment of Diabetes Mellitus: Insulin, Oral Hypoglycemic. Geriatrics -	K	KH	Y	Lecture	Written/ Viva voce		Physiology	
PH 3.12	Discuss the adverse effects of special concern in the Elderly, Dementia, and Postural hypotension.	K	K	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 3.13	Describe chemotherapeutic agents.	K	K	Y	Lecture	Written/ Viva voce			

Recommended Books:

PHARMACOLOGY

1. Pharmacology for Physiotherapy –Padmaja Udaykumar
2. Pharmacology for Physiotherapist –H. L. Sharma, K. K. Sharma
3. Essentials of Medical Pharmacology – K. D. Tripathi
4. Pharmacology and Pharmacotherapeutics – Dr. R S Satoskar, Dr. Nirmala N. Rege, Dr. S. D. Bhandari

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PSYCHOLOGY

Course Description: This course will develop the basic knowledge of elements of psychology along with the normal development of a human being through life span and the psychological, behavioral condition in school children. The course will develop the basic knowledge about psychological issues related to various health conditions, work and sports. This course will also develop the basic knowledge of various types of abnormal behaviour. This course also develops the utilization and importance of Psychology with respect to Occupational Therapy treatment.

Goal: The broad goal to teach the second year BOT students the psychological development of human being through life span. They understand the elementary principles of behaviour for applying in the therapeutic environment. They will have proficiency based on written evaluation.

They understand abnormal behaviours signs & symptoms, probable psychosocial problems & psychological management without the pharmacological intervention. They understand the application of experimental psychology & principles of psychosocial management in the industrial setups' psychology

OBJECTIVES:

A. KNOWLEDGE:

At the end of second BOT the student will be able to:

i. Describe the Fields of Psychology, Schools of thoughts related to Psychology
ii. Explain the terms attention, perception, motivation.
iii. Describe the concept emotion, cognition, thinking.
iv. Describe the principles of learning.

v. Describe various aspect of psychosocial learning & psychological maturation during human development, growth, & alterations during aging process

vi. Describe the different aspects of school Psychology- the psychological, behavioral issues related to school children and their therapeutic intervention

vii. Describe the abnormal behaviours & clinical symptoms

viii. Explain the psychosocial management of abnormal behaviours.

ix. Describe the Intellectual Disabilities & Developmental disorders of childhood & adolescence

x. Describe the psychosocial intervention for Childhood & adolescence disorder

xi. Describe various aspect of psychosocial learning & psychological maturation during human development, growth, & alterations during aging process

xii. Describe the different neuropsychological experiments on sensory system, learning & retention, memory, perception, emotion, motor behaviours & reaction time, Motivation & rewards, attention

xiii. Describe the psychosocial aspects of industrial Psychology

SKILLS:

At the end of the course, the student shall be able to:

Understand the skills to assess sensory system, learning & retention, memory, perception, emotion

Competency Table: PSYCHOLOGY

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSYCHOLOGY								
Topic– General Psychology No of competencies -7								
PSY 1.1	Describe the Fields of Psychology, Schools of thoughts related to Psychology.	K	K	Y	Lecture	written		
PSY I 2	Define Attention & explain the classification of attention.	K	K, KH	Y	Lecture	Written		
PSY 1.3	Define & explain the Perception	K	KH	Y	Lecture	Written		OTDP II
PSY 1.4	Define Stress. Explain stress cycle, and coping strategies from Stress	K	KH	Y	Lecture,	Written		
PSY 1.5	Explain difference & similarities in term Feeling Emotions.	K	K, KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 1.6	Define& explain term Motivation.	K	K, KH	Y	Lecture	Written		OTDP II
PSY 1.7	Describe the types of theories of personality	K	K, KH	Y	Lecture,	Written		
Topic Cognition & Thinking No of competencies -02								
PSY 2.1	Describe the intelligence & nature theories of intelligence.	K	K	Y	Lecture	Written		OTDP II
PSY 2.2	Describe Thinking – thinking process, concept.	K	KH	Y	Lecture	Written		
Topic - Principles of Learning No of competencies – 3								
PSY 3.1	Define learning. Explain the process of Learning.	K	K	Y	Lecture	written		OTDP II
PSY 3.2	Describe various types of learning process.	K	KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 3.3	Explain the relationship of the learner & learning process.	K	K	Y	Lecture,	Written		
Topic: Perception no of competencies -2								
PSY 4.1	Explain the term social perception.	K	K	Y	Lecture	Written		OTDP II
PSY 4.2	Describe the social influence on the social perception.	K	KH	Y	Lecture	Written		
Topic: Psychosocial development No of competencies -5								
PSY 5.1	Identify influence of heredity & environment on psychological development.	K	K	Y	Lecture	Written		OTDP II
PSY 5.2	Explain psychological theories of human development.	K	K	Y	Lecture	Written		
PSY 5.3	Explain prenatal, perinatal, antenatal & postnatal development.	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 5.4	Explain Development in Infancy, early childhood, middle childhood, puberty, adolescent state & early. middle adulthood.	K	K	Y	Lecture	Written		
PSY 5.5	Describe the psychological changes in old age.	K	K	Y	Lecture	Written		
Topic: School Psychology No of competencies -2								
PSY 6.1	Describe the Concept and objectives of school psychology.	K	K	Y	Lecture	Written		OTDP II
PSY 6.2	Explain psychological disorders in school children & its Therapeutic intervention.	K	KH	Y	Lecture, DOAP	Written		
Topic- Abnormal Behaviour No of competencies -16								
PSY 7.1	Define and classify the abnormal Behaviour	K	K	Y	Lecture	written		OTDP II
PSY 7.2	Enumerate the causes for abnormal behaviour	K	K		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
	Patterns of abnormal Behaviour-adjustment disorders							
PSY 7.3	Define stress & describe the adjustment disorders and them.	K	K	Y	Lecture	Written		
PSY 7.4	Describe the strategies for prevention of stress disorders & adjustment disorders.		K, KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-anxiety disorders							
PSY 7.5	Describe causes & classify anxiety disorders.	K	K, KH		Lecture	Written		
PSY 7.6	Describe the various factors responsible for the development & maintenance of Neurotic disorders.	K	K, KH		Lecture	Written		
	Patterns of abnormal Behaviour-Personality Disorders							
PSY 7.7	Describe the types personality disorders.	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 7.8	Describe the biological, psychosocial & sociocultural measures in treatment of personality disorders	K	KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-Addictive Disorders							
PSY 7.9	Describe the types of substance abuse & addictive disorders	K	K	Y	Lecture	Written		
PSY 7.10	Describe the biological, psychosocial& sociocultural measures in treatment of abuse & addictive disorders.	K	KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-Mood Disorders							
PSY 7.11	Classify & describe the types of Mood disorders	K	K	Y	Lecture	Written		
PSY 7.12	Understand the clinical features of mood disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 7.13	Classify& describe the type of schizophrenia & delusional disorders.	K	K	Y	Lecture	Written		
PSY 7.14	Understand the clinical features of schizophrenia & delusional disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		
PSY 7.15	Classify& describe the types of organic mental disorders	K	K	Y	Lecture	Written		
PSY 7.16	Describe the biological, psychosocial & sociocultural measures in treatment of organic mental disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		
Topic - Intellectual Disabilities & Developmental disorders of childhood & adolescence No of competencies 7								
PSY 8.1	Classify & Describe Intellectual disability.	K	KH	Y	Lecture	written		
PSY 8.2	Describe the biological, psychosocial & sociocultural measures in treatment of Intellectual disability.	K	KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 8.3	Explain the Pervasive developmental Disorders with their causes	K	KH	Y	Lecture,	Written		
PSY 8.4	Explain clinical features of Autism.	K	KH	Y	Lecture,	Written		
PSY 8.5	Describe the psychosocial & sociocultural measures in treatment of Autism	K	KH	Y	Lecture,	Written		
PSY 8.6	Explain& classify the specific learning Disorders	K	KH	Y	Lecture,	Written		
PSY 8.7	Describe the psychosocial & sociocultural measures in treatment of learning Disorders	S	KH	Y	Lecture,	Written		
Topic: Behaviour Disorders of childhood No of competencies -2								
PSY 9.1	Explain & classify maladaptive behaviour s	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 9.2	Describe causes& clinical features of maladaptive behaviour viz. Attention deficit Hyperactive behaviour, Conduct disorder, delinquent behaviour , anxiety disorders of childhood & adolescence, childhood depression	K	KH	Y	Lecture, Small group discussion, case study	Written		
Topic: Experimental Psychology of competencies -2								
PSY 10.1	Explain the Mechanics of brain	K	K	N	Lecture	Written	Physiology	
PSY 10.2	Perform neuropsychological experiments on sensory system, learning & retention, memory, perception, emotion, motor behaviours & reaction time, Motivation & rewards, attention	K	K, KH, SH	N	Lecture, DOAP	Written		
Topic: Industrial Psychology No of competencies -1								
PSY 11.1	Explain Human factors in industrial and organizational psychology.	K	K,	N	Lecture, DOAP	Written		OTDP II

Recommended Books

1. Morgan C.T., King R. A., Weijz J. R. Schopler J. (1993). Introduction to Psycology, 7th Edition, Tata McGraw-Hill Publishing Co. Ltd.
2. Fernald, L Dodge, Munn's Introduction to Psychology, 5th edition, AITBS publisher
3. Parameshwaran E. G. & Ravichandra K. - Experimental Psychology: A Laboratory Manual,1st edition, Neelkamal
4. Julia Nunn, Laboratory Psychology: A Beginner's Guide, 1st edition, Psychology Press Ltd., East Sussex, U.K.
5. Abnormal psychology & modern life by R.C. Carson, J.N. Butcher
6. Papalia D. E., Olds S. W (2008), Human Development, 5th. Edition, Tata McGraw Hill Publishing Co. Ltd
7. Developmental Psychology by Hurlock C.

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BIOMECHANICS & KINESIOLOGY

COURSE DESCRIPTION: Course explores Biomechanical & Kinesiological aspects of various Joints of upper extremity in the Human body and its importance in OT Practice. This course supplements the knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics. It builds concepts of training strategies that can be used to train the various aspects of mobility. It emphasizes on fabrication & scientific basis for the need of splints, orthoses & adaptive devices in Occupational Therapy.

GOAL: The broad goal to teach the second year BOT students the theoretical basis for joint mobility including the knowledge of Biomechanics & kinesiology, and Knowledge of splints, orthoses & adaptive devices in Occupational therapy.

OBJECTIVES:

B. KNOWLEDGE:

At the end of the course, the student shall be able to:

i. Explain Biomechanics & kinesiology related to Human body
ii. Explain the concept of application of knowledge of Biomechanics & kinesiology in Occupational Therapy
iii. Describe the concepts of Orthoses, Splinting & adaptive devices & application to Occupational Therapy
iv. Develop, designing and fabricating Orthosis based on Biomechanical Principles
v. Describe the concept of application of knowledge of Biomechanics & kinesiology in Occupational Therapy
vi. Describe the Importance of mobility in Participation in life skills
vii. Describe Transfer techniques for wheelchair mobility, Gait analysis & pathological gaits

C. SKILLS:

At the end of the course, the student shall be able to:

i. Develop Skills to assess the effect of Patho-mechanics on the joints & application of general Biomechanics to analyse movements

ii. Demonstrate the effective transfer techniques on normal subjects Demonstrate the skills of designing & fabricating splints, Orthoses & adaptive devices

iii. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

iv. Students should develop behavioral skills and humanitarian approach while communicating with patients about the need for orthoses, adaptive devices as individuals, relatives, society at large & the co- professionals

ATTITUDE:

1 The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

2 It is necessary to develop in students a sense of responsibility towards assessment of mobility skills

3 Understanding of safe transfer techniques & their importance to the dependent patients

4 Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Scheme of examination for University Practical exam ;100 Marks 100

Splint making & Viva Voce	Transfer Techniques on normal subjects & Viva Voce	Pathological Gait analysis on patients & Viva Voce	Adaptive device making & Viva voce	Presentation & Communication skills	Total
20marks	20 marks	20 marks	20 marks	20 marks	100 marks

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Competency Table: Biomechanics & Kinesiology

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BIOMECHANICS & KINESIOLOGY								
Topic – Foundational concepts of Joint structure & functions No of competencies -5								
BMK 1.1	Define & describe the term Kinematics & kinetics	K	K	Y	Lecture	written	Anatomy	
BMK 1.2	Describe different types of motions with reference to types location, direction, magnitude &rate of displacement	K	KH		Lecture	Written		
BMK 1.3	Understand &define forces, force vectors	K	K, KH		Lecture,	Written		
BMK 1.4	Describe the concept of Gravity &its application to internally &externally applied forces	K	K, KH, S		Lecture, Small group discussion	Written		
BMK 1.5	Classify &describe different force systems	K/C	K, KH		Lecture, Seminars	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic – Kinetics considering Rotatory & Translatory Forces & motion						**No of competencies -5**		
BMK 2.1	Understand &explain the Torque or Moment of Force	K	KH	Y	Lecture	Written		
BMK 2.2	Describe the concept of muscle forces	K	K	Y	Lecture	Written		
BMK 2.3	Classify Levers &explain the application of Levers in the body	K	K, KH	Y	Lecture, Small group discussion	Written		
BMK 2.4	Describe composition &Resolution of Forces	K	K,		Lecture,	Written		
BMK 2.5	Explain application of composition &Resolution of Forces in the Human body	K	K, KH		Lecture, Seminars, Small group discussion	Written, OSPE		
Topic - Joint Structure & Function		**No of competencies -4**						
BMK 3.1	Describe the components in human Joints	K	K	Y	Lecture	written	Anatomy	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 3.2	Understand the different designs of the joints	K	KH	Y	Lecture, Seminar	written		
BMK 3.3	Describe the kinematic chains, Joint motion & applied Biomechanics.	K/S	K, KH	Y	Lecture, Small Group discussion	Written, Skill assessment (OSPE)		
BMK 3.4	Describe Classification of muscles, factors affecting muscle function & applied Biomechanics of muscles	K	KH	Y	Lecture, Small Group discussion	Written		
Topic: Upper Extremity Joint Complexes No of competencies -6								
BMK 4.1	Describe the components of Shoulder complexes.	K	KH	Y	Lecture	Written	Anatomy	
BMK 4.2	Describe the integrated functions of shoulder complex with reference to specific actions of the muscles acting on the shoulder joint.	K	KH	Y	Lecture	Written		
BMK 4.3	Describe the components & the functions of different muscles around the elbow joint.	K	KH	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 4.4	Describe the mobility & stability components & their action at Proximal & distal radioulnar Joint.	K	KH	Y	Lecture	Written		
BMK 4.5	Describe the components & the biomechanical applications at the wrist joint.	K	K, KH	Y	Lecture	Written		
BMK 4.6	Describe the Hand complex, importance of functional positioning & functions of hand.	K	K, KH	Y	Lecture, Small Group discussion	Written		
Topic 5: Orthotics No of competencies -7								
BMK 5.1	Describe goals of splinting& classify hand splint.	K	KH	Y	Lecture, small group discussion	Written	Anatomy. OT in MSK, OT in Medical conditions, OT in surgical conditions, OT in neurological Conditions.	OTDP I & II
BMK 5.2	Describe the application of Hand splints in different cases.	K	K.KH	Y	Lecture/	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 5.3	Identify splint types and materials used	K/S/C	KH, SH (P under supervision)	Y	Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practical, OSPE		
BMK 5.4	Demonstrate the appropriate method of fabrication of Hand Splints (Resting, Dynamic-flexor /extensor, Thumb Spica & C- bar, finger splints	K	K, KH, SH (P Under supervision)	Y	Lecture/small group discussion /DOAP session, Skill training	Written Skill assessment, practical, OSPE		
BMK 5.5	Describe goals of Lower extremity orthoses& classify orthoses							
BMK 5.6	Identify material used & demonstrate the fabrication of the appropriate method of fabrication of Lower extremity orthosis (Static & Dynamic)	K	K, KH SH (P Under supervision)	Y	Lecture/small group discussion /Skill training	Written Skill assessment, practical, OSPE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic 6: Adaptive devices No of competencies :2								
BMK 6.1	Understand & explain the need of Adaptive devices	K	KH	Y	Lecture, Small group discussion		OT in MSK, OT in Medical conditions, OT in surgical conditions, OT in neurological Conditions.	OTDP I & II
BMK 6.2	Identify the material used, indications & fabricate adaptive device to improve the participation of patients (Universal cuff, Writing Device, Reacher/ dressing stick, long handle Scrubber)	K	K, KH SH (P Under supervision)	Y	Lecture/small group discussion /Skill training			
Topic: Lower Extremity Joint Complexes No of competencies -8								
BMK 7.1	Describe the Structure of Hip Joint complexes	K	K	Y	Lecture	Written	Anatomy	
BMK 7.2	Describe the integrated functions of Hip complex with reference to specific actions of the muscles, forces during stance & the stability mechanism	K	KH	Y	Lecture	Written, Small group discussion		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 7.3	Describe the components of Tibiofemoral joint & Patellofemoral joint	K	KH	Y	Lecture	Written		
BMK 7.4	Understand functions of different alignments of bones, Q angle, functions of muscles, Ligaments and other supporting structures. Anterior - posterior and Medial - Lateral stability, mobility mechanism	K	KH	Y	Lecture	Written, seminar		
BMK 7.5	Describe the Structure &components of Ankle Joint complexes	K	K	Y	Lecture	Written		
BMK 7.6	Describe the integrated functions of Ankle joint with reference to specific actions of the muscles, forces during phases of gait cycle	K	KH	Y	Lecture	Written, Small group discussion		
BMK 7.7	Describe the components of Foot complex	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 7.8	Understand the concepts & functions of arches of Foot	K	KH	Y	Lecture	Written, Small group discussion		
Topic: Temperomandibular Joint No of competency 1								
BMK 8.1	Describe General structure and function of temporo- mandibular joint& applied Biomechanics in temporomandibular joint	K	KH	Y	Lecture	Writtenn	Anatomy	
Topic: Axial Skeletal Joint Complexes No of competencies 1								
BMK 9.1	Describe regional structure & functions of different regions of vertebral column	K	KH	Y	Lecture	Writtenn	Anatomy	
Topic: Posture No of Competencies-3								
BMK 10.1	Understand the difference between Static & dynamic posture	K	KH	Y	Lecture, Small group discussion, case study	Written,	Anatomy, OT in MSK, OT in surg cond, OT in neurological Cond	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 10.2	Demonstrates the ideal posture & understands the factors affecting the posture	K	KH	Y	Lecture, Small group discussion	Written,		
BMK 10.3	Understands the Kinetics & Kinematics of Posture	K	KH	Y	Lecture, Seminar	Written,		
Topic Mobility -Transfer Techniques: No of Competencies: 4								
BMK 11.1	Understand Precursor to transfer & mobility	K	KH	Y	Lecture, group discussion, case study	Written, Skill assessment	Physiology, OT in MSK, OT in Med cond,OT in surg cond,OT in neurological Cond	
BMK 11.2	Demonstrate the Bed mobility for preparation of transfer	K, A, C	KH, SH, P	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
BMK 11.3	Describes the guidelines for Using proper body mechanics during transfer with principles of body positioning	K	KH	Y	Lecture, group discussion, case study	Written, Skill assessment		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 11.4	Demonstrate ● Stand pivot transfer ● Bend pivot transfer ● Dependent transfer ● Sliding board transfer	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
Topic Mobility -Gait No of Competencies:8								
BMK 12.1	Describe the gait Cycle	K	KH	Y	Lecture, Seminar	written	Physiology, OT in MSK, OT in Medical condition, OT in surgical condition, OT in neurological Condition.	
BMK 12.2	Understand the kinematics & Kinetics of Gait cycle	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.3	Demonstrate the Assessments of different parameters of Gait	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 12.4	Identify abnormal gait & describe the patho-kinematics of abnormal Gait	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
BMK 12.5	Describes preparatory exercises for crutch walking	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.6	Understands the different crutch gaits	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.7	Understands the the prescription of cane, measurement & the cane gait	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.8	Demonstrates the different crutch & cane gaits	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Vicarious Movements: No of Competencies: 2								
BMK 13.1	Define & classify of vicarious movements	K	K	Y	Lecture, Seminar	written	Physiology, OT in MSK, OT iMed cond, OT in surg cond, OT in neurological Cond	
BMK 13.2	Description of vicarious movements	K	KH	Y	Lecture, Seminar	written		

Recommended Books:

1. Joint Structure and Function –1. A Comprehensive Analysis by C.C. Norkin, P.K. Levangie,
2. Physiology of Joint & Joint motion by Kapandji
3. A Therapeutic exercise by J. Basmajian
4. Biomechanics of human motion by Williams Lissner
5. Measurement of joint motion: a guide to goniometry by C.C. Norkin & D.J. White
6. Occupational Therapy & Physical Dysfunction by A. Turner

OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I

COURSE DESCRIPTION: At this course, the students will have an understanding of human development, theoretical basis of occupational therapy profession, and various treatment approaches used in occupational therapy.

It focuses on concept of spatiotemporal adaptations & the developmental trajectory. It includes understanding of clinical assessment of individual muscle testing, Muscle tone, developmental reflexes. It emphasizes on therapeutic applications in Occupational Therapy based on human development. It includes standardized methods of assessment of Muscle power & its interpretations

GOAL: The broad goal to teach the second year BOT students OT skills of assessment methods and intervention approaches in Occupational therapy. The goal is to have the knowledge, skills for assessment of performance components and the theoretical basis for Occupational Therapy intervention.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

1 Understand the growth and development along with its theoretical basis in a typically developing human being

2 Explain the concept of spatiotemporal adaptation in Occupational Therapy.

3 Explain the concept of development of muscle tone & abnormality in tone

4 Describe the Characteristics of coordinated movements.

5 Describe various neurophysiological techniques of intervention

6 Describe the & developmental reflexes &assessment

7 Describe evaluation of Physical Dysfunction for Muscle strength, Coordination

SKILLS:

At the end of the course, the student shall be able to:

1 Develop Skills to assess coordination & Developmental reflexes

2 Demonstrate the neurophysiological techniques on dummy

3 Demonstrate the Use of the standardized tools of Individual Muscle testing& assessment of muscle tone

ATTITUDE:

1 The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

2 It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions

3 Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques

4 Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Scheme of examination for University Practical exam

Muscle Tone & assessment VivaVoce	Individual Muscles testing (Upper Ext. ,lower ext. & spinal muscles) & Viva Voce	Developmental reflex evaluation (On Dummy) & Viva Voce	Coordination Assessment (on dummy) & Viva Voce	Presentation & Communication skills	Total
30 marks	**30 marks**	**10 marks**	**(10 marks)**	**20 marks**	**100 marks**

Competency Table : OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I

Course Content

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I								
Topic 1: Human Development		**No of Competencies - 4**						
OTDP-I 1.1	Enumerate the stages of motor development as per the age.	K, C	K, KH	Y	Lecture, DOAP	Written	FOT I Physiology, OT in Paediatric conditions	
OTDP-I 1.2	Enumerate the stages of Gross motor development.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 1.3	Enumerate the stages of Fine motor development.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 1.4	Remember and analyse the critical age and developmental activities.	K, C, A	K, KH, S	Y	Lecture, Practical	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic 2: Human Development Process- Theoretical Foundations No of Competencies -9								
OTDP-I 2.1	List out the theories related to Socio emotional development.	K, C	K, KH	Y	Lecture,	Written, Viva	Psychology, OT in psychiatry, OT in paediatric condition	
OTDP-I 2.2	Explain the Erik Erikson's stages of psychosocial development	K, C	K, KH	Y	Lecture,	Written,		
OTDP-I 2.3	Describe Ecologic Theory, Motivational Theory, Social, Emotional Theory	K, C	K, KH	Y	Lecture,	Written,		
OTDP-I 2.4	Describe Psychoanalytic theory of Freud,	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.5	Explain the Freud Psychosexual stages	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.6	List out the theories related to cognitive development.	K, C	K, KH	Y	Lecture,	Written,		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 2.7	Describe Theory of Learning, Behavioral Theory, Social learning theory and Maturational Theory of Arnold Gesell	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.8	Describe Cognitive Theory of Jean Piaget	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.9	Explain the Piaget stages of Cognitive development.	K, C	K, KH	Y	Lecture,	Written,		Psychology
Topic 3: Muscle Tone Competency no of Competencies -5								
OTDP-I 3.1	Define muscle tone.	K C	K, KH	Y	Lecture,	Written	Physiology 'OT in Neurological condition, OT in paediatric condition	
OTDP-1 3.2	Describe the Difference between Normal Muscle tone and Abnormal Muscle tone	K S	K, KH	Y	Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 3.3	Describe different types of abnormal muscle tone.	K, S	K, KH	Y	Lecture, DOAP	Written, Practical		
OTDP-I 3.4	Evaluate Muscle tone. Understand Modified Ashworth Scale and Pearsons rating of mild, moderate severe spasticity.	K, S	K, KH, SH	Y	Lecture, DOAP	Written, Practical		
OTDP-I 3.5	Practically demonstrate evaluation of muscle tone on a model.	K, S	K, KH, SH	Y	Lecture, DOAP, Skill demonstration	Skill assessment Practical		
Topic 4: Co -ordination competency no of Competencies -7								
OTDP-I 4.1	Define coordination.	K, C	K, KH	Y	Lecture DOAP	Written, Practical	Physiology	
OTDP-I 4.2	Describe the Characteristics of coordinated movements.	K, S	K, KH	Y	DOAP	Written, Practical		
OTDP-I 4.3	Explain in coordination found as Cerebellar signs.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		
OTDP-I 4.4	Describe in coordination found as Extra pyramidal signs.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		
OTDP-I 4.5	Evaluate coordination.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 4.6	Understand using standardized and non- standardized test for evaluating coordination.	K, S	K, KH, S, SH	Y	DOAP	written		
OTDP-I 4.7	Demonstrate method of using Standardized assessments for cerebellar signs, Extrapyramidal signs	K, S	K, KH, S, SH	Y	DOAP	Practical		
Topic 5: Spatiotemporal Adaptations no of Competencies – 6								
OTDP-I 5.1	Define and explain spatiotemporal adaptation as a grounded theory	K, S	K, KH, SH	Y	Lecture, Demonstration	Practical		
OTDP-I 5.2	Define terminology specific to the theory of Spatiotemporal adaptation.	K C	K, KH	Y	Lecture	Written		
OTDP-I 5.3	Explain four conceptual categories of the theory	K C	K, KH	Y	Lecture, DOAP	Written,		
OTDP-I 5.4	Describe the properties of the conceptual category.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 5.5	Identify and discuss principles of spiralling continuum as used with spatiotemporal adaptation theory.	K S	K, KH	Y	Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 5.6	Explain movement and environment as a system of relationships culminating in acquisition of performance skills	K, S	K, KH	Y	Lecture, DOAP	Written,		
Topic 6: Reaction and Reflex maturation no of Competencies -6								
OTDP-I 6.1	Define developmental Reflexes and Reactions	K	K	Y	Lecture	Written	Physiology, OT in paediatric conditions	
OTDP-1 6.2	Describe the importance of Reflexes on the motor development and Brain maturation., the position os stimulus & responses	K, C, S	K, KH	Y	Lecture, Small group discussion DOAP	Written		
OTDP-I 6.3	Explain the different Reflexes based on the levels of nervous system	K, C, S	K, KH	Y	Lecture DOAP	Written		
OTDP-I 6.4	Demonstrate the procedure of testing developmental reflexes of different level.	K, C, S	K, KH, SH, P under supervision	Y	Lecture DOAP, Case study	Written, Skill assessment, practical, OSPE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 6.5	Enumerate the significance of persisting developmental reflex beyond time on Motor Development.	K, C, S	K, KH	Y	Lecture DOAP	Written		
OTDP-I 6.6	Document the age of Integration of developmental reflexes of different level.	K, C, S	K, KH	Y	Lecture DOAP	Written		
Topic 7: Neurological Approaches used in OT intervention no of competencies -13								
OTDP-I 7.1	Describe Rood's four components of motor control, and identify the application of it in OT practice.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.2	Elicit an Overview of the Evolution of NDT approach with its use in occupational therapy practices with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.3	Describe brunnstorm Approach with demonstration of its application in Occupational therapy intervention with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.4	Describe the theoretical base of the sensory integration approach with demonstration of its application in Occupational Therapy practice with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.5	Define client-centered practice & its importance in Occupational Therapy practices.	K, C, S	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 7.6	Describe the background and theory of the motor relearning program with demonstration of its application in Occupational Therapy practice with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.7	Elicit & demonstrate the Overview of history and development of PNF with demonstration of its application in Occupational Therapy with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.8	Describe the theoretical assumptions and models underlying the task- oriented approach with its application in occupational Therapy with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written Practical		
OTDP-I 7.9	Describe the background and theory behind Affolter's approach with its application in Occupational Therapy with various techniques.	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 7.10	Describe the background and theory behind Quadriphonic approach Elaborate the key assumptions and principles of Quadraphonic approach.	K	KH	Y	Lecture	Written		
OTDP-I 7.11	Describe the background and theory behind Cognitive retraining model & its In cognitive retraining Model.	K	KH	Y	Lecture	Written		
OTDP-I 7.12	Describe the background and theory behind Neurofunctional Model.	K	KH	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.13	Describe the background and theory behind Cognitive orientation of daily Occupational performance Model List the steps in using Cognitive orientation of daily Occupational performance Model	K	KH	Y	Lecture	Written		
Topic 8: CLINICAL REASONING No of competencies -6								
OTDP-I 8.1	Describe the characteristics of clinical reasoning in occupational therapy	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.2	Describe decision tree process aid in clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.3	Describe the clinical strategies, those are employed in occupational therapy.	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.4	Define Three-Track Mind concept in clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.5	Describe the facets of clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.6	Mentioned the models used in clinical reasoning in occupational therapy?	K, C,	K, KH,	Y	Lecture DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic :9 Evaluation of Individual Muscle strength			**No of Competencies -5**					
OTDP-I 9.1	Describe the screening tests for muscle strength assessment	K	K, KH,	Y	Lecture, DOAP	Written	FOT I	
OTDP-I 9.2	List the diagnosis for which the MMT is appropriate & List contraindicated with its rationale	K	K, KH,	Y	Lecture	Written		
OTDP-I 9.3	Describe the need for individual muscle testing, with the principles of Individual Muscle testing	K,	K, KH,	Y	Lecture DOAP	Written Practical		
OTDP-I 9.4	Demonstrate & perform under supervision different tests for individual muscle testing with proper positioning, stabilisation, the movements, directions, resistance (if required), avoidance of substitution	K, C, S, A	K, KH, S, SH	Y	Lecture DOAP, Case Study	Written Practical, Skill assessment, OSCE		
OTDP-I 9.5	Interpret the results of muscle strength assessment (Weakness, shortening, substitution etc)	K, S	K, KH,	Y	Lecture DOAP	Written Practical		

Recommended Books

1. Occupational Therapy: Practice skills for Physical Dysfunction by L.V. Pedretti
2. Occupational Therapy for Physical Dysfunction by C.A. Trombly
3. Occupational Therapy & physical dysfunction A. Turner
4. Willard & Spackman's Occupational Therapy,5th,6th,7th,11th edition
5. Daniels and Worthinghams's Muscle Testing – Techniques of Manual Examination.
6. Neuro-developmental treatment a guide to clinical practice judith c. bierman
7. Brunnstorm's movement therapy in hemiplegia – a neurophysiological approach 2nd edition
8. Frames of references for peaditaric occupational therapy (paula kramer) 3rd edition
9. Creeks occupational therapy and mental health 5th edition
10. Mental health consepts and techniques for the ota Mary beth early
11. Clinical reasoning in physical disability, Rebecca dutton

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स्वास्थ्यम् सर्वार्थसाधनम्
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Occupational Therapy Diagnostic and Process-II

COURSE DESCRIPTION

Course explores major theories and frameworks underlying contemporary OT Practice, presents theoretical construct of Purposeful Occupational Activity and Occupational Science. It focuses on methods, Medias and modalities used in the intervention process. It builds concepts of intervention strategies that can be used to improve on performance components, performance areas to enable fitness and participation in contextual roles. It includes understanding of clinical assessment of sensations , perception , cognition. It emphasizes on therapeutic applications in Occupational Therapy based on human development and adaptation, treatment approaches incorporating neurophysiologic principles. It includes standenderized methods of assessment of Hand functions

GOAL: The broad goal to teach the second year BOT students OT skills of assessment methods and intervention approaches, modalities in Occupational therapy. The goal is to have the knowledge, skills for assessment of performance components and the theoretical basis for Occupational Therapy intervention.

OBJECTIVES:

D. KNOWLEDGE:

At the end of the course, the student shall be able to:

xiv. Explain Models & frames of references in Occupational Therapy.

xv. Explain the concept of Occupational Adaptation

xvi. Describe the concepts of Functional Cast Bracing

xvii. Describe the play as Occupational Therapy modality

xviii. Describe Physical Dysfunction Evaluation sensation, perception, Cognition & developmental reflexes

E. SKILLS:

At the end of the course, the student shall be able to:

v. Develop Skills to assess Sensations, perception, Cognition

vi. Demonstrate designing of the Functional Cast bracing

vii. Demonstrate the Use of the standardized tools of Hand function assessment

F. ATTITUDE:

a. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

b. It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions

c. Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques

d. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals Understand and use of clinical reasoning while planning for intervention.

Scheme of examination for University Practical exam 100 Marks

Hand Function Tests & viva Voce Any one	Cognition assessment & perceptual assessment (any4) spots	Sensory Evaluation & Viva Voce	Presentation & Communication skills	Total
30 marks	20 Marks	30marks	20 marks	100 marks

Competency Table: Occupational Therapy Diagnostics & Practice II

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Occupational Therapy Diagnostics & Practice II								
Topic – Conceptual Foundations in Occupational Therapy Models in Occupational Therapy No of competencies -4								
OTDP II 1.1	Define & describe the concept of intervention models in Occupational Therapy	K	K	Y	Lecture	written	FOT I	
OTDP II 1.2	Explain differences between Models & frames of references in Occupational Therapy	K	K		Lecture	Written		
OTDP II 1.3	Explain different models used inOccupational Therapy intervention viz Occupational performance Model of human Occupation, Canadian Model of Occupational performance	K	K, KH		Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 1.4	Understand & demonstrate the use of Models used in Occupational therapy	K	KH, SH		Lecture, small group discussion Simulated cases demonstration	Written, Skill assessment		
Topic – basis of Theory & philosophy of Occupational Therapy 2-Frames of references No of competencies -5								
OTDP II 2.1	Describe the importance of personal factors affecting performance, assessment using ICF	K	K	Y	Lecture,	Written		
OTDP II 2.2	Understand the correlation between ICF & OTPF with reference to personal factors	K	K, KH	Y	Lecture, small group discussion	Written		
OTDP II 2.3	Understand the Theoretical concept /Frames of references of occupational therapy	K	K	Y	Lecture	Written		
OTDP II 2.4	Describe the concept of various Frames of references in occupational therapy	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 2.5	Describe the postulates regarding change and intervention related to different frames of references	K	K, KH	Y	Lecture, DAOP	Written		
Topic - Occupational Adaptation No of competencies -5								
OTDP II 3.1	Describe the Theoretical base of occupational Adaptation	K	K	Y	Lecture	written		
OTDP II 3.2	Explain the concept of Occupational Adaptation	K	K	Y	Lecture	written		
OTDP II 3.3	Describe & identify the need for use of Occupational Adaptation with reference to function -Dysfunction continuum	K/S	K, KH, SH	Y	Lecture,	Written, Skill assessment (OSPE)		
OTDP II 3.4	Enlist the Change anticipated after adaptation	K	KH	Y	Lecture	Written		
OTDP II 3.5	Demonstrates the Implementation of Occupational adaptation	K/S/C	KH, SH	Y	Lecture, Case study	Written, OSCE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Functional cast Bracing No of competencies -5								
OTDP II 4.1	Define Functional cast Bracing & Describe the difference between functional cast Bracing and traditional immobilization after reduction of fractures	K	KH	Y	Lecture	Written	FOT II	Biomechanics & Kinesiology
OTDP II 4.2	Describe the scientific basis & Principles of Functional Cast Bracing	K	KH	Y	Lecture	Written		
OTDP II 4.3	Enumerate indications & contraindications in functional cast bracing	K	KH	Y	Lecture	Written		
OTDP II 4.4	Enumerate the objectives & advantages of Functional cast bracing	K	KH	Y	Lecture	Written		
OTDP II 4.5	Identify materials used & present the designing skills for functional cast braces	K/S/A	K, KH, SH (P under supervision)	Y	Lecture, DOAP session	Written/skills assessment		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Introduction to Play & Leisure No of competencies -6								
OTDP II 5.1	Define Play and describe different Play behaviors& functions of Play	K	K	Y	Lecture	Written		Psychology II
OTDP II 5.2	Enumerate Functions of Play	K	KH	Y	Lecture	Written		
OTDP II 5.3	Describe content & structure of Play	K	KH	Y	Lecture	Written		
OTDP II 5.4	Explain Theories of Play	K	KH	Y	Lecture	Written		
OTDP II 5.5	use of Play as a therapeutic modality in Occupational Therapy	K/C	KH	Y	Lecture, DOAP	Written		
OTDP II 5.6	Explain importance of Leisure in adult life & classify leisure	K	KH	Y	Lecture	Written		
Topic 6: Physical Dysfunction Evaluation – Sensations No of competencies -5								
OTDP II 6.1	Understand Somatotropin arrangements & Neuroplasticity	K	KH	Y	Lecture	Written	Anatomy, Physiology	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 6.2	Describe the Somatosensory system & classification of sensations	K	K.KH	Y	Lecture/	Written		
OTDP II 6.3	Describe & demonstrate the Somatosensory system Evaluation with the principles (Superficial & Deep sensation)	K/S/C	KH, SH (P under supervision)	Y	Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practicals, OSPE		
OTDP II 6.4	Identify the specific standardized sensory assessments &their uses	K	K, KH	Y	Lecture/small group discussion /DOAP session	Written		
OTDP II 6.5	Identify the sensory deficits & give overview of basic principles in sensory re-education	K	K, KH	Y	Lecture/DOAP session	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Perception No of competencies -3								
OTDP II 7.1	Define Perception &Understand the various perceptual deficits	K	KH	Y	Lecture	Written		Psychology I
OTDP II 7.2	Demonstrate the perceptual assessment methods	K/S/C	KH, SH (P)		Lecture, DOAP, Skill training under supervision	Written, Skill assessment, OSPE		
OTDP II 7.3	Enlist the general approaches used in Occupational Therapy intervention for perceptual dysfunction	K	K, KH		Lecture/ DOAP session	Written		
Topic: Cognition No of competencies-3								
OTDP II 8.1	Define Cognition &classify the lower & higher-level cognitive functions.	K	KH	Y	Lecture	Written		Psychology I
OTDP II 8.2	Demonstrate Evaluation of cognitive Skills-	K/S	KH, SH (P)		Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 8.3	Enlist general approaches used in Occupational Therapy intervention for cognitive dysfunction	K	K, KH		Lecture/ DOAP session	Written		
Topic: Hand Function TestsNo of competencies 3								
OTDP II 9.1	Understand need for standardised assessments for hand function evaluation,	K	K, KH	Y	Lecture	Written	FOT II	Biomechanics & Kinesiology
OTDP II 9.2	Enumerate & Identify various Evaluation tests with respect to Occupational demands	K	K, KH		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 9.3	Describe & demonstrate objective assessment methods of Hand function Tests for the following hand function tests ● Jebson Taylor Hand Function Test ● Crawford small part dexterity test. ● Purdue Peg board. ● Complete Minnesota dexterity test	K/S/C	K, KH, SH, P (under supervision)		Lecture, DOAP, Skill training under supervision	Written/practical /OSPE, Skill assessment		

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Recommended Books:

a. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel lCrepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
b. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
c. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
d. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
e. Introduction to Occupational Therapy by Hussey Subonis ,Chafea O Brien
f. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer , Jim Hinojosa
g. Minnesota Manual Dexterity Test:www.physio-pedia.com
h. Jebson -Taylor Hand Function Test. https://scripeoject.com
i. Perdue Peg board Test. https://lafayetteevaluation.com
j. Crowford Small Parts Dexterity Test. htpps://www.creativeorgdesign.com

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Computer Science

COURSE DESCRIPTION: Course explores Basic Computer and Smartphone Skills, digital skills in the learner. It includes, basic knowledge regarding computers, the parts of computers & their uses, building the typing skills, MS office skills & job readiness skills in the learner

COURSE Goal: The at the end of Second BOT, the students will gain knowledge and skill in the computer operation required in modern daily life & apply the knowledge & skills in Occupational Therapy

COURSE Objectives: At end of second BOT the student shall be able to

Knowledge

1. Describe the basic parts of computers & their uses, Ability to familiarize with basics of computers
2. Describe about operation of computers & smart phones.
3. Understand the smart use of computer skills in occupational therapy profession and in daily activities

Skills: -

1. Demonstrate the ability to do smart typing and ability to navigate the file system
2. the digital operational skills required in operation of computers & smart phones
3. Able to create and edit documents, spread sheets for basic data entry, and presentations
4. use Indian languages in documents, & have effective digital communication
5. able to receive, download & answer the emails, safely create -upload videos, navigate website

Competency Table : Computer Science

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
COMPUTER SCIENCE						
Topic –Basics of Information Technology		**No of competencies -4**				
CS 1.1	Describe characteristics of a computer, components of a computer system – CPU, memory, storage devices and I/O devices	K	K	Y	Lecture	written
CS 1.2	Describe the Types of software: system software (operating system, device drivers), application software including mobile applications	K	K		Lecture	Written
CS 1.3	Describe the Type of networks and understand the difference between public & private networking	K	K,		Lecture, DOAP	Written
CS 1.4	Describe the various Multimedia sources images, audio, video, animation	K	K,		Lecture, DOAP	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
Topic – Cyber Safety -Frames of references No of competencies -2						
CS 2.1	Understand the procedure of Safely browsing the web and using social networks Enumerate intellectual property rights, plagiarism and digital property rights	K	K	Y	Lecture	Written
CS 2.2	Explain the existence of Malware: Viruses, adware	K	K		Lecture	Written
Topic Essential Office tools No of competencies 1						
CS 3.1	Enlist, Describe& demonstrate various office tools.	K	K, SH (P)	Y	Lecture, DOAP, Skill training	Written, Skill assessment
Topic: Networking No of competencies -3						
CS 4.1	Explains about Internet: And demonstrate the creation of email account, website	K	KH, SH	Y	Lecture, DOAP	Written
CS 4.2	Demonstrate the use of Web services	K	KH, SH		Lecture, DOAP session, practical	Written, skill assessment
CS 4.3	Describe & demonstrate the use of mobile technologies.	K	KH, SH		Lecture, DOAP session, practical	Written, skill assessment

Recommended Books

1. Introduction to computer Science; Textbook for beginners in Informatics: Gilbert Brands, Publisher Barnes & Nobel

2. Computer Science An overview by J.Glen Bookshear

Publisher Denis Bryłów ,Pearson 3.Cambridge IGCSE

computer science course book

4. Computer Science: Very Short Introduction,by Subrata Dasgupta

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First aid and emergency care

COURSE DESCRIPTION: This course introduces the students in to the basic methods of first aid for different client at emergency.

GOAL: The purpose of learning this course is to acquire knowledge and skills to render first aid and management of injuries and wound Enhance knowledge and practice on first aid measures of systemic disorders. Provide first aid care in poisons, bites and stings, foreign bodies. Acquire knowledge in cardiac emergency and consciousness and provide CPR. Acquire knowledge and skills to provide first aid for burns and emergency care.

OBJECTIVES :

A. KNOWLEDGE:

i. Define basic principles of first aid and.
ii. Explain various systemic disorders
iii. Describe the poisoning and foreign objects
iv. Describe basic life support.

B. SKILLS:

i. Demonstrate the management of injuries and wound
ii. Demonstrate the first-aid measures of various systemic disorders
iii. Demonstrate the first aid for burns and emergency care.
iv. Demonstrate first aid for poisoning and foreign objects
v. Apply the procedures of basic life support

C. ATTITUDE:

i. The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

ii. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.

iii. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

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Competency Table: First aid and emergency care

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
First aid and emergency care						
Topic: Management of Injuries and Wounds		**Competencies- 9**				
FAE 1.1	Definition of first aid. Importance of first aid, Golden rules of first aid, Scope and concept of emergency. Brief introduction about different casualties	K	K	N	Lecture	Written
FAE 1.2	Discuss about Traffic incidents, fires, electrical injuries, Assessing and examining casualty, symptoms and signs, treatment and aftercare	K	K	N	Lecture	Written
FAE 1.3	Techniques and equipment – Removing clothing and headgear, monitoring vitals, first aid materials, dressings- sterile, nonsterile and adhesive, Principles of bandaging – roller, elbow and knee, hand and foot, tubular and triangular bandages, reef knots and scalp bandages	K, S	K, KH	N	Demonstration	Practical

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 1.4	Explain about Wounds and bleedings – bleeding and types of wounds, severe bleeding, impalement, amputation, crush injury, cuts and blaze, foreign object and cut, bruising, infected wound, scalp and head wounds and bleeding to varicose vein	K	K	N	Lecture	Written
FAE 1.5	Describe the Eye wounds, bleeding from ear, nose bleed, bleeding from the mouth, knocked out tooth, wound to the palm, wound at a joint crease, abdominal wound and vaginal bleeding	K	K	N	Lecture	Written
FAE 1.6	Techniques and equipment – arm sling, elevation sling, improvised, casualty handling, assisting a walking casualty, controlling a fall, moving from a chair to floor, moving a collapsed casualty, Methods of transportation: Single helper, Hand seat, Stretcher, Wheeled transport (ambulance), Precautions taken: Blanket lift, Air and Sea travel. Management of wound and bleeding	K, S	K, KH	N	Demonstration	Practical
FAE 1.7	Explain about Bones, joint and muscle injuries; Fractures, dislocated joint, strains and sprains, shoulder, upper arm, elbow, forearm and wrist, hand and finger injuries	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 1.8	Discuss the injury to rib cage, Spinal injury, back and fractured pelvis, hip and thigh, knee, lower leg, ankle and foot and toe injuries.	K	K	N	Lecture	Written
FAE 1.9	Management of bone, joint and muscle injuries	K, S	K, KH	N	Demonstration	Practical
Topic: Systemic Disorders		**Competency level-8**				
FAE 2.1	Explain about Hypoxia, Airway obstruction, hanging and strangulation, drowning and inhalation of fumes	K	K	N	Lecture	Written
FAE 2.2	Elaborate on Penetrating chest wound, hyperventilation, Asthma and croup	K	K	N	Lecture	Written
FAE 2.3	First aid care for respiratory problems	K, S	K, KH	N	Demonstration	Practical
FAE 2.4	Discuss about Shock, internal bleeding, anaphylactic shock, angina pectoris and acute heart failure	K	K	N	Lecture	Written
FAE 2.5	Explain about Heart attack and fainting	K	K	N	Lecture	Written
FAE 2.6	Discuss about Impaired consciousness, head injury, concussion, cerebral compression, skull fracture and stroke	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 2.7	Explain about the Seizures in adults, absence seizures, seizures in children, meningitis, headache and migraine	K	K	N	Lecture	Written
FAE 2.8	First aid care of nervous system problem	K, S	K, KH	N	Demonstration	Practical
Topic: Poisoning and Foreign Objects Competency level-9						
FAE 3.1	Explain the Swallowed poisons, chemicals on skin, inhaled gases and poisons in the eye	K	K	N	Lecture	Written
FAE 3.2	Explain about Drug, alcohol and food poisoning, poisonous plants and fungi	K	K	N	Lecture	Written
FAE 3.3	First aid in poisons	K, S	K, KH	N	Demonstration	Practical
FAE 3.4	Describe about insect poison, bites and stings, tick bite	K	K	N	Lecture	Written
FAE 3.5	Discuss about Dog bites, snake bite and others	K	K	N	Lecture	Written
FAE 3.6	First aid care of animal and insect bite	K, S	K, KH	N	Demonstration	Practical
FAE 3.7	Discuss about Splinter, foreign object in the eye and ear	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 3.8	Discuss about the foreign object in the nose, inhaled and swallowed foreign object	K	K	N	Lecture	Written
FAE 3.9	First aid care of the foreign objects	K, S	K, KH	N	Demonstration	Practical
Topic: Basic Life Support Competency level-9						
FAE 4.1	Explain Breathing and circulation and lifesaving priorities	K	K	N	Lecture	Written
FAE 4.2	Discuss the Adult resuscitation procedure	K	K	N	Lecture	Written
FAE 4.3	Cardio Pulmonary resuscitation of adults	K,S	K,KH	N	Demonstration	Practical
FAE 4.4	Discuss about the unconscious child and child resuscitation chart	K	K	N	Lecture	Written
FAE 4.5	Discuss about the unconscious infant and infant resuscitation chart	K	K	N	Lecture	Written
FAE 4.6	CPR for child and infant	K,S	K,KH	N	Demonstration	Practical
FAE 4.7	Explain the Choking adult and its safety procedure	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 4.8	Explain the Choking child and infant and its safety management	K	K	N	Lecture	Written
FAE 4.9	First aid for choking of adult and infant	K, S	K, KH	N	Demonstration	Practical
Topic: Burns and Emergency First Aid Competency level-9						
FAE 5.1	Explain the Severe and minor burns and scalds, electrical and chemical burns	K	K	N	Lecture	Written
FAE 5.2	Discuss about burns to the eye, sun burn and heat stroke	K	K	N	Lecture	Written
FAE 5.3	First aid care for burns	K, S	K, KH	N	Demonstration	Practical
FAE 5.4	Describe about Shock, anaphylactic shock and severe bleeding	K	K	N	Lecture	Written
FAE 5.5	Describe about Head injury and spinal injury	K	K	N	Lecture	Written
FAE 5.6	First aid care for shock and traumatic injuries including safe transportation	K, S	K, KH	N	Demonstration	Practical
FAE 5.7	Explain about Seizures, burns and swallowed poisons	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 5.8	Discuss about the Broken bones and hemorrhages	K	K	N	Lecture	Written
FAE 5.9	First aid care for seizure, burns, swallowed poisons, different dressings and bandages.	K, S	K, KH	N	Demonstration	Practical

Recommended book:

1. St.John ambulance, St.Andrew's ambulance and British Red cross, 8th edition, First aid manual, Dorling Kindersley, 2006
2. Manual of First Aid - LC.Gupta&Abitabh Gupta, Jaypee Publishers.
3. First Aid and Emergency Nursing - N.N Yalayyaswamy, CBS Publishers

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III BOT

Sr. No.	Course Code	Subject	Total Teaching Hours			Credits			Total credits	Marks Total
			Theory	Practical/Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical		
1	MCV	Medicine & Cardiovascula r medicine	75	30		5	1		6	**Theory- 100**
2	NP	Neurology & Paediatrics	75	30		5	1		6	**Theory 100**
3	OTMC	Occupational Therapy in Medical Conditions	90	60		6	2		8	**Theory 100 Practicals- 100**
4	WPER G	Work Physiology & Ergonomics	90	30	--	6	1		7	**Theory-100 Practicals- 50**
5	SO	Surgery & Orthopaedics	75	30		5	1		6	**Theory- 100**

Sr. No.	Course Code	Subject	Total Teaching Hours			Credits			Total credits	Marks Total
			Theory	Practical/Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical		
6	PS	Psychiatry	45	30		3	1		4	**Theory- 50**
7	OTSC	Occupational Therapy in Surgical conditions	90	90		6	3		9	**Theory- 100** **Practical-100**
8	RMB	Research Methodology & Biostatistics	45			3			3	**Theory -50**
10		Supervised Clinical training /Field work			**635 + 40** **(visits to external institutes)**			15	15	
Total Hours 1560										
Total No. of Credits as per heads			**585**	**300**	**675**	**39**	**10**	**15**		
Total Credits									**64**	
Total Marks						**950**				

MEDICINE & CARDIOVASCULAR MEDICINE

COURSE DESCRIPTION: This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also explores selected systemic diseases, focusing on epidemiology, pathology, histology, aetiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent medical management of General Conditions, Rheumatology, Gerontology, and Cardio-vascular & Respiratory systems, genetic disorders, hematologic and infective disorders with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate intervention

GOAL: The broad goal of the teaching of undergraduate students in Medicine & Cardiovascular medicine is to have the knowledge, skills and behavioural attributes to function effectively as a clinician.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

1 Diagnostic process of common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical, cardiovascular and environmental diseases;

2 Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications;

3 Process to propose diagnostic and investigative procedures and ability to interpret them;

4 Process to provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;

5 Recognize geriatric disorders and their management.

SKILLS:

At the end of the course, the student shall be able to:

1 develop clinical skills (history taking, clinical examination and other instruments of examination to diagnose various common medical disorders and emergencies;

2 refer a patient to secondary and/or tertiary level of health care after having instituted primary care;

3 perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;

4 assist the common bedside evaluations and investigative procedures related to medicine and cardiovascular conditions.

5 A course of systematic instruction in the principles and practice of medicine, including medical disease of infancy;

a. Lecture - demonstrations, seminars and conferences in clinical medicine during the 3 years shall run concurrently with other clinical subjects;

b. Instructions in comprehensive medical care;

c. Instructions in applied anatomy and physiology and pathology throughout the period of clinical studies;

d. Instructions in dietetics, nutrition and principles of nursing Medical and in simple ward procedure e.g. should be imparted during clinical concurrently.

ATTITUDE:

1 The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

2 It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.

Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

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Competency Table: MEDICINE & CARDIOVASCULAR MEDICINE

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MEDICINE & CARDIOVASCULAR MEDICINE								
Topic:	**General Medicine**	**No of Competencies: 10**						
MCV 1.1	Describe clinical features, investigations, & management of following endocrine system disorders: Thyroid, pituitary, Adrenal, pancreas, obesity & nutritional deficiency	K	K/ KH	Y	Lecture, Bedside clinic, small group discussion	Written	Pathology Pharmacology	
MCV 1.2	Describe clinical features, investigations and management of the following diseases respiratory system: Bronchial Asthma, Bronchiectasis, Pulmonary Embolism, Tuberculosis, Lung abscess, Emphysema, Lobar Pneumonia, Pleurisy, Empyema and CorPulmonale., Intensive respiratory care (ICU)	K	KK/ H	Y	Lecture, Bedside clinic, small group discussion	Written	Pathology Pharmacology	OT in Medical conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 1.3	Describe the pathogenesis, clinical features, investigations, complications and brief outline of management of the following auto immune conditions / diseases: Rheumatoid Arthritis, seronegative Spondylosing Arthritis, SLE, Gout, Still Disease Polymyositis, CREST syndrome	K	K/ SH	Y	Lecture Bedside clinic, small group discussion	Written	Pathology Pharmacology	OT in Medical conditions
MCV 1.4	Discuss the management of gastric and Duodenal ulcer, hematemesis, Hepatitis & Malabsorption Syndrome	K	K/KH	Y	Lecture, Small group discussion,	Written		
MCV 1.5	Describe the clinicalfeatures, investigations and management of: Rickets, Protein deficiency, Beri Beri, Subacute Combined Degeneration	K	K/KH	Y	Lecture, Small group discussion,	Written	Pharmacology	
MCV 1.6	Describe the age-related problems in elderly and their management in health care and wellness clinics	K	K/KH	Y	Lecture, Small group discussion,	Written		OT in Medical condition
MCV 1.7	Describe clinical features and management of acute and Chronic Renal Failure, glomerular nephritis, Urinary Tract Infection	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 1.8	Describe the clinical features and management of: Anaemias, Haemophilia, Thalassaemia, Leukaemia Hodgkin's diseases	K	K/KH	Y	Lecture, Bedside clinic, small group discussion	Written		OT in Medical conditions
MCV 1.9	Describe the causes, symptoms and management of Common Infectious Diseases: Malaria, Rabies, Leptospirosis, dengue, Diseases of lymphatic system	K	KH	Y	Lecture	Written		
MCV 1.10	Intensive Medical Care (ICU)	K	K	Y	Lecture, Bedside clinic	Written		
Topic: Cardiovascular Disease No of Competencies:07								
MCV 2.1	Describe ischemic heart disease their clinical features investigation and management.	K	K/KH	Y	Lecture	Written		OT in medical conditions
MCV 2.2	Explain management of hypertension	K	K/KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 2.3	Describe Rheumatic heart diseases with their clinical features investigation and management	K	K/KH	Y	Lecture, Small group discussion,	Written		
MCV 2.4	Enumerate the cause of peripheral vascular disease and discuss its management	K	K/KH	Y	Lecture, Small group discussion,	Written		OT in surgical conditions
MCV 2.5	Describe etiology classification management of congenital heart disease. Describe basics in ECG as applicable to ischemic heart diseases	K	K/KH	Y	Lecture,	Written		
MCV 2.6	Describe basics in ECG as applicable to ischemic heart diseases	K	K/KH	N	Lecture,	-		
MCV 2.7`	Intensive Cardiac Care Unit (CCU)	K	KH	Y	Lecture,	Written		
Topic: Dermatology No of Competencies: 04								
MCV 3.1	Describe the clinical features, investigations and management of Leprosy	K	K/KH	Y	Lecture, Bedside clinic Small group discussion,	Written		OT in Medial conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 3.2	Describe the clinical features, investigations and management of HIV infections	K	K/KH	Y	Lecture, Bedside clinic Small group discussion	Written		OT in Medial conditions
MCV 3.3	Describe the clinical features, investigations and management: in brief common skin infections: psoriasis and venereal diseases.	K	K	Y	Lecture,	Written		
MCV 3.4	Trophic ulcers- their classification and management	K	K	Y	Lecture,	Written		

Medicine And Cardiovascular Medicine

1. API- Text book of Medicine, 5th edition
2. Medicine-- P.J. Mehta
3. Principles & Practice of Medicine – Davidson
4. Textbook of dermatology – Dr. Khopkar
5. Medicine for Students Golwalla'
6. First AID and Emergency Care- Harris N.
7. Manual of First Aid- Gupta L.C

OCCUPATIONAL THERAPY IN MEDICAL CONDITIONS COURSE DESCRIPTION

This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also gives overview of epidemiology, pathology, histology, aetiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of General Conditions, Rheumatology, Gerontology, Cardio-vascular & Respiratory systems, genetic disorders, hematologic conditions, infective disorders, obesity with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The broad goal to teach the undergraduate students OT Application in Medical Conditions is to have the knowledge, skills and behavioural attributes to function effectively as a occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES: KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common medical conditions with special reference to, cardiovascular and pulmonary conditions, HIV, Rheumatoid Arthritis, dermatological conditions like Leprosy, haemophilia.
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize geriatric disorders and obesity and its OT management
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, pre-vocational/work adjustment skills, play/leisure skills, social skills

SKILLS:

At the end of the course, the student shall be able to:

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.
2. Perform simple assessments using standardized methods, test batteries and instruments to assess performance components
3. Assist the common bedside evaluations and assessment procedures related to medical and cardiovascular conditions.

ATTITUDE:

1. The teaching and training in OT application in medical condition" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. To develop, restore, or improve required skills, habits, and roles for independent, meaningful, and productive living.
3. To participate in patient and family education programs and provide them with the necessary information and resources for independent living
4. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
5. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Scheme of examination for University Practical exam

Long Case	Short case	Viva voce	Communication skills	Total
60 marks	25marks	10 marks	5 marks	100 marks

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Competency Table: Occupational Therapy in Medical Conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Occupational Therapy in Medical Condition								
Topic: Cardiovascular conditions management No of Competencies: 09								
OTM 1.1	Describe Medical and Surgical Management of various cardiovascular conditions:	K	KH	N	Lectures	Written		Medicine
OTM 1.2	Understand and correlate clinical presentations, physical findings, patho-physiology and investigations	K	KH/SH	Y	Bedside Clinic, Skill presentation, Case study	Practical, Skill Assessment		Medicine
OTM 1.3	Reading and interpreting basic cardiopulmonary findings	S	SH	Y	Bedside Clinic, Skill presentation, Case study	Skill Assessment		
OTM 1.4	Enumerate effects of drugs on exercise performance	K	K	Y	Lectures Group Discussion	Written, Viva	Pharmacology	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 1.5	Enumerate Indications and Contraindications for work and activity	K	K	Y	Lectures	Written, VIVA, OSPE		
OTM 1.6	Define and understand MET & its application to exercise prescription, work and sports medicine.	K/S	KH	Y	Lectures, Group Discussions	Written, VIVA, OSCE	Work Physiology	Medicine
OTM 1.7	Describe the occupational Therapy protocol for cardiovascular conditions and emphasize on life style modification	K/S	KH/SH	Y	Lectures, Case study DOAP	Written Practical, Skill Assessment	Work Physiology	
OTM 1.8	Discuss work hardening and work assessment in cardio- pulmonary conditions	K/S	KH	Y	Lectures	Written, Viva	OT Diagnostic II	
OTM 1.9	Discuss modification of work and activity programmes with respect to residual cardiac functions and return to work	K/S	KH/SH	Y	Group Discussions Demonstrate,	Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic Autoimmune disorders-Rheumatoid arthritis & SLE No of Competencies: 4								
OTM 2.1	Enumerate & Define the autoimmune conditions,	K	K	Y	Lectures	Written Viva		Medicine
OTM 2.3	Explain patho mechanics of deformities in RA	K	KH	Y	Lectures	Written Viva		
OTM 2.4	Discuss & demonstrate Occupational therapy management in Acute, sub-acute and chronic stage of diseases	K/S	KH/SH/P	Y	Lectures****	Written Viva		Medicine
Topic: Geriatrics No of Competencies: 5								
OTM 3.1	Define the term gerontology & geriatrics	K	K	Y	Lectures	Written Viva		
OTM 3.2	Explain health & health context in again	K	KH	Y	Lectures	Written Viva		
OTM 3.3	Describe theories of aging	K	KH	Y	Lectures	Written Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 3.4	Identify specialized tools of OT assessment & treatment in geriatrics	K/S	KH/SH	Y	Lectures, Group Discussions	Written Viva.		
OTM 3.5	Discuss role of OT in fall prevention	K	KH	Y	Lectures	Written Viva		
Topic: Dermatology No of Competencies: 4								
OTM 4.1	Describe the condition leprosy and mode of transmission of this disease.	K	K	Y	Lectures	Written Viva		Medicine
OTM 4.2	Describe the clinical features & OT management in Leprosy	K	KH	Y	Lectures Seminar	Written Viva		Medicine
OTM 4.3	Explain Psychosocial implications in Leprosy.	K/A/C	KH/S/P	Y	Lectures	Written, Case study		
OTM 4.4	Explain CREST syndrome, SLE, affectations of the integumentary system	K	KH	Y	Lectures	Written Viva		Medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Immune disorders-HIV No of Competencies: 5								
OTM 5.1	Explain epidemiological history of HIV	K	K	NH	Lectures	Written Viva		Medicine
OTM 5.2	Identify symptoms with spectrum of HIV disease & its impact on occupational behaviour	K	K/S	Y	Lectures Seminar	Written Viva		
OTM 5.3	Describe appropriate OT goals, treatment plan & strategies for people with HIV infection & AIDS	K	KH	Y	Lectures	Written Viva		
OTM 5.4	Describe the physical, psychological & environmental needs of people with HIV infection & AIDS	K	KH	Y	Lectures	Written Viva		
OTM 5.5	Discuss palliative Care for HIV	K/A/C	KH/SH	Y	Lectures, Seminar	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Pulmonary conditions		**No of Competencies: 4**						
OTM 6.1	Define various pulmonary conditions	K	K	Y	Lectures	Written Viva		Medicine
OTM 6.2	Identify symptom in pulmonary conditions with respect to functional performance	K	KH	Y	Lectures	Written Viva		
OTM 6.3	Explain classification of patients on symptomatic basis. Disability rating (ICF)	K/S	KH	Y	Lectures Group Discussions	Written Case S		
OTM 6.4	Discuss & demonstrate occupational therapy management in pulmonary conditions.	K/S	KH/SH	Y	Lectures Practical Bed side Clinic, DOAP	Written Viva, Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Hematology: Hemophilia and Thalassemia			**No of Competencies: 6**					
OTM 7.1	Define &classify hemophilia and thalassemia	K	K	Y	Lectures	Written Viva		Medicine
OTM 7.2	Discuss Occupational therapy management in hemophilia and thalassemia	K	KH	Y	Lectures	Written Viva		
OTM 7.3	Discuss psychological and psychosocial implications in hemophilia and thalassemia	K	K	Y	Lectures	Written Viva		
OTM 7.4	Explain joint protection techniques & indications and contraindications for exercises	K/S	KH	Y	Lectures	Written, Viva		
OTM 7.5	Evaluate and Prescribe orthosis in hemophilia	K/S	S/SH/P	Y	Practical Laboratory , Demonstrate	Skill Assessment, Practical		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 7.6	Explain energy Conservation & life style modification, dietary measures, patient education in hemophilia	K/C	KH	Y	Practical , Lectures	Written, Skill Assessment		
Topic: Obesity No of Competencies: 6								
OTM 8.1	Understand historical Perspective in obesity	K	K	N	Lectures	Written Viva		Medicine
OTM 8.2	Define and classify obesity and prevalence Identify and perform Body Composition Assessment	K/S	K/SH	Y	Lectures	Written Viva/ Skill Assessment	Work physiology	
OTM 8.3	Explain health related correlates of obesity – Genetic & Physical Inactivity	K	KH	Y	Lectures	Written Viva		Medicine
OTM 8.4	Plan OT program using Preventive and corrective approaches, through work, activities and exercises	K/S	KH	Y	Lectures/ Seminar/ Case study	Written Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 8.5	Discuss principles of weight control (Life style modification, diet & activity modification, stress management.)	K/C	KH /S H	Y	Lectures, Seminar DOAP	Written Viva,		
OTM 8.6	Discuss Community education and preventive programs for obesity	K/C	KH /S H	Y	Lectures, DOAP Seminar	Written Viva,		
Topic: Infectious Diseases No of Competencies: 3								
OTM 9.1	Overview of clinical features, investigations and management: for common infections:	K	K	N	Lecture	written		
OTM 9.2	Describe OT Management and prevention of the infectious diseases like Dengue, Leptospirosis, Malaria, Rabies	K	KH	N	Lecture	Written		
OTM 9.3	Describe role of OT in Pandemic diseases like COVID 19	K	KH	N	Lecture	Written		

Recommended Books

1) Occupational Therapy – Willard & Spackman's
2) O.T. Practice Skills for Physical Dysfunction – Pedretti
3) O.T. in physical Dysfunction – Trombly& Scott
4) Therapeutic Exercise – Kisner
5) Therapeutic Exercise Basmajian
6) Rehab Medicine – Goodgold
7) Hand splitting – Fess, Gettle& Strickland.
8) Pulmonary rehabilitation, guidelines to success – Hodgkin T.E.
9) Physical rehabilitation, assessment, treatment – O'Sullivan

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NEUROLOGY AND PEADIATRICS

COURSE DESCRIPTION: This course introduces the student to the neurological & peadiatric conditions which commonly cause disability. Particular effort is made in this course to avoid burdening the student with any details pertaining to diagnosis which will not contribute to their understanding of the limitations imposed by neurological pathology on the functioning of the individual.

COURSE OBJECTIVES: This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also explores selective systemic diseases, focusing on epidemiology, aetiology, pathology, histology as well as primary & secondary clinical characteristics & their management. It discusses & integrates subsequent medical management of Neurological & Paediatric conditions to formulate appropriate intervention; indications, precautions & contraindications with respect to clinical presentation

GOAL: The broad goal of the teaching of undergraduate students in Neurology and Peadiatrics is to have the knowledge, skills and behavioural attributes to function effectively as a clinician.

OBJECTIVES:

G. KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Understand basics of Diagnostic process of common Neurology and Peadiatrics disorders related to the profession.
2. Outline various modes of management including medical management, drug therapeutics, side effects, toxicity, interactions, indications and contra-indications, basics of surgical management, and other interventions.
3. Basic understanding about the Process to propose diagnostic and investigative procedures.

4. Process to understand the basics about first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;
5. Recognize paediatric disorders and their management.

H. SKILLS:

At the end of the course, the student shall be able to:

1. Develop clinical skills (history taking, clinical examination and other instruments of examination of various common Neurology and Peadiatrics disorders and emergencies;
2. Refer a patient to secondary and/or tertiary level of health care after screening if needed;
3. Perform simple routine evaluations related to OT
4. Assist the common clinical assessment procedures related to Neurology and Peadiatrics conditions.

A course of systematic instruction in the principles and practice of Neurology and Peadiatrics;

1. Lecture - demonstrations, seminars and conferences in clinical subjects during the 3 years shall run concurrently with other clinical subjects.;
2. Basic Instructions in comprehensive Neurology and Peadiatrics care;
3. Basic Instructions in applied anatomy and physiology and pathology (related to OT) throughout the period of clinical studies;
4. Basics Instructions in dietetics, nutrition and principles of nursing for Neurology and Peadiatrics

I. ATTITUDE:

1. The teaching and training in clinical subjects like paediatrics and neurology must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes related to OT.
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

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COURSE CONTENT

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NEUROLOGY AND PEADIATRICS									
NEUROLOGY									
Topic: NEUROANATOMY			**No of Competencies:4**						
NP 1.1	Overview of the basic anatomy of the brain and spinal cord	K	K	Y	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	
NP 1.2	Understand Blood supply of the brain and spinal cord,	K	K	N	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	
NP 1.3	Explain anatomy of the visual pathway,	K	K	N	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 1.4	Understand connections of the cerebellum and extrapyramidal system,	k	K	Y	Small group Discussion, Lecture	Written		Applied Anatomy, Anatomy, OT In Neurology	General medicine
Topic: NEUROPHYSIOLOGY			**No of Competencies: 1**						
NP 2.1	Review in brief the Neurophysiologic basis of: tone and disorders of tone and posture, bladder control, muscle contractions and movement and pain. Functions of the lobes of the brain	K	K	Y	Small group Discussion, Lecture	Written		Applied Physiology, Physiology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Extra Pyramidal lesions		**No of Competencies: 1**							
NP 3.1	Describe the cause, clinical features, and management of Parkinson's disease, Athetosis, Chorea, Dystonia, Wilson's disease	K	K, KH	Y	Small group Discussion, Lecture	Written			
Topic Diseases of the muscle		**No of Competencies: 1**							
NP 4.1	Define, Classify & Explain the causes Clinical features investigation, management of Myopathy, (DMD, Becker's, fascio scapular)	K	K, KH	Y	Small group Discussion, Lecture	Written		OT in Neurology	
Topic Neuromuscular disorders		**No of Competencies: 1**							
NP 5.1	Define, Classify & Explain the causes Clinical features investigation, management of Myasthenia Gravis , Motor Neuron Diseases.	K	K	Y	Small group Discussion, Lecture	Written		OT In Neurology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic Diseases of the peripheral nerves No of Competencies: 2									
NP 6.1	Enumerate the types and sequelae of polyneuropathies	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General Medicine
NP 6.2	Explain prognosis and management of Polyneuropathies	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	
Topic Cerebellar disorders No of Competencies: 2									
NP 7.1	Define and classify Ataxia	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	
NP 7.2	Describe the Diagnosis, Prognosis and management of Ataxias	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic Disorders of cranial nerves No of Competencies: 2									
NP 8.1	Enumerate the clinical features and explain the causes of each cranial nerve affectation	K	K	Y	Demonstration Small group Discussion, Lecture	Written, Skill assessment		OT in Neurology	
NP 8.2	Explain the prognosis & management of each cranial nerve affectation	K	K		Small group Discussion, Lecture	Written			
Topic Degenerative Diseases No of Competencies: 2									
NP 9.1	Describe cause clinical features of various degenerative diseases, diagnosis and treatment	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 9.2	Describe the Diagnosis and management of degenerative diseases	K	KH		Small group Discussion, Lecture	Written		OT in Neurology	
Topic Infections of the nervous system No of Competencies: 1									
NP 10.1	Describe cause, clinical features, diagnosis and treatment of Encephalitis, Neurosyphilis, Herpes, Meningitis, Tetanus and involvement of Nervous system in H.I.V.	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General medicine
Topic Disorders of Spinal cord No of Competencies: 1									
NP 11.1	Describe cause, clinical features, diagnosis and treatment of Syringomyelia, Tabes Dorsalis, Caudaequina syndrome.	k	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Headache No of Competencies: 2									
NP 12.1	Enumerate Types of headache and describe its management,	K	K	N	Small group Discussion, Lecture	Written			General medicine
NP 12.2	Explain causes clinical features and management of Migraine	K	K	N	Small group Discussion, Lecture	Written			
Topic: Epilepsy No of Competencies: 3									
NP 13.1	Define and Classify epilepsy	K	K	Y	Small group Discussion, Lecture	Written			General Medicine
NP 13.2	Enumerate the complications of epilepsy	K	K	Y	Small group Discussion, Lecture	Written			General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 13.3	Describe management of epilepsy	K	K	N	Small group Discussion, Lecture	Written			General medicine
PEADIATRICS									
Topic Growth and development No of Competencies: 8									
NP 14.1	Overview for Normal intra-uterine development of foetus with special reference to Central Nervous System, Neuromuscular System, Cardiovascular Respiratory System Normal development & growth	k	K	N	Small group Discussion, Lecture	Written		OT in paediatric	General medicine
NP 14.2	Describe normal/abnormal growth and development of a child	K	K		Small group Discussion, Lecture	Written/ Viva voce		OT in paediatric	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 14.3	Understand Immunization and breast-feeding	K	K		Lecture	Written			General medicine
NP 14.4	Enumerate the pre- natal, peri natal and post-natal causes	K	K/KH		Small group Discussion, Lecture,	Written,		OT in paediatric	General medicine
NP 14.5	Classification of Cerebral Palsy. Describe the Clinical features of different types	K	K/KH		Small group Discussion, Lecture,			OT in paediatric	General medicine
NP 14.6	Describe Medical Management including early intervention in cerebral palsy	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	General medicine
NP 14.7	Enumerate the causes, clinical features, Classification and Management of Epilepsy	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	General medicine, Pharmacology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 14.8	Describe the causes clinical features, Classification and management of Mental Retardation.	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	
Topic Developmental disorders associated with spinal cord No of Competencies: 1									
NP 15.1	Enumerate various neural tube defects- and describe clinical features their management	K	K/KH		Small group Discussion, Lecture,	Written			General medicine
Topic: Common infection No of Competencies: 2									
NP 16.1	Enumerate & describe Infections of Central Nervous System & Peripheral Nervous System	K	K, KH		Small group Discussion, Lecture	Written		OT in Pediatrics, OT Neurology	General medicine, neurology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 16.2	Describe the clinical symptoms and Treatment of Typhoid, Rubella, Mumps, Measles, Diphtheria, Chicken gunia, Malaria, Leptospirosis	K	K		Small group Discussion, Lecture	Written		Pathology	General medicine
Topic: Common diseases of the Respiratory system No of Competencies: 3									
NP 17.1	Describe clinical features, investigations and management of Common diseases of the Respiratory system	K	K	N	Lecture	Written			General medicine
NP 17.2	Understand Respiratory distress in neonate	K	K	Y		Written			General medicine
NP 17.3	Understand Aspiration, GERD	K	K	N		Written		OT In Paediatrics	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic Rheumatology No of Competencies: 2									
NP 18.1	Describe clinical features, investigations and management of Juvenile R.A. Musculoskeletal system. Describe clinical features, complications	K	K	Y	Small group Discussion, Lecture	Written		OT in pediatrics	General medicine
NP 18.2.	Describe systemic lupus erythematosus	K	K	Y	Small group Discussion, Lecture	Written		OT In PAEDS	general medicine
Topic Nutritional disorders No of Competencies: 1									
NP 19.1	Define Malnutrition and enumerate the Symptoms of Vitamin deficiency conditions and the treatment for the same	k	K	N	Small group Discussion, Lecture	Written		Community medicine	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic	**Genetic & congenital disorders**	**No of Competencies: 2**							
NP 20.1	Explain the cause, clinical symptoms and treatment for Chromosomal disorders and genetically transmitted neuromuscular conditions and describe the clinical feature and management	K	K	Y	Small group Discussion, Lecture	Written		OT pediatrics	General medicine
NP 20.2	Enumerate the paediatric congenital heart diseases and its clinical symptoms Describe the Medical and Surgical management for the same	K	K		Small group Discussion, Lecture	Written		OT Paediatrics	General medicine, Cardiology

Recommended Books

1) Occupational Therapy – Willard & Spackman's
2) O.T. Practice Skills for Physical Dysfunction – Pedretti
3) O.T. in physical Dysfunction – Trombly& Scott
4) Therapeutic Exercise – Kisner
5) Therapeutic Exercise Basmajian
6) Rehab Medicine – Goodgold
7) Hand splitting – Fess, Gettle& Strickland.
8) Pulmonary rehabilitation, guidelines to success – Hodgkin T.E.
9) Physical rehabilitation, assessment, treatment – O'Sullivan

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WORK PHYSIOLOGY & ERGONOMICS

COUSE RDESCRIPTION: The student will demonstrate knowledge and ability of work physiology and its application and scope in Occupational Therapy. The course makes the student cognizant about evaluation and assessment of physical capacity and fitness, aerobic and anaerobic performance. The course offers know how of appropriate use of training equipment and protocols, test performance for work fitness, indications, contraindications for registering in exercise training and discharge programs. The student will demonstrate knowledge and ability of ergonomics and its application and scope in Occupational Therapy and Industry. The course offers opportunity to learn basics of ergonomics in industry, the prevention of cumulative trauma disorders and joint pathologies and other conditions as applicable. It covers aspects of mental ergonomics, management of anxiety and stress in industry and work place

OBJECTIVES

KNOWLEDGE

At the end of the course, the student shall be able to:

1) Identify and understand the physiology of the aerobic and anaerobic exercises, aerobic & anaerobic process & various test used.
2) Understand the concept of energy expenditure at work, rest and leisure
3) Recognize the role of various factors on physical performance
4) Provide training based on aerobic and anaerobic capacity.
5) Recognize physical health, capacity and longevity in aged.
6) Understand anthropometry, Environmental physiology, Occupational psychology and its role in ergonomics.

7) Understand use of ergonomic principles at office and industry
8) Define what work-related musculoskeletal disorders (WRMSDs) are and the importance of reducing these.
9) optimize the integration of man and machine so as to improve the production of work and accuracy

SKILL

Apply principles of Ergonomics and work physiology in OT. Demonstrate and assess work place layout

Scheme of Marks for University Practical exam in applied ergonomics 50 Marks

Work site analysis, work method, and Tools & Equipments used

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Competency Table: WORK PHYSIOLOGY & ERGONOMICS

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
WORK PHYSIOLOGY & ERGONOMICS								
Work Physiology								
Topic: Concepts of Physical Performance		**No of Competencies: 3**						
WP 1.1	Describe physiology of the aerobic and anaerobic exercises on various systems.	K	KH	Y	Lectures Seminars	Written	Physiology,	Medicine
WP 1.2	Describe the physiology of physical performance with respect to aerobic and anaerobic power, and explain the factors that affect physical performance.	K	KH	Y	Lectures Seminars	Written	Physiology,	Medicine
WP 1.3	Enumerate basic principles of strength and aerobic training, and its physiologic effects	K	K	Y	Lectures Seminars	Written	Physiology,	Medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Evaluation of Physical Performance and fitness test			**No of Competencies: 6**					
WP 2.1	Explain aerobic process related to Intensity and duration of exercise and recovery.	K	KH	Y	Lectures Seminars	Written	Physiology	
WP 2.2	Explain anaerobic process related to power and capacity for high energy phosphate level and glycogen breakdown	K	KH	Y	Lectures Seminars	Written	physiology	
WP 2.3	Explain the role of lactate production, distribution and disappearance	K	KH	Y	Lectures Seminars	Written	physiology	
WP 2.4	Describe various tests for Aerobic and Anaerobic capacity	K	KH	Y	Lectures Seminars	Written		OT Application in Medical Condition
WP 2.5	Explain the Protocols & Methods for: Parameters of evaluation. Measurement of oxygen uptake.	K/S	KH/SH	Y	Lectures Seminars	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
WP 2.6	Explain principles and methods of Physical Training.	K/S	KH/SH	Y	Lectures Seminars	Written Skill Assessment		
Topic: Physiological considerations and requirements of Physical Performance Capacity No of Competencies: 2								
WP	Understand the role of nutrition on	K	KH	Y	Lectures	Written		
3.1	Physical Performance				Seminars			
WP 3.2	Explain mechanism of Temperature Regulation and its effects Physical Performance	K	KH	Y	Lectures Seminars	Written	Physiology	
Topic: Factors affecting Physical Performance No of Competencies: 2								
WP 4.1	Describe the effects of various factors on physical performance	K	KH	Y	Lectures Seminars	Written		
WP 4.2	Describe effects of Acclimatization, effects of altitude, season, smoking, temperature, de conditioning on physical performance	K	KH	Y	Lectures Seminars	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Applied Work Physiology		**No of Competencies: 4**						
WP 5.1	Describe training principles and physiologic consequence on aerobic and anaerobic system	K	KH	Y	Lectures,	Written		
WP 5.2	List the factors that affect the aerobic training response	K	K	Y	Lectures	Written/ Viva		
WP 5.3	understand the concept of energy expenditure at work, rest and leisure	K	KH/SH	Y	Lectures, Group Discussions	Written, Viva		Ergonomics
WP 5.4	Apply the WP principles to Cardio-Pulmonary Rehabilitation	S	SH/P	Y	DOAP	Skill assessment, Viva, OSPE		Medicine
Topic Physical Activity – Health and Aging		**No of Competencies: 3**						
WP 6. 1	Explain Physical Activity Epidemiology	K	K	N	Lectures	Written		OT Application in Medical Conditions
WP 6. 2	Describe Aging Process and Physiologic function	K	K	Y	Lectures Seminars	Written		OT Application
WP 6. 3	Discuss Physical Activity Health and Longevity	K	KH	Y	Lectures	Written		
Ergonomics								

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Introduction to Ergonomics No of Competencies: 2								
ERG 1.1	Define Ergonomics & give an overview of Historical Background	K	K	Y	Lectures	Written, viva		
ERG 1.2	Enumerate & explain the areas and branches of Ergonomics	K	K	Y	Lectures	Written, viva		
Topic: Client Centre Framework for therapist in Ergonomics No of Competencies: 4								
ERG 2.1	Discuss theoretical Framework	K	KH	Y	Lectures	Written, viva		
ERG 2.2	Discuss ergonomic approaches	K	KH	Y	Lectures	Written, viva		
ERG 2.3	Explain the role of client centered Practice and ethics	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 2.4	Describe application of various models to Ergonomic practice	K	KH	Y	Lectures, Small Group Discussions	Written, viva	OTDP I	
Topic: Branches of Ergonomics No of Competencies: 15								
Branches of Ergonomics Anthropometry-								

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 3.1	Enumerate & explain facets- static and dynamic anthropometry.	K	K	Y	Lectures	Written, viva		
ERG 3.2	Explain Measurements, concepts of 5th, 50th and 95th percentile	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.3	Enumerate & explain the factors affecting the anthropometric data	K	K	Y	Lectures, Small Group Discussions	Written, viva	OTDP I	
Biomechanics-								
ERG 3.4	Overview of Biomechanics and its principals	K	K	N	Lectures	Written	Anatomy	
ERG 3.5	Applythe Biomechanical principles to improve production of work	K	SH	Y	Lectures	Written	OTDP I	
ERG 3.6	Applybiomechanical principles in OT	K S	SH	N	Lectures, Demonstration	Written	OTDP I	
Environmental Physiology								
ERG 3.7	Define & classify the types of environments.	K	K	Y	Lectures, Small Group	Written, viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
					Discussions			
ERG 3.8	Outline the effects of environmental factors such as temperature, humidity noise, vibration, visual environmental pollution on human body.	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.9	Explain the safety factors, accidents and their prevention	K	K	Y	Lectures, Small Group Discussions	Written, viva		
Skill psychology -								
ERG 3.10	Explain skill learning with emphasis on Phases of skill learning Characteristics of well learnt task.	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.11	Describe Input verses out and functioning of man- machine system	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.12	Describe Information processing theory and the process.	K	KH	Y	Lectures, Small Group Discussions	Written, viva	psychology	
ERG 3.13	Enumerate the Factors affecting man machine system i) Design Factor	K	K	Y	Lectures, Small Group Discussions	Written, viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	ii) Environmental Factors iii) Organizational factors							
Work Physiology-								
ERG 3.14	Overview of work Physiology principles	K	K	N	Lectures	Written	Physiology	
ERG 3.15	Application of principles of work physiology in Occupational Therapy.	K	K	Y	Lectures, Small Group Discussions	Written, viva	Workphysiology	
Topic: Ergonomic considerations at Work		**No of Competencies: 4**						
ERG 4.1	Explain layout of equipment design of seating.	K	K	Y	Lectures,	Written, viva		
ERG 4.2	Explain the design of work space	K	K	Y	Lectures, Demonstration	Written, viva		
ERG 4.3	Explain role of human compatibility and use of displays and controls in industrial set up	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 4.4	Analyze work place	K/S	K	Y	Lectures, Small Group Discussions	Written, viva		
Topic: Psychosocial Factors		**No of Competencies: 2**						
ERG 5.1	Define psychosocial factors	K	K	Y	Lectures,	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 5.2	Theories explaining relationship between psychosocial factors and work-related musculoskeletal disorders	K	KH	Y	Lectures,	Written		
Topic Cognitive Workload & Organization of Mental Space No of Competencies: 2								
ERG 6. 1	Explain the concept of cognitive workload, its advantages and organization of mental space.	K	KH	Y	Lectures,	Written		
ERG 6. 2	Understand the effects of cognitive overload	K	K	Y	Lectures, Small Group Discussions	Written		
Topic: Time and Motion Study in Ergonomics No of Competencies: 3								
ERG 7.1	Define and underline the assumptions of Time and Motion study.	K	KH	Y	Lectures,	Written		
ERG 7.2	Explain the cycle of managerial control and its application	K	KH	Y	Lectures,	Written		
ERG 7.3	Explain Scientific method of time and motion study	K	KH	Y	Lectures,	Written		
Topic: Application of Ergonomics in School Industry, Hospital and Office No of Competencies: 2								
ERG 8. 1	Discuss the Scope of ergonomics in modern society.	K	KH	Y	Lectures,	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.2	Apply the Ergonomic principles in Occupational Therapy Practice related to: i) Lifting analysis ii) Seating analysis Computer and assistive technology	K/S	KH/SH	Y	Lectures, Demonstration,	Written, Skill assessment		
ERG 8.3	Use biomechanical principles when analyzing a lift.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance – Performance)	Case Analysis; Practical Exam; Direct Observation of Procedural Skills (DOPS)		
ERG 8.4	Critically analyze three lifting techniques.	K, S	KH/SH					
ERG 8.5	Develop an abatement protocol to prevent commonly encountered lift-related injuries.	K, S	KH/SH					

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.6	Appreciate between the body's need for dynamic movement and the need for support while seated.	K, S	KH					
ERG 8.7	Apply basic ergonomic and biomechanical principles and job or task analysis to make appropriate chair recommendations.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		
ERG 8.8	Identify different risk factors in using a video display terminal (VDT).	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.9	Apply ergonomic principles and recommendations to enhance workstation design for reducing the risks associated with prolonged use.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		
Topic: Ergonomics in Play, leisure and educational setting competencies:2								
ERG 9.1	Develop basic ergonomics tools for analysis of learning environments and carrying schoolbags.	K, S	KH/SH	Y	Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 9.2	Identify risk factors for quilting, sports, and gardening and apply the same concepts to other leisure activities. Identify strategies to improve effort and efficiency in leisure tasks using ergonomic principles.	K,S	KH/SH					
Topic: Ergonomics for the Home competencies: 3								
ERG 10.1	Explain the need for assessing the home from ergonomic perspective	K						
ERG 10.2	Analyze the kitchen space for efficient performance of the homemaker. • Kitchen Platform & sink • Placement of kitchen equipment • Storage and cabinets • Utensils	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Case Analysis; Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 10.3	Analyze the bathroom for optimal use of the space	K, S	KH/SH					

Recommended Books

1. Ergonomics for Therapists, 3e Hardcover – by Karen Jacobs, Mosby
2. Mural KF: Ergonomics – Man in his working environment
3. Mundel: Time and motion study
4. Astrand PA, Rodahe K: Textbook of Work Physiology
5. Fitts PM & Posner MI: Human Performance
6. McArdle: Exercise Physiology

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SURGERY & ORTHOPAEDICS

COURSE DESCRIPTION: This course intends to familiarize students with principles of orthopaedic surgery along with terminology and abbreviations used in Orthopaedics for efficient and effective clinical understanding and documentation. It also explores various orthopaedic conditions focusing on epidemiology, pathology, primary and secondary clinical characteristics, conservative and surgical management.

This course intends to familiarize students with principles of General surgery, specialty surgeries like cardiovascular, thoracic, neurosurgery and plastic surgery. It familiarizes the students with appropriate terminology and abbreviations for efficient and effective chart reviewing and documentation. It explores various conditions needing attention to pathology, and their surgical and medical management. The course highlights awareness of various general and specialty surgeries for effective and safe decision making in therapeutic

OBJECTIVES:

KNOWLEDGE:

1. At the end of the course, the student shall be able to:
2. Understand the process of fracture healing along with the complications of fractures and management of fracture, dislocation, congenital and acquired deformities of UE, LE, spine.
3. Classify clinical symptoms of degenerative and inflammatory conditions of joints, and metabolic disorders with special emphasis management of it.
4. Understand the aetiology of work-related musculoskeletal injuries and tumour of musculoskeletal system
5. Understand concepts of biomechanics in overuse injuries in sports.

6. Understand aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in adult and children.
7. Understand aetiology, pathophysiology, principles of diagnosis and management of cardiac and neuro surgery conditions
8. Define indications and methods for fluid and electrolytes replacement therapy including blood transfusion.
9. Describe common malignancies in the country and their management including prevention.
10. Describe the basic pathophysiology of common Ear, Nose & Throat (ENT) diseases
11. Identify common gynecological diseases and management.

SKILL Develop clinical skills (history taking, clinical examination and other instruments of examination of various common surgical disorders and emergencies

1. Refer a patient to secondary and/or tertiary level of health care after screening if needed;
2. Perform simple routine evaluations related to OT
3. Assist the common clinical assessment procedures related to surgical conditions.

ATTITUDE:

1. The teaching orthopaedics must aim at developing the attitude in students to apply the knowledge he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

4. The teaching and training in clinical subjects like paediatrics and neurology must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
5. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes related to OT.
6. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

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Competency Table: SURGERY & ORTHOPAEDICS

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SURGERY & ORTHOPAEDICS								
SURGERY								
Topic	**General Surgery**		**No of Competencies: 11**					
SO 1.1	Describe classification of wound, stages of healing and their treatment.	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.2	Describe importance of water-electrolyte balance in shock and hemorrhage and describe classification of shock in brief	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.3	Describe acute and chronic infections of wound, ulcers, cysts and abscesses, their clinical features and complications with brief knowledge of their management.	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 1.4	Describe in brief various surgeries of head and neck, their indications and complications	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.5	Explain indications for various surgeries of alimentary system and their postoperative management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written		
SO 1.6	Explain causes of burns, various classification, their medical and surgical management with role of burns rehabilitation team	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		OT in surgical conditions
SO 1.7	Describe indications and causes of amputation, criteria for selection of site of amputation and pre and postoperative management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Orthopaedics	OT in surgical conditions
SO 1.8	Explain in brief classification of tumours, clinical features and their pre and post-operative management.	K	KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 1.9	Etiology and management of surgical incontinence and prolapse rectum	K	KH	Y	Lecture, Small group discussion	Written		
SO 1.10	Hernia-definition, causes, types and management	K	KH	N	Lecture, Small group discussion	Written		
SO 1.11	Describe postoperative complications of abdominal surgery	K	KH	Y	Lecture, Small group discussion	Written		
Topic: Plastic Surgery No of Competencies: 5								
SO 2.1	Describe various Hand injuries, their surgical and post- operative management with complications (including tendon injuries and nerve injuries, tendon transfers)	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.2	Explain various skin grafts and flaps, their classification, criteria for selection and postoperative management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OTin surgical conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 2.3	Explain in brief various indications for cosmetic surgery, keloid and hypertrophic scar, their preoperative surgical and postoperative management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.4	Describe in brief new techniques in microvascular surgeries, their advantages and management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.5	Explain pressure sores management	K/S	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
Topic: Neurosurgery			**No of Competencies: 7**					
SO 3.1	Describe common congenital and childhood disorders such as hydrocephalus, spina bifida, their clinical features, complications and their surgical management with postoperative care.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Clinical Paediatrics medicine and paediatric surgery	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 3.2	Describe first aid management of spinal cord injury and its importance and implications	K	KH	Y	Lecture, Small group discussion	Written	Orthopaedics	
SO 3.3	Classify and describe signs and symptoms of spinal and intra-cranial tumors	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Orthopaedics	
SO 3.4	Explain Head injury, causes and mechanism of injury, subdural, epidural and intracranial bleeding, pharmacology of drugs used, management in acute stage, types of neurological disorders following Head injury	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Pharmacology	
SO 3.5	Describe Neurogenic bladder and its classification and management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written		
SO 3.6	Explain clinical features and management of Meningocele, Meningomyelocele, Spinal tumors	K	KH	Y	Lecture, Small group discussion	Written	Clinical Paediatric surgery	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 3.7	Describe Surgical management of brain disease and CVA	K	KH	Y	Lecture, Small group discussion,	Written		OT in neurological conditions
Topic:	**Cardiovascular and Thoracic Surgery**			**No of Competencies: 2**				
SO 4.1	Describe brief pathology, clinical features, indications, various operative procedures of surgery of cardiac and respiratory conditions	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written	Cardiovascular surgery	
SO 4.2	Explain pre- and post-surgical management such as Congenital cardiac problems, Coronary artery disease, Peripheral vascular disease	K	KH	Y	Lecture, Small group discussion	Written	Paediatrics	
Topic: ENT			**No of Competencies: 7**					
SO 5.1	Describe problems of ear, nose throat and their management in brief U.R.T infections	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written	Clinical ENT	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 5.2	Enumerate the indications for and Tracheostomy procedure	K	KH	N	Lecture, Small group discussion,	Written/ Viva voce		
SO 5.3	Describe the etiopathogenesis, clinical features and principles of management of Vertigo	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.4	Describe the etiopathogenesis, clinical features and principles of management of Dysphagia,	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.5	Describe the etiopathogenesis, clinical features and principles of management of Otitis media, vestibular disorders.	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.6	Describe the etiopathogenesis, clinical features and principles of management of Otosclerosis,	K	KH	N	Lecture, Small group discussion, Bedside clinics	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 5.7	Describe the etiopathogenesis, clinical features and principles of management of Functional Achonia and Deafness	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
Topic: Ophthalmology No of Competencies: 7								
SO 6.1	Describe and discuss common ophthalmological condition in brief and their management (diseases of conjunctiva, cataract)	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written	Clinical ophthalmology	
SO 6.2	Describe the etiopathogenesis, clinical features and principles of management of Optic nerve tumor	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 6.3	Describe the etiopathogenesis, clinical features and principles of management of Keratoplasty	K	KH	N	Lecture, Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 6.4	Explain the Principles of eye donation. Enumerate Indications, describe surgical principles, management of eye donation	K	KH	N	Lecture, Small group discussion,	Written		
SO 6.5	Describe the etiopathogenesis, clinical features and principles of management of Diabetic retinopathy	K	KH	Y	Lecture, Small group discussion,	Written		
SO 6.6	Describe the etiopathogenesis, clinical features and principles of management of Glaucoma, Corneal ulcer, iritis,retinitis, detachment of retina, ptosis & Defects of extraoccular muscles	K	KH	N	Lecture, Small group discussion, DOAP, Bedside clinics	Written/ Viva voce		
SO 6.7	Explain and demonstrate the Visual acuity, visual field and refraction testing	K/S	KH/SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Obstetrical and Gynaecology No of Competencies: 9								
SO 7.1	Describe common obstetrical and gyneacological conditions and their management in brief.	K	KH	Y	Lecture, Small group discussion	Written	Clinical Gynaecology and obstetrics	
SO 7.2	Describe the Physiology of menstruation and its disorders	K	KH	N	Lecture, Small group discussion	Written	Physiology	
SO 7.3	Enumerate and describe Hormonal disorders in females,	K	KH	N	Lecture, Small group discussion	Written	Endocrinology	
SO 7.4	Describe Cancer of reproductive organs and management	K	KH	Y	Lecture, Small group discussion	Written	Oncology	
SO 7.5	Describe brief pathology, clinical features, indications, and principles of management of various Infections and STDs in females	K	KH	N	Lecture, Small group discussion	Written	Community medicine	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 7.6	Describe the maternal physiology in pregnancy, Musculoskeletal disorders during pregnancy	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.7	Explain common obstetrical and gynaecological surgeries including postoperative care, prenatal complications investigations and management	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.8	Explain lactation management. Describe Methods of birth control- merits/demerits.	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.9	Describe complications of multiple childbirths	K	KH	N	Lecture, Small group discussion	Written	Pediatrics	
Topic: Surgical Oncology No of Competencies: 4								
SO 8.1	Describe Palliative and reconstructive surgeries in head and neck cancer,	K/A/S	K/KH	Y	Lecture, Group discussion	Written/ Viva voce		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 8.2	Enumerate Surgical indications for procedures like FND, and describe excision and flap reconstruction- postoperative management and complications	K	KH	Y	Lecture, Small group discussion, DOAP, Bedside clinics	Written/ Viva voce		
SO 8.3	Enumerate indications for Radical mastectomy and describe procedure, postoperative management and complications	K	KH	Y	Lecture, Small group discussion	Written		OT in surgery
SO 8.4	Describe surgical management of Cancer of GI tract	K	KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ORTHOPAEDICS								
Topic	**Fractures or injury to the bone**	**No of Competencies: 06**						
SO 9.1	Define and classify fractures	K	k	Y	Lecture	Written		
SO 9.2	Enumerate the causes, clinical features &healing of fractures & its complications.	k	K/KH	Y	Lecture	Written		
SO 9.3	Describe general principles of management of Fractures of the Upper Extremity,	k	KH	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 9.4	Describe general principles of management of Fractures of the Lower Extremity and pelvis,	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 9.5	Describe general principles of management of fractures of vertebral column	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 9.6	Explain the terms trauma care & First Aid	K	KH	Y	Lecture	Written		
Topic Dislocations & Subluxations No of Competencies: 02								
SO 10.1	Explain clinical features and causes of traumatic dislocation and subluxation of Shoulder, Elbow, Hip and Knee Joint.	K	KH	Y	Lecture	Written		
SO 10.2	Explain principles of management of traumatic dislocation and subluxation of shoulder, elbow, Hip and Knee Joint	K	KH	Y	Lecture	Written		
Topic Soft Tissue and Traumatic Injuries No of Competencies: 03								
SO 11.1	Describe different types and grades of soft tissue injures	K	KH	Y	Lecture	Written	Clinical plastic surgery	

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Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 11.2	Describe the pathology, clinical manifestations of injuries of joints & soft tissues (Ligaments, bursae, fascia, muscles and tendons) of upper and lower extremities & spine.	K	KH	Y	Lecture	Written		
SO 11.3	Describe the management of injuries of joints & soft tissues (Ligaments, bursae, fascia, muscles and tendons) of upper and lower extremities & spine.	K	KH	Y	Lecture	Written		
Topic Deformities and Anomalies No of Competencies: 05								
SO 12.1	Define and classify congenital and acquired deformities	K	K	Y	Lecture	Written	Clinical paediatrics	
SO 12.2	Describe clinical & radiological features of various deformities of spine and extremities,	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 12.3	Describe medical and surgical management with postoperative care for deformities of spine and extremities	K	KH	Y	Lecture	Written		
SO 12.4	Describe different types of congenital anomalies	K	K	Y	Lecture	Written		
SO 12.5	Describe conservative and surgical management for congenital anomalies.	K	KH	Y	Lecture	Written	OT Orthopaedic conditions	
Topic Degenerative and Inflammatory Conditions			**No of Competencies: 02**					
SO 13.1	Describe pathology & clinical manifestations of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	Pathology	
SO 13.2	Describe management of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic	**Metabolic Disorders No of Competencies: 02**							
SO 14.1	Describe clinical features & management of Osteoporosis. Osteomalacia & Rickets	K	K	Y	Lecture	Written		Medicine
SO 14.2	Describe management of Osteoporosis Osteomalacia & Rickets	K	K	Y	Lecture	Written	Clinical Endocrinology	
Topic	**General Orthopaedic Disorders No of Competencies: 07**							
SO 15.1	Explain the etiology & clinical features of Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written	Clinical Plastic surgery	
SO 15.2	Explain the etiology & clinical features of Avascular necrosis of bone in adult and children,	K	K	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 15.3	Explain the etiology & clinical features Backache / Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written		
SO 15.4	Explain the etiology & clinical features Work related musculoskeletal disorders.	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 15.5	Describe management for Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written		
SO 15.6	Describe management for Backache /Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 15.7	Describe management for Work related musculoskeletal disorders	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	

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Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic	**Tumours of The Musculoskeletal System**		**No of Competencies: 02**					
SO 16.1	Define & Classify types of tumours of The Musculoskeletal System	K	K	Y	Lecture	Written		
SO 16.2	Describe general principles of management of tumours of musculoskeletal system.	K	K	Y	Lecture	Written		
Topic	**Sports Injuries**		**No Of Competencies: 02**					
SO 17.1	Enumerate upper & lower extremities sports injuries	K	K	Y	Lecture	Written		
SO 17.2	Explain Management of Ligament and Meniscal injuries of in sports	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Recommended Books

1. Short practice of surgery-- Bailey and Love.
2. Textbook of Surgery – Das.
3. Undergraduate surgery - AK Nan.
4. Outline of Fractures –Adams.
5. Outline of Orthopaedics. --Adams.
6. Apley's systems of orthopaedics and fractures by Louis Solomon, 9th edition.
7. Orthopaedics by Dr. Maheshwari

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PSYCHIATRY

COURSE DESCRIPTION: At the end of the course student will attained knowledge regarding the scientific principles underlying modern psychiatry theory and practice, skills in order to apply this knowledge to clinical situations and attitudes necessary to identify and respond appropriately to psychological distress and disorder, not only in psychiatric settings but also throughout all areas of medicine.

COURSE OBJECTIVES:

A. KNOWLEDGE

1. List the general causes and preventive measure in psychiatric disorders
2. Classify various psychiatric conditions and understand the general treatment protocols
3. Gain the knowledge regarding the clinical features, causes, ant management of various psychiatric conditions
4. Appreciate legal aspects of psychiatric illness and psychiatric management.

B. SKILL

1. Conduct a full psychiatric history and carry out a mental state examination, including cognitive assessment.
2. Explain how different biological, psychological and social factors may combine to precipitate psychiatric disorder.
3. Explain to patients and their relatives the nature of their condition, its management
4. Use an interviewing style that is empathic and adaptable to specific situations.

C. ATTITUDE

1. Respond empathically to mental illness and psychological distress in all medical and broader settings.
2. Understand that psychiatric illness creates problems with stigma, how this affects patients and their families.
3. Treat patients and their care givers with professionalism and confidentiality.

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Competency Table: Psychiatry

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
PSYCHIATRY								
Topic Introduction to clinical psychiatry No of Competencies: 1								
PS 1.1	Give brief outline of psychiatry History taking including mental status examination and assessment	K/S/C	KH /SH/P	Y	Lecture, Case study, Demonstration	Practica l Viva		
Topic: Causes of mental disturbances No of Competencies: 2								
PS 2.1	Enumerate the causes of mental illness.	K	K	Y	Lecture	Written		
PS 2.2	Explain the various factors related to mental illness	K	KH	Y	Lecture	Written, Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Preventive Measures	**No of Competencies: 1**							
PS 3.1	Explain in relation to consanguineous marriages, adequate ante-natal care, obstetric care, mother and child services, psychological services (e.g., child guidance, counselling services)	K/S	KH/SH	Y	DOAP, Lecture	DOP, Skill Assessment		
Topic:	**Symptoms of mental illness**		**No of Competencies: 1**					
PS 4.1	Describe disturbances of consciousness, reasoning and judgment, memory, thought and perception, volition, motor behavior, speech, affect	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Methods of treatment		**No of Competencies: 3**						
PS 5.1	Enumerate and explain methods of treatment in mental disorders Individual and group psychotherapy Physical Methods: ECT and related side effects, Psychosurgery, Cognitive Behaviour Therapy	K	KH	Y	Lectures	Written		
PS 5.2	Describe Psychopharmacology and related side effects	K	K	Y	Lectures	Written	Pharmacology	
PS 5.3	Understand Other policies related to PWD-Right to education, right to health.	K	K	N	Lectures	Written	Community Medicine	
Topic: Criteria for classification and definition of psychiatric illness.		**No of Competencies: 1**						
PS 6.1	Understand DSM-V- (Text Revision, 2000) & the International Classification of Diseases (ICD)	K	K	N	Lectures Case study, Clinical presentation	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Psychiatric Conditions No of Competencies: 19								
	Schizophrenic and other Psychotic disorders							
PS 7.1	Define Schizophrenia & enumerate its types,	K	K	Y	Lectures	Written		
PS 7.2	Explain onset, clinical Features, course, treatment and prognosis in schizophrenia	K	KH	Y	Lectures, Seminars	Written, Viva,		
	Mood disorder							
PS 7.3	Define Mood Disorder & Explain the terms Maniac episode, Major depressive episode, Mixed episode. Hypomaniac episode	K	K	Y	Lectures	Written, Viva		
PS 7.4	Explain Onset, etiology, clinical features, course, treatment and prognosis of Mood disorder	K	KH	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Organic brain disorders							
PS 7.5	Explain the terms Delirium, Dementia, Amnestic syndromes, Organic personality disorder	K	K	Y	Lectures	Written		
PS 7.6	Describe clinical features, treatment & prognosis of organic brain disorders	K	KH	Y	Lectures	Written		
	Anxiety disorders							
PS 7.7	Explain the terms Panic attacks, phobia, Obsessive Compulsive Disorder, Panic disorder, Post traumatic stress disorder, Acute stress disorder and generalized anxiety disorder.	K	K	Y	Lectures	Written		
PS 7.8	Describe clinical features, treatment & prognosis of various anxiety disorders	K	KH	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Personality disorder							
PS 7.9	Classify personality disorders	K	K	Y	Lectures	Written		
PS 7.10	Describe the diagnostic criterion and prognosis.	K	KH	Y	Lectures	Written		
	Somatoform disorders							
PS 7.11	Explain Somatoform disorder, Conversion disorder, Pain disorder, Hypochondriasis, Body dysmorphic disorder.	K	K	Y	Lectures	Written		
	Psychiatric disorders of childhood and adolescence							
PS 7.12	Define and enumerate the clinical features of Attention Deficit, Hyperactivity Disorder, Mental Retardation. Conduct disorder Pervasive developmental disorder, Enuresis, Communication disorder, Learning disorder and Motor skill disorder.	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
PS 7.13	Describe Medical and Psychological treatment for the childhood disorders	K	KH	Y	Lectures	Written		
	Substance related disorder							
PS 7.14	Describe clinical manifestations in substance abuse	K	KH	Y	Lectures	Written		
PS 7.15	Describe Impact on function with respect to medical management in substances abuse	K/S	KH	Y	Lectures	Written Skill Assessment		
	Eating disorder							
PS 7.16	Describe Diagnostic criterion, impact on function with respect to medical management of Anorexia Nervosa Bulimia Nervosa	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Cognitive disorder							
PS 7.17	Explain the terms Dementia, Alzheimer's, Pick's disease, Amnestic disorder.	K	K	Y	Lectures	Written		
PS 7.18	Describe management of Cognitive disorders.	K	KH	Y	Lectures	Written		
PS 7.19	Explain impact of each disorder on function	K/S	KH	Y	Lectures	Written, Viva		
Topic: Legal aspects related to psychiatric patients			**No of Competencies: 1**					
PS 8.1	Understand Civil responsibility. Criminal responsibility. Testamentary capacity	K	K	Y	Lectures	Written Seminar Group Discussion		

Reference Books:

1) Ahuja N.– A Short Textbook of Psychiatry (latest edn.) Jaypee Brothers, Medical Publishers.
2) Shah L.P.: Handbook of Psychiatry.
3) Gandhi & Gandhi – Short Text book of Psychiatry.
4) Synopsis of psychiatry- Kaplan.
5) Diagnostic criterion - DSM

OCCUPATIONAL THERAPY IN SURGICAL CONDITIONS

COURSE DESCRIPTION: This course intends to familiarize students with principles of rehabilitation in clients with burns, amputation, cancer, traumatic hand injuries and peripheral vascular disease. Familiarizes the students with terminology and abbreviations for efficient and effective chart review and documentation. It explores various conditions needing attention, focusing on pathology, as well as primary and secondary clinical character.

GOAL: The broad goal to teach the undergraduate students OT Application in Surgical Conditions is to have the knowledge, skills and behavioural attributes to function effectively as a occupational therapist and use purposeful activities to promote health and well-being and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES

A. KNOWLEDGE

1. Demonstrate knowledge and understanding of common surgical problems in amputation, burns, PVD, hand injuries and cancer.
2. Acquire knowledge of functional limitations in blind deaf and dump.
3. Understand various surgical treatments and become familiar with various surgical procedures
4. To become familiar with various occupational therapy protocols for surgical conditions and know their expected outcomes
5. To provide treatment of occupational performance in the areas of independent living/daily living skills, pre-vocational/work adjustment skills, play/leisure skills, and social skills.

B. SKILL

1. Evaluate and assess patients with surgical Conditions
2. Understand and possibly perform various basic procedures, such as edema assessment, need for splinting and compression garment.
3. Develop specific motor skills utilized in surgical conditions for applying various protocols and planning need for orthosis, compression garments and prosthesis
4. Evaluate environmental barriers to facilitate environmental support.

C. ATTITUDE

1. Acquire a caring and sympathetic attitude appropriate for dealing with patients with surgical conditions
2. Realize the scope of responsibility you assume as an occupational therapist and to that of the family
3. Demonstrate an openness to receive constructive criticism
4. To develop, restore, or improve required skills, habits, and roles for independent, meaningful, and productive living
5. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

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Scheme of examination for University Practical exam 100 Marks

Long Case & viva voce	Short case (Assessment/ / Intervention Approaches) & viva voce	Presentation & Communication skills	Total
50marks	30 marks	20 marks	100 marks

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Cmpetency Table: Occupational Therapy In Surgical Condition

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN SURGICAL CONDITION								
Topic: Burns and Burns Rehabilitation No of Competencies: 6								
OTS 1.1	Explain Epidemiology of Burn Injuries	K	K	Y	Lecture	written	Anatomy	General Surgery,
OTS 1.2	Enumerate Classification & Types of Burn Injury	K	K	Y	Lecture, Bed side clinic, small group discussion	Written /viva voice	Anatomy	General Surgery
OTS 1.3	Describe clinical features, extent of burns, & Phases of burn wound healing	K/S	K/ SH	Y	Lecture	Written /viva voice	Anatomy	General Surgery
OTS 1.4	Discuss Associated problems and complications of burns injury	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		General Surgery/ plastic surgery
OTS 1.5	Discuss goalsof burns Rehabilitation	K/S/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 1.6	Explain OT intervention in each phase of recovery	K/S/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
Topic: Amputation & Prosthetics No of Competencies: 9								
OTS 2.1	Define & explain Causes of amputation	K	K	Y	Lecture	Written /viva voice		Orthopedics,
OTS 2.2	Explain Surgical management and levels of amputation	K	K	Y	Lecture	Written /viva voice		Orthopedics, general surgery
OTS 2.3	Evaluate ideal Stump and its complications	K/S	K/SH	Y	Lecture, Small group discussion, DOAP	Written /viva voice		Orthopedics, general surgery
OTS 2.4	Demonstrate Stump bandaging and conditioning	K/S/C	K/SH	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.5	Discuss Pre & post-prosthetic Training and rehabilitation	K/S/A/C	K/SH/P	Y	Lecture, DOAP	Written /viva voice		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 2.6	Demonstrate gait training with pylon and prosthesis, Mirror therapy	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.7	Explain check out of prosthesis, Donning and doffing of prosthesis	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.8	Identify factors that interfere with prosthetic fitting	K/S/C	K	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.9	Discuss Psychological implication of amputation. Evaluate for Wheelchair prescription for amputee	K/S/C	K/P	Y	Lecture, Small group discussion	Written /viva voice		
Topic:	**Tendon Injuries**	**No of Competencies: 6**						
OTS 3.1	Enumerate Tendon injuries in upper limb	K	K	Y	Lecture, Small group Discussion	Written. Viva	Anatomy	Plastic Surgery
OTS 3.2	Explain etiology of Flexor and extensor tendon injuries	K	KH	Y	Class room, small group Discussion	Written. Viva	Anatomy	Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 3.3	Identify Zones of tendon injury	S	SH	Y	Demonstrate. Practical, Small group Discussion,	Viva, Skill Assessment		Plastic Surgery
OTS 3.4	Evaluate & demonstrate hand function, edema, sensations	S	SH	Y	Demonstrate. Practical, Small group Discussion, DOAP	Written. Viva, Skill Assessment	-	-
OTS 3.5	Describe Protocols for tendon injury intervention	K	KH	Y	Lecture, Small group Discussion	Written, Viva	-	Plastic Surgery
OTS 3.6	Discuss Training for functional, vocational & leisure activities	K	KH/SH	Y	Lecture, Small group Discussion	Written, Viva	-	-
Topic: Traumatic Disorders of upper extremity No of Competencies: 9								
OTS 4.1	Enumerate the Causes and classify traumatic disorders of UE	K	K	Y	Lecture, Small group Discussion,	Written, Viva		General Surgery, Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 4.2	List the clinical implications in traumatic injuries	K	K	Y	Lecture, Small group Discussion	Written. Viva		General Surgery, Plastic Surgery
OTS 4.3	Explain Mutilating injuries & Revascularization of the hand	K	KH	N	Lecture, Small group Discussion	Written. Viva		General Surgery, Plastic Surgery
OTS 4.4	Evaluate & demonstrate hand function, edema, sensation, functional assessments	K/S	KH/SH	Y	Demonstrate. Practical, Bed Side clinic, small group Discussion, DOAP	Written. Viva, Skill Assessment, OSCE		General Surgery
OTS 4.5	Explain Pre & post-operative management in O.T. & splinting	K	KH	Y	Lecture, Small group Discussion	Written. Viva		
OTS 4.6	Describe & assess Compartment syndrome of the Upper limb and explain OT management	K/S	KH/SH	Y	Demonstrate. Practical, Lecture, Small group Discussion, DOAP	Written. Viva, Skill Assessment, OSCE, DOP		Orthopedics
OTS 4.7	Describe Digital Replantation surgery and OT management	K	KH	Y	Lecture, Small group Discussion	Written. Viva		Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 4.8	Enumerate Causes of stiff hand and explain its management	K/S	KH	Y	Lecture, Small group Discussion	Written. Viva		Plastic Surgery
OTS 4.9	Discuss Training for functional, vocational & leisure activities	K/S	KH/SH	Y	Lecture, Small group Discussion, Practical	Written. Viva Skill Assessment DOP		-
Topic: Brachial plexus & Peripheral nerve injuries No of Competencies: 7								
OTS 5.1	Describe Anatomy & pathomechanics of BPI	K	K	N	Lecture, Small group Discussion	Written . Viva	Anatomy	
OTS 5.2	Enumerate Classification of nerve injuries	K	K	N	Lecture, Small group Discussion	Written . Viva	Anatomy	
OTS 5.3	Enumerate clinical manifestations of brachial plexus and peripheral nerve injuries	K	K	Y	Lecture, Small group Discussion	Written . Viva		Plastic Surgery, Orthopaedics
OTS 5.4	Discuss assessment and treatment specific to BPI and PNI.	K/S	KH/SH	Y	Lecture, Small group Discussion	Written . Viva		Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 5.5	Explain hand function & Sensory assessment	K/S	KH/SH	Y	Lecture, Small group Discussion, Practical	Written . Viva Skill Assessment DOP	-	-
OTS 5.6	Discuss Functional impact and implications	K	KH	Y	Lecture, Small group Discussion	Written . Viva	-	-
OTS 5.7	Identify Therapeutic techniques, splints and adaptations in management of BPI and PNI.	K/S	SH	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Written . Viva Skill Assessment		-
Topic: Cancer and Oncology Rehabilitation No of Competencies: 9								
OTS 6.1	Understand Pathology & clinical features of Head, neck, face & breast cancer	K	K	N	Lecture, Small group Discussion	Written . Viva	Pathology	Oncology. Surgery
OTS 6.2	Explain medical & surgical management of head, neck, face & breast cancer	K	KH	N	Lecture, Small group Discussion	Written . Viva		Surgery, Oncology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 6.3	Discuss OT Management for Modified Radical Mastectomy, Cosmetic prosthesis	K/S/C	SH/S	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Written . Viva		
OTS 6.4	Discuss Psychological & emotional aspects of living with cancer.	K/S/A	SH/S	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Skill Assess ment		
OTS 6.5	Discuss Physical dysfunction issues from cancer- Dysphagia & Lymphedema management	K/A	KH/SH	Y	Demonstrate. Practical, Lecture, Small, group Discussion	Written . Viva		Oncology. Surgery
OTS 6.6	Discuss role of OT in rehabilitation of cancer patients (Preventive, mrestorative, supportive).	K	K	Y	Lecture, Small group Discussion	Written . Viva		
OTS 6.7	Explain Hospice (palliative aspects), family systems- as the unit of care, Support Groups.	K/A/C	K/KH	Y	DOAP	Skill assessment		
OTS 6.8	Demonstrate Postural exercises and body image adjustment training	K/S	KH	Y	Bed Side clinic Demonstration	Skill Assessment, OSCE		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 6.9	Counsel the patient regarding malignant conditions of the breast & body image problem	A/ C	SH	Y	DOAP	Skill assessment		
Topic: Vascular Conditions No of Competencies: 8								
OTS 7.1	Define Vascular, Lymphatic & Integumentary disorders & its risk factors	K	K	Y	Lecture	Witten		General surgery
OTS 7.2	Describe clinical features and correct examination of occlusive arterial, vascular, lymphatic disease	K/S	K/KH	Y	Lecture, Small group Discussion	Written		General surgery
OTS 7.3	Classify wound. Explain wound healing, & OT intervention	K/S/C	K/SH	Y	Lecture, Small group Discussion	Written /Viva voice		General surgery
OTS 7.4	Identify Indications and contraindications for exercises	K/S	K	Y	Lecture	written		
OTS 7.5	Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins	K	KH	Y	Lecture/ Small group discussion/ DOAP	Written / Viva voice		General surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 7.6	Demonstrate Exercisesfor arterial & venous insufficiency.	K/S/A/C	K/KH/SH	Y	Lecture/ DOAP	Written / Viva voice		
OTS 7.7	Explain & demonstrate Manual Lymphatic Drainage (MLD)	K/S/A/C	K/KH/SH	Y	Lecture/ Small group discussion/ DOAP	Written. Viva Skill Assessment		
OTS 7.8	Demonstrate Compression Therapy, Orthotics, supportive & pressure redistributing devices	K/S/A/C	K/KH/SH	Y	Lecture, Small group Discussion/ DOAP	Written. Viva Skill Assessment		
Topic: Occupational Therapy in Visual Impairments No of Competencies: 6								
OTS 8. 1	Definition and Classification of visual Impairments	K	K	Y	Lecture, Small group Discussion	Written. Viva		Ophthalmology
OTS 8. 2	Identify Causes of Visual impairment & OT management	K	KH	Y	Lecture, Small group Discussion	Written. Viva		Ophthalmology
OTS 8. 3	Explain mobility techniques, Communication skills, Sensory re-education, Mobility training in blind	K	KH	Y	Lecture, Small group Discussion	Written. Viva	-	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 8. 4	Demonstrate mobility techniques, sensory re- education in visual Impairment	S	SH	Y	DOAP, Practical	Skill Assessment		-
OTS 8. 5	Discuss Intervention for Low vision	K	KH	Y	Lecture, Small group Discussion	Written. Viva		-
OTS 8.6	Discuss Emotional and psychological aspects for visual impairment	K	KH	Y	Lecture	Written. Viva	-	-
Topic: Occupational Therapy in deaf, dumb		**No of Competencies: 6**						
OTS 9.1	Definition and classification of speech impairment	K	K	Y	Lecture,	Written. Viva	-	ENT
OTS 9.2	Demonstrate communication skills: Types and uses of hearing aids	K/S	SH	Y	Demonstration	Practical, Skill Assessment	-	ENT
OTS 9.3	Discuss Emotional and psychological aspects in Deaf & Dumb						-	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 9.4	Describe Approaches in deaf and dumb rehabilitation	K	K	Y	Lecture,	Written. Viva		-
OTS 9.5	Explain Vestibular affectations and re-training							ENT
OTS 9.6	Cognitive assessment and retraining in congenitally deaf and post cochlear implants	S/C	SH	Y	Demonstration, DOAP	DOP, Skill Assessment	-	-
Topic: Occupational Therapy in Obstetrics and Gynecology No of Competencies: 7								
OTS 10.1	Enumerate Complications related to Pregnancy	K	K	Y	Lecture,	Written. Viva	-	Gynac
OTS 10.2	Discuss Effects of aerobic exercises in Antenatal, prenatal, postnatal & during pregnancy	K	KH	Y	Lecture,	Written. Viva	-	
OTS 10.3	Discuss role of Occupational therapy management during pregnancy and post-partum, caesarean child birth and high-risk pregnancy.	K	KH	Y	Lecture,	Written. Viva	-	Gynac

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 10.4	Demonstrate floor strengthening, Kegel's exercises	S	SH	Y	DOAP, Demonstration	Skill Assessment		
OTS 10.5	Discuss Mother & child care	K/S	K	Y	Lecture,	Written. Viva		
OTS 10.6	Identify Indications and contraindications to exercises in pregnancy	S	SH	Y	Demonstration, Bed side clinic	Practical, Skill Assessment		
OTS 10.7	Explain Back care: Ergonomic education	K/C	KH	Y	Lecture,	Written. Viva		

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Recommended Books

1) Occupational Therapy – Willard &Spackman
2) O.T. Practice Skills for Physical Dysfunction – Pedretti.
3) O.T. in Physical Dysfunction – Trombley
4) Therapeutic Exercise – Basmajian.
5) Rehab Medicine – Good gold.
6) Rehabilitation of Hand – Wynn & Parry.
7) Hand – Hunter.
8) Hand splinting – Fess
9) Therapeutic exercise – Kisner.
10) Physical rehabilitation, assessment & treatment – Suzan O' Sullivan

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RESEARCH METHODOLOGY & BIOSTATISTICS

Course Description:

Research Methodology and Biostatistics: The student should acquire knowledge of principles in scientific methods of enquiry and basic statistical methods of enquiry and basic statistical concepts, be initiated to skills of information searching, identification, retrieval and evaluation, principles of measurement and experimental design. The students should be able to use the above knowledge to carry out a study.

Course Objectives:

This course will provide more knowledge on action of Research Methods & Biostatistical concepts, to understand the role of the theory in research, Stages of research process, steps to follow during research process, to aware the appropriate ways to search and review the literature, types of data collections, variability, sampling techniques etc.,

1. Select a relevant research topic based on contemporary literature and apply Biostatistics concepts.
2. Compare basic quantitative (observational and experimental) study designs, understand their advantages, disadvantages and select the best for a specific research question.
3. Compute, apply and interpret results based on findings.
4. Test the hypothesis and apply research questions to interpret the results
5. Identify different clinical study designs
6. Understand the importance of computers in Community

Course Learning Outcomes

At the end of this course, students will be able to: Describe the research methods, types of research process, study designs. Discuss the Level of evidences, ethical guidelines and methods of writing references. They can able to appreciate the sources and types of data collections, Measures of central tendency, Variability, Probability, Sampling, significances. They can be able to brief out the demography and vital statistics etc.,

At completion of this course, it is expected that the students will be able to

1. Choose the appropriate research design and develop appropriate research hypothesis for a project
2. Develop an appropriate framework for research studies
3. Know the various statistical methods to solve different types of problems
4. Appreciate the importance of Computer in hospital

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Competency Table: RESEARCH METHODOLOGY & BIOSTATISTIC

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
RESEARCH METHODOLOGY & BIOSTATISTIC								
Topic: Stages of research process No of Competencies: 1								
RMB 1.1	Formulate a research question for a study	K	KH	Y	Lecture, Group Discussions	Written		
Topic: Types of Research No of Competencies: 2								
RMB 2.1	Describe the types of research Qualitative & Quantitative	K	KH	Y	Lecture	Written		
RMB 2.2	Describe and discuss the principles and the methods of collection, classification, analysis, interpretation and presentation of statistical data	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic: Algorithm of Study Designs and Level of Evidence No of Competencies: 2								
RMB 3.1	Enumerate, Describe and demonstrate the application of elementary statistical methods including test of significance in various study designs	K /A/S	KH/SH	Y	Lecture, Seminar	Written		
RMB 3.2	Identify and explain the Five levels of evidence. (Systematic review or Meta-analysis, Randomized control trials Quasi- Experimental, Non-Experimental)	K	KH	Y	Lecture	Written		
Topic: Review of Literature No of Competencies: 1								
RMB 4.1	Enumerate Various sources of references and Acknowledgement of sources	K	K	Y	Lecture, Small group Discussions	Written		
Topic: Reliability & Validity No of Competencies: 2								
RMB 5.1	Describe reliability and Validity	K	K/KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
RMB 5.2	Enumerate the types and explain the difference between reliability and Validity	K	K/KH	Y	Lecture	Written		
Topic: Ethical Guidelines No of Competencies: 2								
RMB 6.1	Discuss the historical background in evolution of ethical guidelines.	K	K/KH	Y	Lecture	Written		
RMB 6.2	Describe the Ethical Guidelines for Biomedical Research in Human Participants	K	K	Y	Lecture	Written		
Topic: Protocol Writing No of Competencies: 1								
RMB 7.1	Understand Protocol Writing for Submission to Institutional Review Board/Institutional Ethics Committee (IRB/IEC).	K/S/A/C	K/KH/SH	Y	Lecture, Group discussion, Seminar	Written, Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Methods of Writing References. No of Competencies: 1								
RMB 8.1	Enumerate & understand different methods in research	K/S	K/KH /SH	Y	Lecture, DOAP	Written, Skill Assessment		
BIOSTATISTICS								
Topic Introduction to Statistics &Common Statistical Terminologies No of Competencies: 2								
RMB 9.1	Define and describe common terminologies (Population, Sample, Constant, Variable)	K	KH	Y	Lecture	Written		
RMB 9.2	Understand its scope and limitation	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Sources & Types of Data, Data Collection & Presentation No of Competencies: 2								
RMB 10.1	Enumerate & explain the types and sources of data (Primary & Secondary Source Ordinal, Nominal, Ratio Interval Quantitative & Qualitative)	K	K/KH	Y	Lecture, Small Group discussion	Written		
RMB 10.2	Describe the Scales of measurement of data, Surveys, Records, Tabulation & Graphs	K	K/KH	Y	Lectures, Small Group discussion	Written		
Topic Measures of Central tendency & Location. No of Competencies: 2								
RMB 11.1	Enumerate and demonstrate Common sampling techniques, simple statistical methods, frequency distribution,	K/S	K/KH/SH	Y	Lecture, small Group discussion	Written		
RMB 11.2	Understand the Measures of central tendency and dispersion	K	K/KH	Y	Lecture, small Group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Variability & its Measures Errors in measurement and their control No of Competencies: 1								
RMB 12.1	Understand the terms Range, Quartile deviation, Mean deviation, Standard deviation, Coefficient of variation, SEM, SEP.	K	K/KH	Y	Lecture, Small Group discussion	Written		
Topic Probability No of Competencies: 2								
RMB 13.1	Define & understand Addition theorem of probability, Multiplication theorem of probability.	K	K	Y	Lecture	Written		
RMB 13.2	Understand Probability and Non-Probability distribution	K	K	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Normal Distribution & Normal Curve No of Competencies: 1								
RMB 14.1	Define Construction, Properties, Use & significance, Skewness in distribution.	K	K	Y	Lecture	Written		
Topic Sampling, Sampling Variability & its Significance. No of Competencies: 1								
RMB 15.1	Enumerate and describe the Methods of sampling, Explain Errors in sampling	K	KH	Y	Lecture	Written		
Topic Sample Size Calculation No of Competencies: 1								
RMB 16.1	Enumerate and demonstrate the Quantitative: finite & infinite population Qualitative: finite & infinite population	K	K/KH	Y	Lecture, DOAP	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Tests of Significance I No. of Competencies: 1								
RMB 17.1	Describe the Significance of Difference in Means: Z test t test: paired & unpaired	K	K/KH	Y	Lecture, Small group Discussion	Written		
Topic Tests of Significance – II. No of Competencies: 1								
RMB 18.1	Explain the Chi - Square Test, Goodness of fit & Test of association.	K	K/KH	Y	Lecture,	Written		
Topic Correlation & Regression. No of Competencies: 2								
RMB 19.1	Define & enumerate types of correlation	K	K	Y	Lecture	Written		
RMB 19.2	Understand the Calculation of Pearson's correlation coefficient (r) and Simple linear regression.	K	K/KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Demography & Vital Statistics No of Competencies: 1								
RMB 20.1	Define and explain Indicators of health & their uses.	K	K	Y	Lecture	Written		
Topic Use of Computers in Biostatistics No of Competencies: 2								
RMB 21.1	Describe the basics and demonstrate Windows Excel Data Analysis in bio- statistical analysis.	K/S	KH/SH	Y	Lecture, DOAP, Seminar/ webinar	Written Skill Assessment		
RMB 21.2	Enumerate the Names of various statistical tools and software	K	K	Y	Lecture	Written		

Recommended Books

1. Methods in Biostatistics: For Medical Students & Research Workers by B. K. Mahajan. Published by Jaypee Brothers
2. A Practical Approach to PG dissertation by R. Raveendran& B. Gitanjali. Jaypee Brothers
3. Fundamentals of Biostatistics by Veer BalaRastogi. Published by Ane Books Pvt. Ltd
4. Research Methods for Clinical Therapist: Applied project design and analysis by Carolyn Hicks. Published by Churchill Livingstone
5. Research in Occupational therapy Methods of Inquiry for enhancing Practice by Gaer Keilhofner, Published by F A Davis Company

Fourth BOT (IV BOT)

S No	Course Code	Subjects	Total Teaching Hours/Semester			Credits			Total Credits	Marks Distribution
			Theory	Practical/ Demo/Lab work	Clinical	Theory	Practical/ Demo/Lab work	Clinical		Total
1	OTOC	Occupational Therapy in Musculoskeletal Conditions	90	60	180	6	2	4	12	Theory-100 Practicals - 100
2	OTSM	Occupational Therapy services & management	60	--	--	4	--	--	4	Theory- 50
3	CMS	Community Medicine & public Health, Sociology	60	--	--	4	--	--	4	Theory- 50
4	OTNC	Occupational Therapy in Neurological conditions	90	30	180	6	1	4	11	Theory- 100 Practicals - 100
5	COTR	Community occupational Therapy & Rehabilitation	90	30	--	6	1	--	7	Theory-100
6	OTPP	OT Practices in Psychiatry	90	30	180	6	1	4	11	Theory- 100 Prcticals -100

S No	Course Code	Subjects	Total Teaching Hours/Semester			Credits			Total Credits	Marks Distribution
			Theory	Practical/ Demo/Lab work	Clinical	Theory	Practical/ Demo/Lab work	Clinical		Total
7	OTPC	Occupational Therapy in Paediatrics conditions	90	60	180	6	2	4	12	Theory-100 Practicals 100
	Project Work			60	--	--	2		2	NUE- 50 marks
	Supervised Clinical training/Field work		--		--	--	16		--	
Total hours = 1560										
Total Credits									79	
Total Marks										1000

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OCCUPATIONAL THERAPY IN MUSCULOSKELETAL CONDITIONS

Course Description: This course involves a better understanding of the Occupational Therapy role in various Orthopedic conditions. It includes Occupational Therapy evaluations, identifying occupation-based problem statements and using appropriateModels/ Frames of references/ Approaches for Occupational Therapy intervention. This course also covers the application and fabrication of various orthoses in Orthopedic conditions.

Goal: The broad goal of the subject Occupational Therapy in Orthopedic conditions, is to enable the undergraduate student, to be an active participant in learning the knowledge, skills, behavioural, and attitudinal attributes, for assessing and providing occupational therapy intervention in various Orthopedic conditions.

Course Objectives:

A. Knowledge:

At the end of the course, the student shall be able to:

1. Understand Occupational Therapy evaluation and problem identification in Orthopedic conditions
2. Understand the use of appropriate Models/ Frames of references/ approaches in Occupational Therapy intervention in Orthopedic conditions
3. Understand the application and fabrication of orthoses-related Orthopedic conditions
4. Understand the Occupational Therapy assessment and intervention for injuries, fractures and arthritic conditions of upper extremity, lower extremity and spine

5. Understand the Occupational Therapy assessment and intervention for metabolic bone disorders and repetitive stress syndrome
6. Understand the Occupational Therapy assessment and intervention for congenital Orthopedic deformities
7. Understand the Occupational Therapy assessment and intervention for neuromuscular deformities in Cerebral Palsy and PoliomyelitisUnderstand the role of Occupational Therapy in Sports Medicine

B. Skills:

1. Select and perform the various evaluations and assessments used in Occupational Therapy in Orthopedic conditions
2. Document occupational therapy assessment and intervention based on the Occupational therapy practice framework.
3. Develop clinical skills to apply therapeutic use of self, activity prescription and grading, and environmental modifications.

C. Attitude:

1. Develop an empathetic and humanitarian approach.
2. Value confidentiality and priorities of the service seeker.
3. Respect towards the service seeker.

Examination scheme

Scheme of examination for University Practical exam 100 Marks

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	**50marks**	**20 marks**	**5 marks**	**100 marks**

COMPETENCIES TABLE: Occupational Therapy in Musculoskeletal Conditions

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN ORTHOPEDIC CONDITIONS									
Topic: Occupational Therapy Evaluation and interventions in musculoskeletal conditions No of competencies: 4									
OTOC 1.1	Demonstrate the evaluation of occupational performances, performance skills, performance patterns, contexts and client factors in musculoskeletal conditions using informal and formal Occupational Therapy tools/scales	K, S, A, C	SH/P	Y	DOAP	Viva, OSCE, Practical	7	FOT 1 and OTDP I and OTDP II	Community Based OT and Rehabilitation
OTOC 1.2	Analyse the assessment done and identify and document the problems	K, S	SH	Y	DOAP	Viva, OSCE, Practical	7		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 1.3	Outline the application of appropriate and various Models, Fames of references and approaches as applied to Musculoskeletal Rehabilitation to promote participation in occupations which includes the use of therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K, S, A, C	SH, P	Y	Lecture, DOAP	Written, Viva, Practical	7		
OTOC 1.4	Enlist and describe adjunctive therapies specific to musculoskeletal conditions to promote occupational participation	K, S	KH	N	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Orthoses	**No of competencies: 2**			**Number of procedures for certification: 1**					
OTO C 2.1	Describe the application of orthoses related to the Upper Extremity, Lower Extremity and Spine in musculoskeletal conditions	K, S	KH	Y	Lecture, DOAP	Written, OSCE, practicals	0	Clinical Orthopaedic Biomechanics and Kinesiology	OT in Community Medicine and Rehabilitation
OTO C 2.2	Demonstrate assessment, prescription and fabrication orthosis on client	S	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	1		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Fractures of upper and lower extremities No of competencies: 6 Number of procedures for certification: 0									
OTO C 3.1	Demonstrate Occupational therapy assessment in fractures of upper extremity and lower extremity	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Clinical Orthopaedics Fundamentals of OT, OTDP II	Occupational Therapy in
OTO C 3.2	Identify limitations in occupational participation and contextual factors and client factors affecting participation in occupations	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

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Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTO C 3.3	Demonstrate Occupational Therapy interventions using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use of therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and psychological aspects of chronic pain to promote occupational participation	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		Psychiatry, OT in Service Management
OTO C 3.4	Discuss and demonstrate the Occupational Therapy role in the management of complications	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 3.5	Demonstrate Occupational Therapy intervention with respect to the type of fixators, following precautions	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 3.6	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	KH	Y	Small group discussions	OSCE	0		
Topic: Fractures of vertebral column and Pathological conditions of vertebra and spinal column No of competencies: 5 Number of procedures for certification: Nil									
OTOC 4.1	Demonstrate the Occupational therapy assessment including motor and sensory assessment	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, Practicals	0	Clinical Orthopaedic	Occupational Therapy in

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 4.2	Identify limitations in occupational participation and contextual factors and client factors affecting participation in daily occupations	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	OTDP II, Fundamentals of OT II	Psychiatry, Community Based OT & Rehabilitati-on, Occupational Therapy in Psychiatry
OTOC 4.3	Demonstrate Occupational Therapy interventions using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and prescription of wheel chair and mobility aids, skin care and transfer training	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 4.4	Demonstrate Assessments and interventions for return to community and job	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 4.5	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	SH	Y	Small group discussions	OSCE	0		
Topic: Injuries at and around upper and lower extremity joints and Pathological and arthritic conditions of upper limbs, lower limbs, vertebral column and spinal cord No of competencies: 3 Number of procedures for certification: Nil									
OTOC 5.1	Demonstrate Pre-operative and post-operative Occupational Therapy evaluation in Joint replacement surgeries and corrective surgeries to identify problems in occupational performances and contextual factors and client factors affecting occupational performance	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Clinical Orthopaedics, OTDP II, Fundamentals of OT	

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 5.2	Demonstrate pre-operative and post-operative Occupational Therapy intervention using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and psychological aspects of chronic pain to promote occupational participation	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		Occupation al Therapy in Psychiatry
OTOC 5.3	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	SH	Y	Small group discussions	OSCE	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Metabolic bone disorders No of competencies: 2 Number of procedures for certification: Nil									
OTOC 6.1	Demonstrate Occupational Therapy evaluation to identify limitations in occupational performance and contextual factors and client factors in metabolic bone disorders	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals		Clinical Orthopaedics, OTDP II, Ergonomics and Work Physiology	
OTOC 6.2	Demonstrate Occupational Therapy management including preventive, accommodative and restorative approaches including joint protection techniques and work simplification techniques	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals			

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Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Repetitive stress syndrome No of competencies: 5 Number of procedures for certification: 1									
OTOC 7.1	Demonstrate Occupational Therapy assessment and management in various phases of injury and identify problems in occupational performance and contextual factors and client factors affecting occupational performance	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	OTDP II, Biomechanics and Kinesiology, Ergonomics and Work Physiology	Community Based OT & Rehabilitation, OT in Psychiatry
OTOC 7.2	Describe the preventive/ rehabilitative techniques based on Ergonomic and Biomechanical principles	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 7.3	Demonstrate Occupational Therapy interventions to promote return to occupations using appropriate Models/FORs/Approaches which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 7.4	Record and interpret from the observations following Industrial visit to identify mechanisms of injury and suggest ergonomic modifications	K, S, A, C	SH	Y	Small group discussions	OSCE	1		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 7.5	Identify the need to counsel stake holders on prevention based on preventive and restorative approaches including work simplification, life style modifications and joint protection techniques	K, S, A, C	SH	Y	Small group discussions	OSCE	1		
Topic: Congenital musculoskeletal deformities No of competencies: 3 Number of procedures for certification: Nil									
OTOC 8.1	Define and classify common congenital musculoskeletal deformities	K	K	Y	Lecture	Written	0	Clinical Orthopaedics, Fundamentals of OT	
OTOC 8.2	Demonstrate Occupational Therapy evaluation to identify problems in occupational performance and contextual factors and client factors affecting occupational performance	K/S	SH	Y	Lecture/Small group discussions/ DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 8.3	Demonstrate Occupational Therapy intervention to promote occupational performances which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K/S	SH	Y	Lecture/Small group discussions/ DOAP	Written, viva, OSCE, practicals	0		
Topic: Neuromuscular deformities in Cerebral Palsy and Poliomyelitis **No of competencies: 3** **Number of procedures for certification: Nil**									
OTOC 9.1	Describe the Neuromuscular deformities in Cerebral Palsy and Poliomyelitis	K	K	Y	Lecture	Written	0	Clinical Orthopaedics	OT in paediatrics

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 9.2	Demonstrate Occupational therapy evaluation in preoperative and post-operative stages of reconstructive and corrective surgeries in Cerebral Palsy and Poliomyelitis and identify limitations in Occupational performance and contextual factors and client factors affecting occupational performance	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Fundamentals of OT	OT in paediatrics
OTOC 9.3	Demonstrate Occupational Therapy interventions including pre-operative and post-operative management to promote occupational performances which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and recent advances	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Fundamentals of OT	OT in paediatrics

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Sports Medicine No of competencies: 7 Number of procedures for certification: Nil									
OTOC 10.1	Explain the Effect of sports on mind and body of sports person	K	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.2	Discuss various sports injuries	K	K	Y	Lecture, Small group discussions	Written	0	Clinical Orthopaedics, Ergonomics and work physiology, OTDP II	
OTOC 10.3	Describe the prerequisites for participation in sports including physical fitness and cardiopulmonary fitness	K	KH	Y	Lecture, Small group discussions	Written	0		
OTOC 10.4	Enumerate various approaches in psychological skill training and intervention	K	KH	Y	Lecture, Small group discussions	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 10.5	Describe the predisposing factors for sports injuries	K	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.6	Discuss the Occupational Therapy role in preparedness of the person for different sports events	K, S	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.7	Discuss the Occupational Therapy role in prevention of sports injuries and rehabilitation and return to sports after injury	K, S			Lecture, Small group discussions	Written	0		

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Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A.
2. Boyt Schell. Published by Lippincott Williams & Wilkins. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
5. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
6. Orthopaedic Physical Assessment by David J. Maggee Published by W. B. Saunders.
7. Therapeutic Exercise by John V. Basmajian & Steven L. Wolf. Published by Williams & Wilkins.
8. Therapeutic Exercise, Foundation & Techniques by Carolyn Kisner & Lynn Allen Colby. Published by F. A. Davis Company. Treatment and Rehabilitation of Fractures by Stanley Hoppen field and Vasantha L. Murthy. Published by Lippincott Williams & Wilkins.
9. Clinical Orthopaedic Rehabilitation by S. Brent Brotzman Published by Mosby.
10. Rehabilitation of the Hand by C. B. Wynn Parry. Published by Butterworths.
11. Ergonomics for therapists by Karen Jacobs. Published by Butterworth Heinemann.
12. Clinical Sports Medicine by Peter Brukner & Karim Khan. Published by The McGraw-HillCompanies.

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OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Course Description: This course involves a better understanding of the overall administration of the Occupational Therapy department/ Institute in Government & Private setup, Budgeting, Ethical practice of Occupational Therapy. The course involves a better understanding of Bioethics, ethical considerations, service management, implication of different environments on OT practices industrial Rehabilitation**.**

Goal: The broad goal to teach the undergraduate students about OT Services & management is to have the knowledge, to function effectively as an occupational therapist, set up the department and manage the services in different settings.

Course Objectives:

Knowledge : at end of the course :

1. Understand the term Bioethics and Occupational Therapy code of ethics
2. Describe various service managements under occupational therapy
3. Describe the Human and non human environment and OT process
4. Describe importance of practice in different setups & consideration of human sexuality in relation to disability and its management in occupational Therapy
5. Describe the strategies & approaches used in stress management during Occupational Therapy intervention

6. Described its importance of evidence based practice in occupational therapy.
7. Describe the strategies in Industrial rehabilitation into Occupational therapy practice including Ergonomic assessment of office, hospital & school furniture manufactured in the industries & Ergonomic assessment of industrial workers , computer operators & other employees
8. Describe the entrepreneurship methods in the OT practice

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COMPETENCIES TABLE: OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OCCUPATIONAL THERAPY SERVICES & MANAGEMENT								
Topic: Introduction to Bioethics, Professional Ethics & Development				**No of competencies: 5**				
OTSM 1.1	Define Bioethics	K	K	Y	Lecture	Written	-	-
OTSM 1.2	Explain the uses and purposes of a professional code	K	KH, SH	Y	Lecture	Written	-	-
OTSM 1.3	Understand occupational therapy code of ethics given by NCAHP	K , A	KH	Y	Lecture	Written	-	FOT II
OTSM 1.4	Examine current ethical dilemmas in OT , issues and conflicts involved and generate possible solution to the dilemmas	K , S , A	KH,SH	Y	Lecture ans case scenario	Written	-	-

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OTSM 1.5	Describe the entrepreneurship methods in the OT practice	K A	KH	**Y**	Lecture Discussion	Written		
Topic: Service Management in Occupational Therapy No of competencies:5								
OTSM 2.1	Identify and describe various management functions & strategies	`K	KH	Y	Lecture	Written		
OTSM 2.2	Enumerate different types of documentations, its purpose & its importance	K, S	KH, SH	Y	Lecture	Written		
OTSM 2.3	Define Quality assurance & describe monitoring of it along with utilization review	K, S	KH, SH	Y	Lecture Case scenario, DOAP	Written		
OTSM 2.4	Define fiscal management, explain budgeting	K	KH	Y	Lecture	Written		
OTSM 2.5	Describe marketing strategies in health care	K, S	KH, SH	Y	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: The Human and Non-Human Environments and the Occupational Therapy Process No of competencies: 2								
OTSM 3.1	Define and classify environment with details of human & non-human environment	K	K	Y	Lecture	Written		
OTSM 3.2	Describe Occupational Therapy in environmental practice	K, S	KH SH	Y	Lecture DOAP	Written		
Topic: Home Care and Private Practice No of competencies: 3								
OTSM 4.1	Describe overview of Home care	K	K	Y	Lecture	Written		
OTSM 4.2	Enumerate members of home care team and their functions	K	K	Y	Lecture	Written		
OTSM 4.3	Describe parameters & delivery system for home care	K, S	KH , SH	Y	Lecture, DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: Introduction to Human Sexuality in relation to Disability Management in Occupational Therapy No of competencies: 3								
OTSM 5.1	Define Human sexuality	K	K	Y	Lecture	Written		
OTSM 5.2	Identify the importance of Human sexuality in Occupational therapy practices	K, S, A, C	K	Y	Lecture	Written		
OTSM 5.3	Describe awareness, knowledge & Interpersonal competencies in human sexuality	K, S, A,	KH,	Y	Lecture Case scenario	Written		
Topic: Stress management No of competencies: 2								
OTSM 6.1	Identify common stressors and enumerate the stress response	K	K	Y	Lecture	Written		Psychology And psychiatry
OTSM 6.2	Describe Stress management techniques & their appropriate use	K, S, A, C	KH , SH	Y	Lecture DOAP	Written		Psychology and psychiatry

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: Research informed Occupational Therapy practice & Translation of research in to practice (Evidence based practice) **No of competencies: 3**								
OTSM 7.1	Define clinical reasoning in OT Describe nature of occupational therapy & implementation of clinical reasoning in occupational therapy	K	K	Y	Lecture	Written		OTDP 2
OTSM 7.2	Identifying various types of clinical reasoning in OT practice	K	KH,SH	Y	Lecture , DOAP	Written		
OTSM 7.3	Enumerate and describe OT Intervention based on conventional/recent approaches/research evidences	K,S	KH,SH	Y	Lecture Case based scenario	Written		
Topic: Industrial Rehabilitation No of competencies: 5								
OTSM 8.1	Understand Historical overview for industrial rehabilitation	K	KH	Y	Lecture DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OTSM 8.2	Enumerate and describe industrial rehabilitation services & ergonomic assessment of office , hospital & school furniture manufactured in the industries	K	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.3	Describe work hardening program	K	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.4	Describe role of Occupational therapy in Vocational assessment & Vocational rehabilitation	K, S, A, C	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.5	Describe the ergonomic assessment & intervention of industry labours, computer operators & others working in health hazard environment	K, S, A, C	KH , SH	**Y**	Lecture DOAP	Written		

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Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
5. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
6. Biofeedback: Principles & Practice for Clinicians by John V. Basmajian. Published by Williams & Wilkins

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COMMUNITY MEDICINE, PUBLIC HEALTH & SOCIOLOGY

COURSE DESCRIPTION: This course aims to provide students with a comprehensive understanding of community medicine and sociology in the context of occupational therapy. It covers key concepts in epidemiology, health programs in India, preventive medicine across different life stages, nutrition and health, and the role of social sciences in healthcare. The course also explores social problems faced by people with disability, the role of medical social workers, environmental health, disaster management, occupational health, international health, and the healthcare services provided by AYUSH. Students will learn to apply these concepts in occupational therapy to enhance community integration and holistic care for individuals with disabilities.

GOAL: The primary goal of teaching Community Medicine and Sociology to undergraduate students is to equip them with the knowledge to function effectively as occupational therapists. The focus is on improving the health and quality of life of individuals and communities through prevention, early intervention, and rehabilitation.

OBJECTIVES

A. KNOWLEDGE

By the end of the course, the student shall be able to:

1. Define community medicine and understand the role of the occupational therapist in the team.
2. Define and explain epidemiology, including the epidemiology of various infections.
3. Enumerate and describe health programs for community integration and international agencies providing support.
4. Understand the role of preventive medicine in obstetrics, gynaecology, paediatrics, and geriatrics.

5. Describe nutritional components, profiles of principal foods, and the food guide pyramid.
6. Identify nutritional problems in public health and malnutrition factors in selected diseases.
7. Explain the concept of nutritional surveillance.
8. Describe the context of medicine and its relation to social sciences.
9. Describe social and behavioural sciences, including terms such as sociology, community, socialization, and social problems.
10. Identify social problems faced by disabled individuals and the role of various agencies in assisting them.
11. Identify the role of medical social workers.
12. Understand the importance of a safe environment and its impact on health.
13. Define and identify methods of sanitation and biowaste management.
14. Identify and describe principles, aspects, and implications of disaster management.
15. Define occupational health, types of occupational hazards, and occupational diseases.
16. Describe international health plans and the roles of international health agencies.
17. Identify different healthcare facilities provided by AYUSH

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COMPETENCIES TABLE : Community medicine, Public health and Sociology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COMMUNITY MEDICINE , PUBLIC HEALTH AND SOCIOLOGY									
Topic: Epidemiology No of competencies: 2									
CMS 1.1	Define Epidemiology	K	K	Y	Lecture	Written	0		
CMS 1.2	Explain Epidemiology of Respiratory infections, intestinal infections, Arthropod- borne infections, Zoonosis, Surface infections, Hospital- acquired infections	K	KH	Y	Lecture	Written	0	Medicine, Pathology and Microbiology	
Topic: Health programs in India No of competencies: 3									
CMS 2.1	Enumerate different health programs in India	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 2.2	Enumerate various international agencies providing technical & material assistance in implementing these programs	K	KH	Y	Lecture	Written	0		
CMS 2.3	Describe different health & program implementation plans	K	KH	Y	Lecture	Written	0		
Topic: Preventive medicine in Obstetrics, Paediatrics & Geriatrics No of competencies: 4									
CMS 3.1	Identify the need of preventive medicine & social medicine	K	KH	Y	Lecture	Written	0		
CMS 3.2	Describe the role of social & preventive Medicine in Obstetrics - antenatal, natal & postnatal care	K	KH	Y	Lecture	Written	0	Surgery Gynaecology , Medicine and Paediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 3.3	Describe the role of social & preventive medicine in Paediatrics - Care of neonates, infants, children, National Policy for Children	K	KH	Y	Lecture	Written	0		
CMS 3.4	Describe the role of social & preventive medicine in Geriatrics	K	KH	Y	Lecture	Written	0		
Topic: Nutrition & Health		**No of competencies: 6**							
CMS 4.1	Enumerate nutritional components	K	K	Y	Lecture	Written	0		
CMS 4.2	Describe the nutritional profile of Principal foods	K	K	Y	Lecture	Written	0	Physiology, Paediatrics and Medicine	
CMS 4.3	Describe the food guide pyramid	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 4.4	Identify nutritional problems in public health	K	KH	Y	Lecture	Written	0		
CMS 4.5	Describe malnutrition factors in selected disease	K	K	Y	Lecture	Written	0		
CMS 4.6	Explain nutritional surveillance	K	SH	Y	Lecture	Written	0		
Topic: Medicine and Social Sciences		**No of competencies: 4**							
CMS 5.1	Identify the context of medicine	K	K	Y	Lecture	Written	0	Psychology	
CMS 5.2	Identify relation between community health & social sciences	K	KH	Y	Lecture	Written	0		
CMS 5.3	Describe social & behavioural sciences	K	K	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 5.4	Describes term sociology, community, socialism, socialization, social control mechanism, customs, culture, standard of living, social problems, social pathology, social surveys, social defence	K	K	Y	Lecture	Written	0		
Topic: Social Problems of Disabled		**No of competencies: 2**							
CMS 6.1	Identify the social problems in disabled	K	KH	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
CMS 6.2	Identify the role of various agencies in assisting the disabled in the social environment	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Role of medical social worker No of competencies: 1									
CMS 7.1	Identify the role of the medical social worker	K	KH	Y	Lecture	Written	0		
Topic: Environment & Health, Environmental Science No of competencies: 1									
CMS 8.1	Identify the importance of a safe environment & health.	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
Topic: Sanitation & Biowaste management No of competencies: 2									
CMS 9.1	Define and identify methods of sanitation.	K	KH	Y	Lecture	Written	0		
CMS 9.2	Identifying various aspects of biowaste management	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Disaster management No of competencies: 3									
CMS 10.1	Identify & describe principles in Disaster management	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
CMS 10.2	Enumerate various aspects of disaster management	K	K	Y	Lecture	Written	0		
CMS 10.3	Describe implications in disaster management	K	KH	Y	Lecture	Written	0		
Topic: Occupational Health No of competencies: 3									
CMS 11.1	Define Occupational health	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 11.2	Describe the types of Occupational Hazards	K	KH	Y	Lecture	Written	0		
CMS 11.3	Enumerate Occupational diseases & medical management	K	KH	Y	Lecture	Written	0		on & public health
Topic: International Health No of competencies: 4									
CMS 12.1	Identify international Health plan	K	K	Y	Lecture	Written	0		
CMS 12.2	Describe the role of the World Health Organization	K	KH	Y	Lecture	Written	0		
CMS 12.3	Describe the role of United Nations agencies -UNICEF, UNDP, FAO, SIDA, DANIDA	K	KH	Y	Lecture	Written	0		
CMS 12.4	Enumerate non- governmental & other agencies	K	K	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Introduction to Ayush No of competencies: 1									
CMS 13.1	Identify different healthcare facilities provided by AYUSH	K	K	Y	Lecture	Written	0		

Reference Books:

1. Park's textbook of Preventive and Social Medicine by K. Park. Published by Banarsidas Bhanot.
2. Disabled village children- A guide for Community Health, Workers, Rehabilitation Workers & Families by David Werner. Published by The Hesperian Foundation
3. Handbook Of Medical Sociology for Nursing, physiotherapy and Paramedical Students by Malhotra Varun, Jaypee Brothers Medical Publishers
4. Sociology of Health and Medicine New Perspectives By V. Sujatha. Published by Oxford University Press
5. Sociology and Occupational Therapy: An integrated approach by Derek Jones, Sheena E.E. Blair, Terry Hartery. Published by Churchill Livingstone

OCCUPATIONAL THERAPY IN NEUROLOGICAL CONDITIONS

COURSE DESCRIPTION

This course intends to familiarize students with terminology & abbreviations for efficient & effective chart reviewing & documentation for occupational therapy in Neurological conditions. It also gives overview of etiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of Acute and chronic Neurological disorders including genetic disorders, infective conditions of the brain and spine with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The goal to teach the undergraduate students OT in Neurological Conditions is to have the knowledge, skills and behavioral attributes to function effectively as an occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES:

A. KNOWLEDGE: At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common neurological conditions with special reference to conditions like Stroke, Parkinsonism, Multiple Sclerosis and other conditions like metabolic and muscular disorders.
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize Occupational dysfunctions in relation to person, task and environment due to neurological involvement
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, leisure skills, social skills, pre-vocational/work adjustment skills.

B. SKILLS: At the end of the course, the student shall be

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.Perform simple assessments using standardized methods, test batteries and instruments to assess performance components.
2. Assist the common bedside evaluations and assessment procedures related to neurological conditions and be able to document their findings and intervention.

C. ATTITUDE:

1. The teaching and training in "OT in Neurological condition" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
3. Students should develop behavioral skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Examination Scheme

Scheme of examination for University Practical exam 100 Marks

Short Case	Long Case	Viva voce	Communication skills	Total
25 marks	**50marks**	**20 marks**	**5 marks**	**100 marks**

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN NEUROLOGICAL CONDITIONS								
Topic : Occupational Therapy Evaluation and interventions in Neurological Clinical Evaluation							**No of Competencies - 2**	
OTNC 1.1	Demonstrate the evaluation of occupational performances, performance skills, performance patterns, contexts and client factors in neurological conditions using standardised Occupational Therapy tools/scales.	K, S, A, C	KH, SH	Y	Lecture, DOAP, Case study	Practical, Viva, OSCE		
OTNC 1.2	Interpret the assessment done and identify and document the problems	K, S, A	KH,SH, DOAP		Lecture, practical , case presentation	Written, Viva, practical	OTDP I & OTDP II	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Frames of references, models and approaches used in Neurological Conditions. **Number of Competencies – 1**								
OTNC 2.1	Choose, describe and demonstrate appropriate and various Models, Fames of references and approaches as applied to Neurological Rehabilitation to promote participation in occupations including but not limited to ● PEO Model ● MOHO ● Cognitive Frame of reference ● Neurophysiological approaches ● Task oriented approach ● Rehabilitative Frame of Reference	K	KH, SH	Y	Lecture, DOAP	Written, Viva, practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Cognitive, Perceptual Skills						**No of Competencies - 3**		
OTNC 3.1	Enlist and explain all the cognitive and perceptual dysfunctions and how they affect a client's occupational performance.	K	KH	Y	Lecture	Written, Viva	OTDP II,OTSC	
OTNC 3.2	Describe and demonstrate the standardised and non-standardised Assessment of cognitive perceptual skills.	K, S	KH, SH		lecture	Written, Viva,		
OTNC 3.3	Describe and demonstrate the Occupational therapy management of performance components affected due to cognitive perceptual deficits.	K, S	KH, SH		Lecture, DOAP	Written, Viva, practical, OSCE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Dysphagia						**No of Competencies - 3**		
OTNC 4.1	Describe the Normal physiology of swallowing. Enlist and enumerate the Causative factors in Dysphagia. Enlist the assessment & treatment of Dysphagia.	K	KH	Y	Lecture	Written, Viva	FOT II, OTDP II	
OTNC 4.2	Enlist and enumerate the Causative factors in Dysphagia. Enlist the assessment & treatment of Dysphagia.	K	KH, S	Y	Lecture, DOAP	Written, Viva		
OTNC 4.3	Demonstrate Feeding position, diet modification, Specific and special therapeutic considerations in context to specific clinical diagnosis.	K,S	SH	Y	Lecture, DOAP, Case study	Written, Viva, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Disorders of the cerebral circulation							**No of Competencies - 5**	
OTNC 5.1	Describe Anatomy & physiology of cerebral circulation.	K	KH	Y	Lecture	Written, Viva		
OTNC 5.2	Describe the aetiopathogeneis of the cerebral circulation disorders. Classification of cerebral circulation disorders	K	KH	Y	Lecture	Written, Viva		
OTNC 5.3	Choose and demonstrate strategies to optimize motor, sensory, balance, visual, cognito – perceptual components of function using appropriate Frame of reference and neurophysiological approach to improve the client's occupational performance.	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 5.4	Describe various Orthotic, Assistive and Augmentative Technologies for the clients with stroke	K	KH,S H		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	
OTNC 5.5	Discuss and present the Prognostic determinants.	K	KH		lecture	Written, Viva, Practicals		
Topic : Occupational Therapy Evaluation and interventions in Traumatic injuries to the Brain. No of Competencies - 6								
OTNC 6.1	Describe and enumerate, Classification of Head Injury, Mechanism of Injury, Immediate Effects of Head Injury, signs and symptoms of Post Head Injury sequelae.	K	KH	Y	Lecture	Written, Viva	Surgery, OTSC	
OTNC 6.2	Describe and demonstrate the Various assessment tools for evaluating level of consciousness and occupational performance of a client.	K,S	KH,S H	Y	Lecture, DOAP	Written, Viva, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 6.3	Discuss and present the Prognostic determinants.	K	KH		lecture	Written, Viva		
OTNC 6.4	Choose and demonstrate strategies to optimize motor, sensory, balance, visual, cognito perceptual components of function using appropriate Frame of reference and neurophysiological approach to improve the client's occupational performance	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva Practicals	OTDP II	
OTNC 6.5	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH, SH		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	CBOT & R
OTNC 6.6	Discuss various Prognostic determinants of clients with TBI	K	KH		Lecture	Written, Viva, Practicals	Surgery	CBOT & R

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Infective conditions of the brain							**No of Competencies - 3**	
OTNC 7.1	Describe the aetiopathogenesis, and symptoms of various infective conditions of the brain for example Intracranial abcess, meningitis, Encephalitis, cerebral malaria.	K	KH		Lecture	Written, Viva		
OTNC 7.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH,S H		Lecture, DOAP	Written, Viva , Practical		
OTNC 7.3	Discuss and present the Prognostic determinants.	K	KH		Lecture	Written, Viva		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Neoplastic conditions of the brain and spinal cord (Intracranial & Spinal Tumors) Number of Competencies - 4								
OTNC 8.1	Describe the aetiopathogenesis, and symptoms of various neoplastic conditions of the brain. Classification of tumors as per WHO classification.	K	KH	y	Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical		
OTNC 8.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K	KH,SH	y	Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	OTDP II	
OTNC 8.3	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH, SH		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	CBOT & R
OTNC 8.4	Discuss and present the Prognostic determinants	K	KH		Lecture	Written, Viva voce	Neurology, Surgery	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Movement disorders No of Competencies - 5								
OTNC 9.1	Describe the aetiopathogenesis, and symptoms of Movement Disorders.	K	KH	Y	Lecture	Written, Viva voce	Neurology	
OTNC 9.2	Classify describe grading of Movement disorders	K	KH	Y	Lecture, seminar, Case study	Written, Viva voce		
OTNC 9.3	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH, SH	Y	Lecture, DOAP, Case study, Small group discussion	Written, Viva voce, practical	OTDP II	
OTNC 9.4	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH,S H		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II,	CBOT & R

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 9.5	Discuss and present the Prognostic determinants Movement disorders.	K	KH		Lecture	Written, Viva voce		
Topic : Occupational Therapy Evaluation and interventions in Inflammatory and autoimmune disorders of the brain Number of Competencies - 3								
OTNC 10.1	Describe the aetiopathogenesis, and symptoms of Inflammatory and autoimmune disorders of the brain and spinal cord. Example Multiple Sclerosis, Transverse Myelitis, etc.	K	KH	Y	Lecture	Written, Viva voce	Neurology	
OTNC 10.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H		Lecture, DOAP	Written, Viva voce, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 10.3	Discuss and present the Prognostic determinants of Inflammatory and autoimmune disorders of the brain and spinal cord.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in Diseases of Motor Neuron, Neuromuscular Junction And Muscles. **No of Competencies - 3**								
OTNC 11.1	Describe the aetiopathogenesis and symptoms and classification of Motor neuron diseases, NM junction. Example Motor Neuron Disease, Myasthenia Gravis. Myopathy and Muscular Dystrophies.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 11.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H		Lecture, DOAP	Written, Viva voce, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 11.3	Discuss and present the Prognostic determinants of Motor neuron diseases, NM junction.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in cerebellar dysfunctions. No of Competencies - 3								
OTNC 12.1	Describe the aetiopathogenesis, and symptoms and Classification of Cerebellar dysfunctions.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 12.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH, SH	Y	Lecture, DOAP	Written,Viva voce, Practical, OSCE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 12.3	Discuss and present the Prognostic determinants of Cerebellar dysfunctions.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in Vestibular function and dysfunction. No of Competencies - 3								
OTNC 13.1	Describe the aetiopathogenesis and symptoms and classification of Vestibular functions and dysfunctions.	K	KH	Y	Lecture	Written, Viva voce	OTDP I & OTDP II	
OTNC 13.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH,S H	Y	Lecture, DOAP	Written, Viva voce, OSCE		
OTNC 13.3	Discuss and present the Prognostic determinants of Vestibular dysfunctions.	K	KH		Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Occupational Therapy Evaluation and interventions in Cranial Nerves function and dysfunctions. **No of Competencies - 3**								
OTNC 14.1	Describe pathways and functions of cranial nerves. Explain the aetiopathogenesis of various cranial nerve dysfunctions.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 14.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches for a Cranial nerve dysfunction.	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva voce, Practical, OSCE	OTDP II	
OTNC 14.3	Discuss and present the Prognostic determinants of Cranial nerve dysfunctions.	K	KH		Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Occupational Therapy Evaluation and interventions in Seizure disorders. No of Competencies - 3								
OTNC 15.1	Describe the aetiopathogenesis, and symptoms and classification of seizure disorders	K	KH	Y	Lecture	Written, Viva voce	Psychology, Neurology, paediatrics	OTPC
OTNC 15.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H	Y	Lecture, DOAP	Written, Viva voce , Case study		CBOT & R
OTNC 15.3	Discuss and present the Prognostic determinants of seizure disorders	K	KH		Lecture	Written, Viva voce		

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References & Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy Process & Practice skills . Turner .
5. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer, Jim Hinojosa Published by Lippincott Williams and Wilkins. Sensory Integration Therapy: Process & Practice by Anita Bund

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COMMUNITY OCCUPATIONAL THERAPY & REHABILITATION

Course Description:

This course involves a better understanding of the overall Occupational Therapy application in community-based setup & rehabilitation perspective in Occupational therapy. The course involves a better understanding and application of different interventions Frames of references, approaches in community base Occupational Therapy & skills required for planning rehabilitation goals

Goals:

The broad goal to teach the undergraduate students different aspects of Community Occupational Therapy is to have the knowledge, skills and behavioral attributes to function effectively as a occupational therapist in community improve Quality of life & understand different rehabilitative measures to enhance functional independence and Quality of Life of the patient.

Course Objectives (competency statements) – The objectives of this course are:

Knowledge:

1. Describe e community based rehabilitation, difference between IBR & CBR & understand role of occupational therapist in the team
2. Describe the components in wellness program in occupational therapy
3. Understand the term community integration, mobility & strategies to enhance the community integration
4. Understand about low cost aids & appliances used in Occupational Therapy intervention
5. Understand the organisation of Community based rehabilitation centre

6. Enumerate various additive therapies & explain their uses, describe about assistive technologies used in persons with disabilities
7. Identify need for various adjunctive therapies to occupational therapy & discuss their benefits to persons with disabilities
8. Understand Physical agent modalities, its principles & implementation in Occupational Therapy intervention

Skills:

1. Understand role of occupational therapy intervention in disaster management
2. Identify the environmental & architectural barriers, plan intervention to overcome them
3. Evaluate the disability as per Gazette guidelines. Laws for certification, perform Disability assessment for person with disability
4. Identify occupational demands in driving & plan strategies for driving rehabilitation
5. Evaluate various factors responsible for successful mobility & adaptations used for wheelchair mobility & seating adaptations
6. Identify pain management & plan intervention in occupational therapy

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Attitude:

1. The teaching and training in "CB OT & Rehabilitation" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy.
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

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Competencies table: Community Occupational Therapy & Rehabilitation

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COMMUNITY OCCUPATIONAL THERAPY									
Topic: Community Based Rehabilitation –Introduction				**No of competencies: 5**					
COTR 1.1	Define Community Based Rehabilitation	K	KH	Y	Lecture	written			
COTR 1.2	Explain models, structure, process and outcome of CBR.	K	KH	Y	Lecture, DOAP	Written			
COTR 1.3	Discuss the Role of Occupational Therapy and the contributions of other health professionals in CBR.	K	KH	Y	Lecture	Written, viva			
COTR 1.4	Describe Difference between CBR and IBR	K	KH	Y	Lecture	Written			
COTR 1.5	Explain Treatment approach Alternatives	K	KH	Y	Lecture	written			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Wellness program & Preventive Occupational Therapy					**No of competencies: 4**				
COTR 2.1	Define Health, Health promotion & wellness	K	KH	Y	Lecture	written			
COTR 2.2	Explain the hypothesis of association of occupation with balance & participation to promote Health	K	K	Y	Lecture	viva			
COTR 2.3	Discuss research related to wellness & health promotion	K	K	Y	Lecture	Viva, written			
COTR 2.4	Describe the wellness & health promotion in Occupational therapy	K	KH	Y	Lecture	written			
Topic: Community Integration			**No of Competencies: 6**						
COTR 3.1	Identify community integration factors	K	K	Y	Lecture	written			
COTR 3.2	Describe the approaches used in Fall prevention to enhance mobility and safety	K	KH	Y	Lecture	written			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 3.3	Enumerate the factors required for Driving Skills	K	K	Y	Lecture	Written, Viva voce			
COTR 3.4	Identify Prerequisite for Driving skills	K	KH	Y	Lecture	written			
COTR 3.5	Demonstrate Visual perceptual assessment for driving	K	SH	Y	Lecture/ DOAP	Written, Viva voce, Skill assessment			
COTR 3.6	Describe The occupational therapy intervention to improve/enhance driving skills	K, S	KH	Y	Lecture, DOAP session	Written, Viva voce			
Topic: OT in occupational hazards			**No of Competencies: 2**						
COTR 4. 1	Identify Occupational Hazards	K	K	Y	Lecture	Written, Viva voce			
COTR 4. 2	Describe the strategies for management of prevention of occupational hazards	K	K	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Occupational therapy in Disaster management				**No of Competencies: 3**					
COTR 5.1	Describe Anticipated calamities or Disaster in India	K	K	Y	Lecture	Written, Viva voce			
COTR 5.2	Identify the role of Occupational therapy in prevention of disaster	K	K	Y	Lecture	Written, Viva voce			
COTR 5.3	Describe the role of Occupational therapy in Acute & post disaster events as a team member	K	K	Y	Lecture	Written, Viva voce			
Topic: Environmental Vs. Architectural Barriers				**No of Competencies: 4**					
COTR 6. 1	Describe various factors in Assessment of Environment	K	K	Y	Lecture	Written, Viva voce			
COTR 6. 2	Describe the strategies to manage & overcome architectural barriers	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 6. 3	Indian & international guidelines for barrier free environment (Toilet, Kitchen, bed room, Ramp/stairs, public transport facility etc.)	K	KH	Y	Lecture	Written, Viva voce			
COTR 6. 4	Web accessibility	K	KH	Y	Lecture	Written, Viva voce			
Topic: Disability & Health evaluation, certification & rights to disabled person							**No of Competencies: 5**		
COTR 7.1	Describe International Classification of Functioning, Disability & Health: WHO's ICF 2001 & older editions of ICIDH	K	SH	Y	Lecture	Written, Viva voce			
COTR 7.2	Discuss Magnitude of disability problems, its causes & future trends	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 7.3	Describe Persons with Disability Act (1995), National Trust Act 1999, RCI Act 1992, Right to Person with Disabilities (RPwD) Act (2016) by Government of India	K	KH	Y	Lecture	Written, Viva voce			
COTR 7.4	Identify & describe the concepts of disability evaluation and certification in India and its Social Legislation	K	SH	Y	Lecture	Written, Viva voce			
COTR 7.5	Describe the role of Occupational Therapy in Prevention & detection of disability	K	KH	Y	Lecture	Written, Viva voce			

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Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
REHABILITATION									
Topic: Driving Rehabilitation for persons with Disabilities				**Competencies: 3**					
COTR 8.1	Describe the skills required in Driving	K	KH	Y	Lecture	Written, Viva voce			
COTR 8.2	Enumerate the factors affecting driving skills	K	KH	Y	Lecture	Written, Viva voce			
COTR 8.3	Describe standardised Assessments used in Driving	K	SH	Y	Lecture, DOAP	Written, Viva voce			
Topic: Mobility & seating			**No of Competencies: 5**						
COTR 9.1	Identify needs of assessment mobility aids	K	K	Y	Lecture	Written, Viva voce			
COTR 9.2	Describe assessment factors for mobility aids	K	KH	Y	Lecture	Written, Viva voce			
COTR 9.3	Discuss the prescription of mobility & seating aids & appliances	K	SH	Y	Lecture, DOAP	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 9.4	Identify the needfor selection of Assistive aids for mobility & ambulation	K	KH	Y	Lecture	Written, Viva voce			
COTR 9.5	Describe the factors considered for fitting of Assistive devicesfor ambulation	K	KH	Y	Lecture	Written, Viva voce			
Topic: Wheelchair & seating training & adaptations				**No of Competencies: 4**					
COTR 10.1	Describe Wheel chair selection process	K	KH	Y	Lecture	Written, Viva voce			
COTR 10.2	Describe Wheel chair assessment, assessment for adaptations	K	SH	Y	Lecture, DOAP	Written, Viva voce			
COTR 10.3	Describe types, parts, adaptations in wheelchair	K	SH	Y	Lecture, DOAP	Written, Viva voce			
COTR 10.4	Describe training wheelchair maneuvering & safety assessment in wheelchair	K	SH	Y	Lecture, DOAP	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Low cost aids & appliances			**No of Competencies: 3**						
COTR 11.1	Identify needs of low cost appliances	K	K	Y	Lecture	Written, Viva voce			
COTR 11.2	Describe innovative low cost aids & appliances	K	KH	Y	Lecture	Written, Viva voce			
COTR 11.3	Describe various therapeutic equipment, splints, adaptive devices used in CBR setup	K	KH	Y	Lecture	Written, Viva voce			
Topic: Organisation & administration of CBR centre			**No of Competencies: 3**						
COT R 12.1	Describe the principles of organization & administration.	K	KH	Y	Lecture	Written, Viva voce			
COT R 12.2	Prepare Organizational chart	K	K	Y	Lecture	Written, Viva voce			
COT R 12.3	Describe procedure for starting a new Rehabilitation Centre, survey required & planning	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Additive Therapy		**No of Competencies: 5**							
COTR 13.1	Enumerate the principals & the modalities used in Ayurveda, Yoga and Naturopathy, Unani, Siddha, Homeopathy	K	K	N	Lecture	Written, Viva voce			
COTR 13.2	Describe the various approaches & techniques used in Virtual Reality	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.3	Describe about Assistive & adaptive Technology	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.4	Describe the various new approaches in rehabilitation such as Tele-rehabilitation and Robotics	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.5	Describe Computer / IT application in rehabilitation	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Discuss Adjunctive Therapy to OT			**No of Competencies: 3**						
COTR 14.1	Introduction to physiotherapy: Understand scope & importance of prevention, remediation of movement dysfunction and various techniques	K	K	N	Lecture	Written, Viva voce			
COTR 14.2	Introduction to speech & language therapy: Understanding speech, communication, language & swallowing problems in children & adults and intervention for the same	K	K	N	Lecture	Written, Viva voce			
COTR 14.3	Assistive technology solutions: Describe the concepts in assistive technology solutions	K	K	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Pain Management in Occupational Therapy			**No of competencies: 3**						
COTR 15.1	Define & classify pain	K	K	Y	Lecture	Written, Viva voce			
COTR 15.2	Describe the various assessment scales in pain	K	KH	Y	Lecture	Written, Viva voce			
COTR 15.3	Describe various modalities used in Pain management such as Kinesio- taping Aquatic therapy, Myofascial pain Syndrome management (Myofascial releaseand other pain management such as Taichi etc.) (To be used as an adjunct to Occupational Therapy intervention program only)	K	SH	N	Lecture	Written, Viva voce, Skill assessment			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Physical agent modalities in adjunct to Occupational Therapy (PAMOT) No of competencies: 1									
COTR 16.1	Describe the application of Physical agent modalities (as an adjunct to OT only) to improve occupational performances	K	SH	Y	Lecture	Written, Viva voce, Skill assessment			

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Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
4. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
5. Atlas of Orthoses and Assistive Devices by Bertram Goldberg, John D. Hsu. Published by F. A. Davis Company.
6. Community Based Rehabilitation by Malcolm Peat. Published by W. B. Saunders
7. WHO International Classification of Functioning manual
8. Hunter, Mackin, Callahan's Rehabilitation of the Hand and Upper Extremity by Evelyn Mackin, Anne D.Callahan. Published by Mosby
9. Yogic Exercises, physiologic and psychic processes by S. Dutta Ray. Published by Jaypee Brothers.
10. Physical Agent Modalities: Theory and Application for the Occupational Therapist by Alfred G. Bracciano. Published by Thorofare NJ SLACK Inc

OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY

Course Description : This course offers the student to learn the foundational concepts of occupational therapy in psychiatry. It includes standardised and non-standardised occupational therapy psychiatric evaluations and assessments. The course introduces the student to various occupational therapy psychiatric settings and teaches theoretical and practical skills in using appropriate Models/ Frames of references/ Approaches for Occupational Therapy intervention throughout human lifespan.

Goal: The broad goal of Occupational therapy in psychiatry subject, is to enable the undergraduate student, to be an active participant in learning the knowledge, skills, behavioral, and attitudinal attributes, for assessing and providing occupational therapy intervention in psychiatry.

Course Objectives:

A. Knowledge: At the end of the course, the student shall be able to:

1. Outline the history and evolution of occupational therapy in psychiatry.
2. Apply the foundational knowledge of occupational therapy in psychiatry.
3. Relate to the various settings of occupational therapy in psychiatry.
4. To study the theory and practical skills in using appropriate Models/ Frames of references/ Approaches for Occupational Therapy intervention throughout human lifespan

B. Skills:

1. Select and perform the various evaluations and assessments used in occupational therapy in psychiatry.
2. Document occupational therapy assessment and intervention based on Occupational therapy practice framework.
3. Develop clinical skills to apply therapeutic use of self, activity prescription and grading, and environmental modifications.

C. Attitude:

1. Develop an empathetic and humanitarian approach.
2. Value confidentiality and priorities of the service seeker.
3. Respect towards the service seeker.

Course Outcome:

1. Know the history and evolution of occupational therapy mental health.
2. Describe the foundational knowledge of occupational therapy mental health.
3. Demonstrate the skills needed for occupational therapy assessment and intervention of various psychiatry conditions.

Scheme of examination for University Practical exam 100 Marks

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	50marks	20 marks	5 marks	100 marks

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Competencies table: OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY								
Topic: Theoretical basis of occupational therapy in Psychiatry			**No. of competencies: 5**					
OTPSY 1.1	Enlist key milestones and advancements in the history of occupational therapy in Psychiatry.	K	K	Y	Lecture	Written, Viva voce		
OTPS 1.2	Explain historical context influencing contemporary practices and approaches in Psychiatry occupational therapy.	K	K	Y	Lecture	Written, Viva voce		
OTPSY 1.3	Explain major medical and psychological theories commonly applied in occupational therapy for Psychiatry interventions. i. Theory of object relations ii. Developmental theory iii. Behavioral theory iv. Cognitive Behavioral Therapy v. Client-centered therapy	K	K, KH	Y	Lecture	Written, Viva voce	OTDP II	

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
	vi. Neurosciences theories vii. Psychiatric and psychosocial rehabilitation viii. Explanatory models from other cultures ix. Development of Adaptive Skills x. Role Acquisition and Social Skills Training xi. Psychoeducation xii. Sensory Integration/Processing xiii. Cognitive theories							
OTPSY 1.4	Explain mental health and well-being, including key components, factors influencing mental well-being, and strategies for promoting and maintaining positive mental health.	K	K	Y	Lecture	Written, Viva voce		
OTPSY 1.5	Discuss the various mental health factors that impact human occupation across the lifespan, considering developmental stages and life transitions.	K	K, KH	Y	Lecture	Written		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Specific client factors related to mental health		**No. of competencies: 2**						
OTPSY 2.1	Define, classify, and describe neuropsychology and effect on occupational performance of the factors given below: i. Cognitive Skills ii. Cognitive Beliefs iii. Sensory Skills iv. Communication and Social Skills v. Coping Skills vi. Motivation vii. Emotion Regulation viii. Pain Regulation	K, S,A, C	SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 2.2	Describe evaluation and intervention of the factors given below: i. Cognitive Skills ii. Cognitive Beliefs iii. Sensory Skills iv. Communication and Social Skills v. Coping Skills vi. Motivation vii. Emotion Regulation viii. Pain Regulation	K, S,A, C	SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Assessment and Outcome Measurements in occupational therapy practices in psychiatry No. of competencies: 2								
OTPSY 3.1	Document Occupational therapy assessment and intervention in psychiatry based on Occupational Therapy Practice Framework.	K, S,A, C	K/S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 3.2	Describe various methods of assessment and outcome measurements used in psychiatric occupational therapy practice, including both standardized and non-standardized approaches.	K	SH	Y	Lecture, DOAP	Written, Viva voce, Skill assessment, Practical		
Topic: Occupational therapy settings in mental health No. of competencies: 2								
OTPSY 4.1	Describe occupational therapy functioning in various psychiatric settings.	K	KH	Y	Lecture	Written/Viva voce		
OTPSY 4.2	Identify and describe the role of an occupational therapist as a team member in various psychiatric settings.	K	KH	Y	Lecture	Written		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Mental health occupational therapy interventions to support occupations No. of competencies: 11								
OTPSY 5.1	Discuss various types of therapeutic media commonly used in psychiatric occupational therapy interventions.	K, S,A, C	K, S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.2	Explain and demonstrate therapeutic use of self.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.3	Explain and demonstrate use of environment for occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPS 5.4	Explain and demonstrate use of occupation and activity for occupational therapy in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 5.5	Explain and demonstrate use of physical activity for mental well- being.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.6	Explain and demonstrate use of play in occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.7	Explain and demonstrate use of vocation in occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.8	Explain and demonstrate therapeutic management of symptoms and behaviors.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPS 5.9	Explain and demonstrate group therapy.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 5.10	Explain and demonstrate stress management techniques.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.11	Explain and demonstrate use of virtual reality.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
Topic: Occupational therapy practices in psychiatry for children and adolescents No. of competencies: 4								
OTPSY 6.1	Explain neuropsychiatry of neurodevelopmental disorders relevant to occupational therapy process and practice.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPS 6.2	Define, classify, and enumerate clinical presentation of neurodevelopmental disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 6.3	Enlist common medical treatments and the effects of medications used in managing neurodevelopmental disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 6.4	Explain occupational therapy assessment and management for the following Neurodevelopmental disorders: ● Intellectual Disabilities ● Communication Disorders ● Autism Spectrum Disorder ● Attention-Deficit Hyperactivity Disorder ● Specific Learning Disorder ● Motor Disorders	K, S,A, C	K/S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		IV BOTh OT in Paediatrics
Topic: Mental health occupational therapy in adults		**No. of competencies: 4**						
OTPSY 7.1	Explain neuropsychiatry of adult psychiatric disorders relevant to occupational therapy process and practice.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 7.2	Define, classify, and enumerate clinical presentation of adult psychiatric disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 7.3	Enlist common medical treatments and the effects of medications used in managing adult psychiatric disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 7.4	Discuss occupational therapy assessment and management for the following: ● Schizophrenia Spectrum and other Psychotic Disorders ● Catatonia Disorders ● Bipolar and related Disorders ● Anxiety Disorders ● Obsessive Compulsive and related Disorders ● Trauma & Stressor related Disorders ● Dissociative Disorders ● Feeding and Eating Disorders ● Elimination Disorders ● Sleep-Wake Disorders ● Sexual Dysfunctions ● Gender Dysmorphia ● Disruptive, Impulse- control, and Conduct Disorders ● Substance-related and Addictive Disorders ● Neurocognitive Disorders ● Personality Disorders ● Paraphilic Disorders	K, S, A, C	K, S		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Psychosocial aspects of disability No. of competencies: 1								
OTPSY 8.1	Explain occupational therapy assessment and intervention for psychosocial aspects of disability.	K	KH	Y	Lecture	Written/Viva voce		

Reference Books:

1. Occupational Therapy in Mental Health A Vision for Participation, Catana Brown
2. Occupational Therapy and Mental health, Jennifer Creek
3. Mental Health Concepts and Techniques for the Occupational Therapy Assistant, Mary Early
4. Occupational Therapy in Psychiatry and Mental health, Crouch- Rosemary
5. Payne's Handbook of Relaxation Techniques, Rosemary Payne, Marie Donoghy
6. Occupational Therapy for Children and Adolescents, Case-Smith

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Occupational Therapy in Paediatric Conditions

COURSE DESCRIPTION: This course intends to familiarize students with terminology & abbreviations for efficient & effective chart reviewing & documentation for occupational therapy in paediatric conditions. It also gives overview of etiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of Neurodevelopment disorders, genetic disorders, and musculoskeletal conditions, infective conditions of CNS in paediatrics, with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The goal to teach the undergraduate students OT in Pediatrics is to have the knowledge, skills and behavioural attributes to function effectively as an occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES:

A. KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common paediatric conditions with special reference to Neurodevelopmental conditions like cerebral palsy, Autism, ADHD and other conditions like congenital, metabolic and muscular disorders
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize atypical behaviour in children and its OT management
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, play/leisure skills, social skills, pre-vocational/work adjustment skills

B. SKILLS:

At the end of the course, the student shall be

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.
2. Perform simple assessments using standardised methods, test batteries and instruments to assess performance components.
3. Assist the common bedside evaluations and assessment procedures related to paediatric conditions and be able to document their findings and intervention.

C. ATTITUDE:

1. The teaching and training in "OT in paediatric condition" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Scheme of examination for University Practical exam

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	**50marks**	**20 marks**	**5 marks**	**100 marks**

Competencies table: Occupational Therapy in Paediatric Conditions

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN PAEDIATRIC CONDITIONS								
Topic: Development, Milestones and Reflexes			**No of Competencies: 3**					
OTPC 1.1	Demonstrate developmental Milestones and physiological measures in typical and child with developmental delay. (Physical, sensory motor, Cognitive perceptual, play and social and emotional)	K, S, A, C	KH, SH	Y	Lecture, Observation, DOAP, Case study, Case presentation	Written, Viva, Practical, OSCE	FOT II, OTDP2, Developm-ental Psychology	OT in Neurological Conditions, OT Practices in Psychiatry
OTPC 1.2	Demonstrate the normal and abnormal reflex patterns.	K, S, A	KH, SH		Lecture, practical, case presentation	Written, Viva, practical, DOAP		
OTPC 1.3	Explain the Paediatric occupational dysfunctions using the ICF and OTP Frameworks.	K, S	KH, SH		Lecture, Case Presentation	Written, Viva, Practical	OTDP II	
Topic: Approaches used in Paediatric Occupational therapy			**No of Competencies: 15**					

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.1	Describe the principles and application of various evidence based treatment approaches used in paediatric OT.	K	KH	Y	Lecture, Case study, case presentation, seminar	Written, Viva Voce, Practical		
OTPC 2.2	Document the OT assessment and intervention in Paediatric conditions based on Occupational Therapy Practice	K	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment ,		
OTPC 2.3	Discuss Philosophy of neurodevelopmental treatment	K	KH		Lecture	Written/ Viva Voce	OTDP I	
OTPC 2.4	Identify Key Principles of NDT- preparation of movement patterns , developmental sequences, sensorimotor experience ,key points of control, All day management	K/S	SH		Lecture/ DOAP session	Written/ Viva voce/Skill assessment /Practical	OTDP I	
OTPC 2.5	Document about Integrating NDT with Occupational Functioning Model in developmental Disorders	K/S	KH		Lecture/ DOAP session	Written/ Viva voce	OTDP I	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.6	Describe a Model for Sensory Processing Underlying Concepts for Sensory- Processing Patterns based on Sensory Integration Therapy	K	KH		Lecture	Written	OTDP I	
OTPC 2.7	Identify Patterns of Sensory Processing from Dunn's Model in children with Sensory processing disorders	K/S	SH		Lecture/DOAP session	Written/Viva voce/Skill assessment /Practicals	OTDP I, psychology, Psychiatry	
OTPC 2.8	Define Goals of Occupational Therapy Using Sensory Integration Strategies	K/S	KH		Lecture/ DOAP session	Written/ Viva voce	OTDP I, psychology, Psychiatry	
OTPC 2.9	Discuss Report Preparation for Sensory processing issues	K	KH		Lecture	Written/ Viva Voce	OTDP I, psychology, Psychiatry	
OTPC 2.10	Demonstrate the Sensory motor approaches such as Roods for improving Motor control	K/S	SH		Lecture/ DOAP session	Written/ Viva voce/Skill assessment /Practicals	OTDP I Neurology	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.11	Describe & discuss the use Play therapy in Paediatric Occupational therapy settings	K	KH		Lecture, small group discussion, Case based, study	Written/ Viva Voce	OTDP II	
OTPC 2.12	Describe adjunctive treatment measures in paediatric occupational therapy not limited to CIMT, , MFR, KT, HWT, Yoga, Animal assisted therapy, Aqua therapy, AAT.	K	KH,SH		Lecture/ DOAP session/case study/ seminar/ presentations	Written/ Viva voce/Skill assessment /Practical		
OTPC 2.13	Explain Classification-various neurological & neurosurgical Conditions & their considerations	K	KH		Lecture, DOAP	Written		
OTPC 2.14	Describe OT & Family based intervention in Occupational Therapy	K	KH		Lecture, DOAP	Viva, written	OT DP II	
OTPC 2.15	Demonstrate the appropriate documentation after follow up	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	Paediatrics	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Introduction to Neurodevelopmental Disorders No of Competencies: 4								
OTPC 3.1	Define and Explain Classification of neurodevelopmental disorders with emphasis on Intellectual Disabilities, Communication Disorders, Autism Spectrum Disorder, Attention - Deficit Hyperactive Disorder, Specific Learning disorder, and other Sensory Processing dysfunctions	K,S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	Paediatrics	
OTPC 3.2	Explain the occupational dysfunctions in NDD (ICF and OTP Frameworks).	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
OTPC 3.3	Enlist Treatment Approaches using Motor, Sensory, cognitive, perceptual and client centred based interventions.	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 3.4	Alternative treatment Management in the management of Neurodevelopmental disorders	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
Topic :Early Intervention No of competencies 6								
OTPC 4.1	Discuss importance of Early intervention in developmental disabilities	K	KH	Y	Lecture	Written/ Viva voce	Paediatrics	
OTPC 4.2	List Legislation & influences on services for children with developmental deviations	K	KH		Lecture	Written		
OTPC 4.3	Identify Goal intervention of early	K, S	SH		Lecture, DOAP session	Written, Viva voce, Skill assessment, Practical		
OTPC 4.4	Discuss the Role of occupational therapy	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 4.5	Choose Service delivery in early intervention program	K	KH		Lecture	Written		
OTPC 4.6	Inform Parent about role of Occupational Therapy & choose appropriate professional interaction	K, C	KH		Lecture, DOAP session	Written, Viva voce		
Topic - Cerebral Palsy No of competencies -11								
OTPC 5.1	Describe Historical Perspective	K	KH	Y	Lecture	written	OTD P I	CBOT & R
OTPC 5.2	Identify Scope of cerebral Palsy	K	KH		Lecture	written		
OTPC 5.3	Demonstrate Comparison of normal & abnormal development	K/S	SH		Lecture, DOAP session	Written, Viva voce, skills assessment, Practicals		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 5.4	Enumerate and describe the various Assessments in cerebral palsy	K	KH,SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
OTPC 5.5	Classify Types of cerebral palsy	K	KH		Lecture	written		
OTPC 5.6	Demonstrate understanding of Consequences of abnormal neurological patterns of development	K	KH		Lecture	Written, Viva voce		
OTPC 5.7	Identify the Dysfunctions in oral motor abilities	K	KH		Lecture	written		
OTPC 5.8	Identify & discuss Assessment of oral Motor disabilities	K	SH		Lecture, DOAP	Viva, skills assessment, Practicals		
OTPC 5.9	Identify the treatment approaches for oral motor disabilities	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 5.10	Describe Overview of treatment methods in cerebral Palsy	K	KH		Lecture, DOAP	Written, Viva voce		
OTPC 5.11	Document Occupational Therapy treatment in cerebral Palsy	K, S	SH		Lecture, DOAP	Written, Viva voce, skills assessment		
Topic: Other Neurodevelopmental disorders No of competencies- 4								
OTPC 6.1	Discuss Incidence of Autism , ADHD & seizures disorders & their aetiology	K	KH	Y	Lecture	Written, Viva voce	Psychology	
OTPC 6.2	Describe the Developmental characteristics of Autism, ADHD & seizures disorders	K	KH		Lecture	Written, Viva voce		
OTPC 6.3	Describe Treatment & prognosis in Autism ,ADHD & seizures disorders	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 6.4	Document Role of Occupational Therapy in the treatment of Autism, ADHD & seizures disorders	K, S, C	SH		Lecture, DOAP	Written, Viva voce, skills assessment		
Topic: OT in Neonatal Intensive care unit		**No of competencies- 6**						
OTPC 7.1	Understand the scope of Occupational Therapy & knowledge required for competent practice in the neonatal intensive care unit (NICU).	K	KH	Y	Lecture	Written, Viva voce		
OTPC 7.2	To understand the traditional occupational therapy approach of rehabilitation and developmental stimulation with current concepts of individualized developmentally supportive care in the NICU	K	KH		Lecture	Written, Viva voce		
OTPC 7.3	Define and compute postconceptional, chronologic, and corrected age.	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 7.4	Identify potential negative effects of light, sound, and caregiving practices on infants in the NICU.	K, C	SH		Lecture, DOAP	Written, Viva voce, Skill assessments		
OTPC 7.5	Identify the basic principles and Techniques of developmentally supportive care & positioning in the NICU.	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 7.6	Understand the (limited) appropriate use for range of motion and splinting in the NICU	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy in Preschool -School setup No of competencies -10								
OTPC 8.1	List Legislation aspect of school based Occupational therapy	K	KH	Y	Lecture	Written	Psychology	
OTPC 8.2	Demonstrate understanding of Team approach in school set up	K, A, C	KH		Lecture	Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 8.3	Interpret outcome of school based Assessment & inform team members, parents	K, S, C	KH		Lecture	Written, Viva voce		
OTPC 8.4	Present Program planning & documentation	K, S	SH		Lecture, DOAP	Written, Viva voce, Practicals		
OTPC 8.5	Identify components for Implementing program	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 8.6	Identify factors that contribute to typical or atypical development of visual perception	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 8.7	Choosing the Most Appropriate Type of Assessment	K	KH		Lecture	Written		
OTPC 8.8	Describe models and theories that may be used in structuring intervention plans for children who have problems with visual-perceptual skills	K	KH		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 8.9	Outline the intervention strategies & development of skills	K	KH		Lecture	Written		
OTPC 8.10	Demonstrate skills for assisting children in improving or compensating for problems with visual-perceptual skills	K, S	KH		Lecture, DOAP session	Written, Viva voce		
Topic : OT in degenerative & genetic disorders, Neural tube defects (Spina Bifida, Muscular dystrophy) No of competencies-4								
OTPC 9.9	List Etiology & Define Terms Neural Tube defects	K	KH	Y	Lecture	Written	Neurology, Orthopaedi -cs	
OTPC 9.2	Describe Neurological & Neurosurgical concerns, Functional limitations in neural tube defects	K	KH		Lecture	Written, Viva Voce		
OTPC 9.3	Discuss Orthopaedic concern	K	KH		Lecture	Written, Viva Voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 9.4	Describe Occupational Therapy Role in treatment	K, S	SH		Lecture, DOAP session	Written, Viva voce, Skill assessment, Practical		
Topic: OT in Paediatric oncology No of competencies-2								
OTPC 10.1	Identify conditions in paediatric oncology Enumerate occupational therapy goals in intervention	K	KH	N	Lecture	Written, Viva Voce	Surgery	
OTPC 10.2	Identify the Use of Play in Intervention	K	KH		Lecture, DOAP	Written, Viva Voce		

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Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy for Children by Jane Case-Smith. Published by Elsevier – Mosby.
5. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer, Jim Hinojosa Published by Lippincott Williams and Wilkins.
6. Sensory Integration Therapy: Process & Practice by Anita Bundy
7. Treatment of Cerebral palsy & Motor delay by Sophie Levitt,Wieley-Blackwell,A John Weley & sons Ltd Publication publication Finnies Handling of young child with cerebral palsy at Home by Eva Bower;Elsevier publication
8. Illingworth's The development of the infant & young child (Normal & abnormal 0,Ronald Illingworth,,MKC Nair,paul Russell; Elsevier publication
9. Occupational therapy for children by Jane case smith,Jane Clifford O'Biren ,Mosby Elsevier publication

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4.25 Master of Occupational therapy (MOT)

Introduction

- Master of occupational Therapy (MOT) is a full time (ON CAMPUS) Two years course with compulsory clinical field work.
- A student is assigned a Guide recognised by the University for the Selected Specialty. The compulsory dissertation commences with presenting the original research protocol in front of the Departmental Review Board and with its approval it is evaluated and passed by the Institutional Ethics Committee and then submitted to the University for Final Approval of the synopsis.
- The student along with Clinical, Para-clinical, supervisory, administrative, and micro-teaching must finish the collection of data, analysis and writing the dissertation three months prior to final year examination.
- The student is eligible to appear for the final exam at the end of two years, after submission and approval of dissertation by University.
- The entire post graduate activity is documented as logbook to be compulsorily submitted for eligibility to appear for exams at the end of each year.
- Completion of the Research Methodology and Teaching Technology workshop is desirable.
- The MOT degree is conferred after passing all the theory exams and practical exams.

4.25.1 Course Objective

At the end of two years of full-time Master's Course in Occupational Therapy, Student will be able to apply clinical knowledge, plan-implement-execute-appraise Occupational Therapy intervention, have aptitude to conduct research, get trained as a teacher, learn supervising skills and take administrative roles. The course aims to make a MOT student a professional of finest clinical and managerial skills to be specialized in the subject opted.

- The student will be trained in specifics and advanced therapeutic processes pertaining to the diagnosis and management of the respective specialty and allied subjects.

- The student will be able to perform critical evaluation of Occupational Therapy and related medical science literature for adopting new theories and technologies in Occupational Therapy diagnostic and therapeutic procedure.
- The student will be able to implement Evidence based interventions and periodically update knowledge and translate into everyday clinical practice.
- The students will be able to implement a transition program for patients from acute care to community integration.
- The students will be able to ethically abide by the rights of the patients and maintain high standards of good clinical practice.
- The Student will be able to design and conduct an original research study in the field of their respective specialty subject.
- The student will be able to execute administrative skills of organising, co-ordinating and documenting various post graduate activities
- The student will be able to use the latest technology for presentation skills, intervention and documentation
- The student will be proficient in communication with Authorities, Colleagues, co-professionals, patients, and their care givers
- The students should be able to project the Occupational Therapy process and outcomes, amidst the co-professional team members.
- The student will be able to conduct a micro teaching class for undergraduate students
- The student will be able to supervise clinical and practical demonstrations of undergraduate students

4.25.2 Aims of the course

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

A. **Cognitive Domain**

- Clinical History taking, Functional Diagnosis and reasoning
- Use of relevant test batteries and their interpretation
- Planning appropriate treatment and discharge

- Update knowledge base
- Teach and Supervise UG students
- Conduct research studies, present, and publish research articles

B. **Psychomotor Domain**

- To implement various approaches, techniques, design and fabricate orthosis, adapt and modify environment
- Create individualized, Innovative and client centered treatment methods and adaptations for patient.
- To understand the dynamic interaction of various medical interventions for the client on the overall outcome of the disease

C. **Affective Domain**

- Adhere to the institutional ethics at work and maintain the professional conduct
- Empathetic behavior with patients and their relatives
- Respect patient rights, privilege and occupational justice
- Empowerment and participation of patient and their care givers in the therapeutic process
- Develop Communication skills with colleagues
- Respect and accept teamwork

4.25.3 Expectation from the future post graduate in providing patient care.

1. Course work includes advanced knowledge and skills related to the respective branch of specialty.
2. Acquire in-depth knowledge of structure and function of human body related to the respective branch of specialty.
3. Acquire the in-depth knowledge of movement dysfunction of human body, cause thereof principles underlying the use of occupational therapy interventions for restoring movement dysfunction towards normalcy.
4. Demonstrate skill in Physical & Functional diagnosis pertaining to patient under his/her care.
5. Demonstrate ability to critically appraise recent primary, secondary literature from journals & adopt diagnostic & therapeutic procedures based on it.
6. The student will also perform independent research within the department and help the department and the team for treatment planning of the patient.

7. Demonstrate ability to make clinical decision (based on evaluation) regarding Occupational therapy strategy techniques and select appropriate outcome measures based on the comprehensive knowledge of specialty.
8. Demonstrate an expertise in evidence-based skill in the management disorders including movement and functional dysfunction in concerned specialty.
9. Demonstrate an expertise in health promotion, early identification and intervention for quality restoration of function.
10. Planning and implementation of treatment programme adequately and appropriately for all clinical conditions common as well as rare related to respective specialty in acute and chronic stage, various situation and places related to the specialty.
11. Demonstrate proficiency in creating awareness using newer technology, at various levels in community for healthcare & professional awareness.
12. Demonstrate leadership, managerial, administrative & communication skills.
13. Demonstrate the knowledge of legislation applicable to compensation for functional disability welfare schemes & rights of the disabled, laws related to industrial workers & disabled & appropriate certification.
14. Demonstrate proficiency in classroom and clinical teaching using newer and appropriate technology.

4.25.4 Scope of Training:

Course is intended to prepare candidates for responsibilities in position of

Specialized practitioner: MOT student will be able to provide quality occupational therapy services, including evaluation, intervention, program planning and implementation, discharge planning–related documentation, and communication. Service provision may include direct, monitored, and consultative approaches.

Researcher: MOT student will be able to design and conduct a research in the field of any subject (specialty). A MOT student will also be able to read, understand and critically review the research literature published in the journals, newsletters, and test manuals.

Teacher: MOT student will be able to Design and conduct educational sessions for undergraduate students imparting theoretical and clinical knowledge.

Supervisor: MOT student will be able to establish a dynamic teaching learning relationship and educational process which will serve as the bridge between previously learnt knowledge and clinical skills through experiential process.

Administrator: MOT student will be able to plan, organize, direct and control departmental and institutional activities, events, programs, and various Occupational Therapy services

Consultant: MOT student will be able to give an expert opinion or information on organizational, program development, supervisory, or clinical issues or any combination of these to the person/organization seeking the Occupational Therapy services

4.25.5 Description of Course

Duration of Course:

Master of Occupational Therapy (MOT) shall be full time, (compulsory ON CAMPUS) course with duration of two academic years

Total teaching hours per academic year: 1560 Hrs. (Total= 3120 Hrs. for 2 years) 39 hrs per week (39 hr /week x 40 weeks)

Academic training, excluding internal and University examination, extracurricular activities, Public Holidays, and Vacation

Medium of instruction:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

Stipend: It is mandatory that the MOT students will get stipend for their academic year at par with NMC guidelines.

Proposed specialities in Master of Occupational Therapy

1. Master of Occupational Therapy in Musculoskeletal sciences – MOT (MSK)
2. Master of Occupational Therapy in Paediatrics & Neonatology- MOT (P&N)
3. Master of Occupational Therapy in Neurosciences – MOT (NEURO)
4. Master of Occupational Therapy in Mental Health – MOT (MH)
5. Master of Occupational Therapy in Cardiovascular & Pulmonary Sciences- MOT (CVPS)

6. Master of Occupational Therapy in Rehabilitation – MOT (REHAB)
7. Master of Occupational Therapy in Geriatrics - MOT (GR)
8. Master of Occupational Therapy in Hand –MOT (Hand)
9. Master of Occupational Therapy in Oncological Sciences- MOT(ONCO)

4.25.6 Overview of Proposed Courses in MOT

First Year MOT (MOT- I)

First Year of MOT will have Four Courses. Out of which three courses (MOT 101, 102 & 103) would be common to all specialities, one Course (MOT 104) would be a speciality paper

Continuing Internal Assessment (CIA): Would be inclusive of Journal Club: Presentation of reviewed published articles, Critiquing assessment, Critiquing analysis, case presentations, microteaching, seminar, topic presentations, seminars & etc.

Nomenclature of each Course of MOT -I

MOT 101: Ethics, Management and Educational Technology in Occupational Therapy Practice

MOT 102: Research Methodology & Biostatistics

MOT 103: Advanced clinical foundation in Occupational Therapy practice

MOT 104: Specialty Paper 1

Basic Medical Sciences & Theoretical foundation in Occupational Therapy for (specialty subject) e.g. Pediatrics & Neonatology.

CIA: Journal Club: Presentation of reviewed published articles, Critiquing assessment, Critiquing analysis, case presentations, microteaching, seminar, topic presentations, seminars, Instrument presentation & etc.

Second Year MOT (MOT- II)

Second year of Masters in Occupational Therapy would have total of Four courses, out of which three courses (MOT 201, 202 & 203) would be proposed speciality papers,

MOT-204: Dissertation

Nomenclature of each Subjects/ Courses of MOT -II MOT 201: Specialty paper 2

Advanced Occupational Therapy Diagnostic & Prognostic skills in (speciality subject) e.g. Paediatrics & Neonatology

MOT 202: Specialty Paper 3

Advanced Occupational Therapy process & practice in (specialty subject) e.g. Paediatrics & Neonatology

MOT 203: Specialty paper 4

Current & Future Trends in Occupational Therapy Practice in Speciality e.g. Paediatrics & Neonatology

MOT 204: Dissertation

4.25. 7 Eligibility for admission:

1. The candidate should have passed the Bachelor of Occupational therapy from a regular, on campus course, recognized by NCAHP with pass marks (50%). He /She should have appeared in CUET-PG test/ Any similar tests conducted by Central or State Govt./University Any other test as recognized by NCAHP.
2. Candidate must furnish a certificate of physical fitness from a registered medical practitioner and two references from persons other than relatives testifying to satisfactory general character at the time of submission of application form.
    a. No candidate will be admitted on any ground unless he/she has appeared in the admission test and interview.
    b. Entrance test, to be conducted by the university as per the syllabus.
    c. Successful candidates on the basis of written test will be called for the interview & shall have face an interview board. The interview board will include the Head of the Department of Occupational therapy (Chairman of the Board) and other members as per the policy of institute/ university, whose recommendations shall be final for the selection of the candidates.
    d. During subsequent counselling (s) the seat will be allotted as per the merit of the candidate depending on the availability of seats on that particular day.

e. Candidate who fails to attend the Medical Examination on the notified date(s) will forfeit the claim for admission and placement in the waiting list except permitted by the competent authority under special circumstances.

f. The name of the student(s) who remain(s) absent from classes for more than 15 days at a stretch after joining the said course will be struck off from the college rolls without giving any notice.

4.25.8 Intake of students

The guide to student's ratio shall be 1:3 for admission in first year MOT and cannot be extended in any case. The intake of students to the course shall be at the starting of academic year only. Maximum number of seats in each MOT Speciality would be 12.

4.25.9 Guide

a) Qualification of Guide:

- The academic qualification and teaching experience required for recognition as guide is Masters in Occupational Therapy (MOT) with 5 years of teaching experience post MOT.
- Students cannot be left without guide for more than 3 months total during their post- graduation study. (i.e. in the event of resignation of guide college

  Should appoint the guide within 3 months as per the essential criteria of guide) or as prescribed by University/Government.

b) Change of Guide

In case of registered guide leaving the college for any reason or in case of death of guide, guide may be changed with prior permission from the university but as per the mentioned guideline here before. For benefit of students, services of visiting faculty can be utilized, but these faculty members will not be counted in the PG teachers and they cannot register candidates.

4.25. 10 Methods of training

The training of postgraduate for MOT degree shall be on a full-time pattern with graded responsibilities in the management and treatment of patients entrusted to his / her care. Acquisition of practical competencies being the keystone of post graduate medical education, post graduate training should be skills oriented. Learning in post graduate programme should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort

The participation of all the students in all facets of educational process is essential:

a) Every candidate should participate in seminars, group discussions, clinical rounds, case presentations, clinics, journal review meetings, national/ international conferences & COTE, .

b) Every candidate should be required to participate in the teaching and training programs of undergraduate students. Training should include involvement in laboratory experimental work and research studies

c) **Formal teaching sessions [minimum]**

At least 4-hrs of formal teaching per week per subject is necessary. The departments may select a mix of the following sessions:

- Journal club : Once a week
- Seminar/ lecture/ Micro teaching: Once a week
- Case discussions: Twice a week
- Interdepartmental case or seminar: Once a week

d) Graded responsibility in the care of patients and operative work (Structured Training Schedule of clinical & speciality subjects only)

- Clinical work: Record to be maintained in the log book (No. of patients every week in Both years of MOT)
  - Observes
  - Assisted a senior Occupational therapist
  - Performed procedure under the direct supervision of a senior specialist wherever necessary
  - Performed Independently

- **Other Activities:**
    - Teaching Activities – Teaching UG student
    - Learning Activities: Self Learning, Use of computers & library
    - Participation in departmental activities;
    - Clinical presentation
    - Special clinics
    - Inter departmental meetings
    - Community work, camps / field visits
    - Clinical rounds
    - Dissertation work
    - Participation in conferences/ presentation of paper -Minimum 2 in two years
    - Any other – Continuing Occupational Therapy Education COTE)

e) **Clinical Assignments**

- Mandatory clinical fieldwork is inclusive of management of patients in intensive care unit, acute care set up, out- patient department and community.
- Each clinical assignment will be for a period of 2 months.
- Assignments for MOT I will be related to general & speciality allied conditions (Medicine, Surgery, Psychiatry, OPD, Orthopaedics)
- Assignments for MOT II will be of speciality subject.
- Rotation and posting in other departments for a maximum of 6 months, the candidate must spend 18 months in the department concerned of specialty & its allied subjects

f) **Logbook**

Logbook is the document of reflective writing which must be maintained by MOT student throughout the two years of the course. A logbook contains the record of performance in the clinical postings, micro teaching, case presentations, group discussions and seminar evaluated by the recognised Post graduate teachers. A logbook also reflects candidate's participation in co-curricular activities like workshops, seminars, conferences, Continued Occupational Therapy Education, and community services (Annexure).

g) **Attendance:**

A candidate will be permitted to appear for the University Examination if he/she secures not less than 85% of attendance in the number of instructional days/ practical at hospitals during the academic year, failing which he/she should complete the number of days/hours before appearing for the final examination conducted by the university.

4.25.11 Dissertation

Dissertation is the mandatory original research study conducted by the MOT student under the supervision of the recognized guide which needs to be completed during two years pertaining to the area of specialty. The candidate must submit the completed dissertation 3 months prior to the commencement of the MOT Examination. The dissertation must be approved by the examiner. In case the student has to reappear for the exam in the same specialty in the subsequent attempts, he/she is not required to submit a fresh dissertation.

The thesis shall be examined by a panel of three examiners; one internal and two external examiners, who shall also be the examiners of Clinical examination also.

A) Synopsis for dissertation:

Synopsis is the introductory document of the original research project selected by the MOT candidate under the guidance of recognized PG guide. The topic of the synopsis once finalized by the Guide. The Student will present in the Departmental Review board (DRB). The approved synopsis in DRB is then submitted as a research proposal to the registered institutional Ethics Committee for ethical clearance of the selected topic for research. The approved synopsis by the Institutional Ethics Committee (IEC) is submitted for final approval.

B) Progress Report:

Progress report is the document of attendance, additional reviews in relation to dissertation and progress of the research project duly certified by the university recognized Guide, Head of Department, and the Head of the Institution. Progress report must be submitted every six monthly from the commencement of the course till the completion of the course

4.25.12 Assessment:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is done by the faculty of the department based on participation of students in various teaching / learning activities.

The assessment will be comprised of Formative and summative-

CIAs (IA)/ Formative assessment

1) MOT Student will be evaluated based on assessment of PG activities of clinical assignments, case presentations, microteaching, seminar, topic presentations.

   It may be structured and assessment be done using checklists that assess various aspects.

   - Theory, Seminars, recent advances, Open discussion, Micro teaching, quiz, Viva.
   - Practical, clinical rounds and bed side evaluation & application.
   - Journal club: article presentation, critiquing assessment & analysis
   - Case presentation, discussion and clinical conference.
   - Patient based /Laboratory or Skill based learning
   - Self directed learning and teaching
   - Departmental and interdepartmental learning activity
   - External and Outreach Activities.
2) The College may conduct periodic tests/Class Assignments from time to time as per their feasibility as a part of CIA.
3) Records and marks obtained in all above CIAs will be maintained by the Head of Department which should be provided to the university as & when required.
4) The CIA marks will not be added in the university exams but will only be reflected in the final mark sheet provided by the university.

Eligibility to appear in the University examinations:

a) Average of all CIA will be considered for eligibility to appear in final Examination with minimum 50% scoring
b) Submission of dissertation 3 months before the Final year university exams
c) Maintenance of log book for both years signed by respective faculty & finally approved by HOD & to be submitted during final Examination.

Summative Assessment

Theory Examination: There will be university examination at the end of each year

Clinical/Practical /Viva Voce examination

Practical examination shall be conducted at the end of first & second year by a panel of 2 examiners out of which one should be from another university.

Dissertation: To be examined at the end of 2nd year of MOT

Student shall make a 15minute presentation of dissertation followed by 10minute question answer by examiners.

Marks to be awarded separately by each examiner and an average shall be taken as the final marks awarded to the student in both practical as well as dissertation.

4.25.13 Examiners:

- Postgraduate teacher in Occupational therapy having a minimum of five years of teaching experience from recognized Occupational therapy college will be eligible to be the examiner.
- In case of non-availability of the post graduate faculty as an external examiner from other OT colleges then the non-teaching/Clinical occupational therapist having minimum five years of experience after MOT in respective specialty may be considered (valid only for first 3 years from the publication of these guidelines)

4.25.14 University Examination Pattern

University Examination: There will be university examination at the end of every year

Written Examination:

Theory: Each paper will be of 3 hours duration

CIA marks will be given in each course on skill acquisition and refinement pertaining to the course.

Maximum mar of CIA is fifty marks (50). Student must secure 50% of CIA to be eligible for appearing University examination.

Max. Marks: 100 each paper

MOT I: MOT 101, 102 & 103 Common for all specialties

MOT 104 is for respective specialty

Practical: Clinical Presentation: 100 Marks

Clinical Presentation : Marks should be awarded on the basis of Approach, Knowledge, Demonstration & Discussion

1. **Clinical Presentation 1:** There shall be one clinical presentation based on Advanced clinical foundation skills:

   Short case -50 Marks
2. **Spots-** 30 Marks
3. **Viva Voce on short case:** 20 Marks

MOT Ist Year

Theory Marks	Practical Marks	Total Marks
400	**100**	**500**

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SAMPLE OF THEORY QUESTION PAPER PATTERN FOR UNIVERSITY EXAMINATIONS		
End of Year Examination (EYE) Theory		
Pattern & Choices	**Marks**	**Total Marks**
Short essay questions 7 out of 8	7 x 10	70
Essay question 2 out of 3	2 x 15	30
Total		**100**

MOT II: Speciality subjects: MOT 201, 202. 203 Theory: Each paper will be of 3 hours duration **Max. Marks:** 100 for each Paper.

***Practical Examination: Clinical and Viva Voce**

Clinical Presentations : Marks should be awarded on the basis of Approach, Knowledge, Demonstration & Discussion

Clinical Presentation 1: There shall be one clinical presentation based on Diagnostic and Prognostic Tools in SPECIALITY SUBJECT: **100 marks**

a) **Short case assessment -** 50 Marks (Actual demonstration of assessment tool) & viva Voce – 20 marks

b) Spots- 30 Marks

Clinical Presentation 2: There shall be one clinical presentation based on Advanced Occupational Therapy Process & Practice in

SPECIALITY SUBJECI **(Includes current & future trends): 100 Marks Long case-**

i) Assessment: 20 Marks

ii) SMART Goals: 25 Marks

iii) Treatment Planning (Evidence Based): 25 Marks

iv) Performance of direct handling of patients on interventional approaches on speciality condition should be considered) -30 marks

Dissertation: 100 Marks

Presentation -50

Viva voce on dissertation: 50

MOT IInd Year

Theory Marks	Practical Marks	Dissertation Marks	Total Marks
300	200	100	600

Sample Schema for type of CIA Master of Occupational Therapy Program			
Core Theory / Discipline Specific Specialty Courses			
Seminar/Journal club/Creativity exercise / Review & Assignment /Periodic tests		Attendance 90%	Total
PRACTICAL COURSE (MOT-I)			
(W: 25) Record Book/ Observation Book/ Log Book	(W: 25) Practical skills/ Case presentation /clinical work	90 %	**W: 50**
PRACTICAL COURSE (MOT-II)			
(W: 50) Lesson Plan /Teaching Learning Materials/ preparation of Evaluation materials/ Teaching Log Book	(W: 50) Assessment of Teaching Skills/ Demonstration/ Lecture cum discussion / Panel Discussion	90 %	**W:100**
Clinical Rotations (CR)			
(W: 50) Clinical Cases Log Book/ Report	(W: 50) Assessment of Skills	90 %	**W:100**

Criteria for Promotion from 1st MOT to 2nd MOT

MOT First Year

If a student fails in any subject in MOT I then he can be allowed to appear in the supplementary examination. The Student can however be allowed to continue classes and postings of Second Year till the time of appearing for supplementary examination. If the candidate fails in the supplementary examination too, he/she has to appear these papers at the end of Second Year MOT along with other Papers of Second Year MOT. If the eligible candidate due to any reason is unable to appear in the first year MOT University examinations then based upon special permission from the university, he may be allowed to appear in the supplementary examination. If the candidate fails in the supplementary examination then he will be allowed to continue classes and postings of Second Year till the time of appearing for next university examination. If the candidate fails in this examination too, then he/she has to appear these papers at the end of Second Year MOT along with other Papers of Second Year MOT.

MOT Second Year

If student fails in any of the subjects, then he/she can be allowed to appear in the intermediate examination (of 2nd MOT) to be held within 6 months. She/he can reappear in the subsequent university examination till the maximum number of 6 attempts/Course completion time as prescribed by the University.

4.25.15 Essential Requirements for MOT Institution

Occupational therapy Post Graduate education prepares a person for independent practice in Specialties and involves extensive clinical training in almost every specialty and super specialty of modern medicine. Henceforth, new Post Graduate Occupational therapy College/institute can only be established in NMC recognized medical college. Notwithstanding New Occupational Therapy College to be started in NMC recognized medical college will need to fulfil all the essential requirement as following. However the institute may share common facilities, faculties and infrastructure with the medical college.

All existing occupational therapy colleges/ institute will continue to impart occupational therapy education provided that following conditions are fulfilled:

Eligibility

a) Any government /Private/ Self Financing Educational Trust/Charitable Trust/Society/Company registered under the relevant Act, applicant will be eligible to apply.
b. College should be running BOT programme for last 5 years
c. Standalone MOT programme can be started in institutions having NMC approved medical college and are willing to share its facilities for the teaching and research of MOT students.
d. Stand alone MOT programme can also be started by the institutes of national importance and institution of eminence in their campus if they are running postgraduate programme in other disciplines of healthcare.
e. Stand alone MOT programme should be approved by State Allied & Health Care Commission.

Physical infrastructure

Whole campus should be accessible for persons with disabilities.

Land and space requirement

There shall be no separate land required for starting MOT course subject to fulfilment of eligibility criteria to start the MOT programme. However the essential requirements in terms of physical infrastructure, Manpower as given below must be furnished

1) Rooms for faculty [per specialty]
   a. Professor 1
   b. Associate professor 1
   c. Assistant professor 2
2) Common room for students
   a) Toilets for men
   b) Toilet for women Classroom - 02 rooms of 400 sq.ft. (each).
3) Laboratory - each specialty lab shall have area of 800 sq.ft. area

The laboratories should be provided with the mandatory equipment as specified under equipment requirements of specialties.

Standalone MOT institute must have all the Occupational Therapy laboratories (with atleast one equipment of each category as mentioned for BOT Program)

Staff Requirement (Student faculty ratio)

Professor	3:1
Assoc. Prof	3:1
Asst. Prof	3:1

Minimum Equipment requirements for MOT specialties

Fully equipped **Occupational Therapy** labs (Functional restorative & Assistive technology lab, Work assessment, simulation, and hardening lab, Cognitive-perceptual lab & Sensory motor lab) are mandatory for master of occupational therapy programs. For each post graduate speciality of occupational therapy (MOT) program fully equipped corresponding department for undergraduate occupational therapy (BOT) program is mandatory. If the institute is offering BOT then same lab and infra structure may be used for MOT programs in addition to following program specific list.

"List of equipment for Master in Occupational Therapy"

In addition to the equipment for assessment & intervention listed in BOT syllabus as per various areas of occupational therapy specialties.

M.O.T. (Musculoskeletal Sciences & Hand)

List of Equipment

- Electronic Goniometer
- Dynamometer
- Hand Evaluation Kit,
- Biofeedback unit with facility EMG unit with integrated analysis software provided,
- Video camera and player for movement analysis,
- Isokinetic Unit,
- Motion Analysis system,
- Sensory Re-education kit,
- Gait analyzer
- Driving evaluation and simulator
- Work Simulator
- Work hardening
- Ergo-bicycle
- Tilt table
- CPM Upper Extremity
- Aqua pool/ Hydro therapy unit

- Virtual Reality for Upper extremity functions, balance, eye hand coordination & cognition
- Antigravity treadmill
- Virtual reality treadmill
- Robotics- Desirable
- Appropriate standardized tools as defined in Syllabus of MOT paper 201

M.O.T. (Pediatrics & Neonatology)

List of Equipment

- Sensory Garden
- Sensory Park
- Sensory mats
- Trapeze
- Rock climbing wall
- Tactile path
- Ball pool
- Slide
- Barrel
- Rainbow arch
- Balance beam
- Tactile disc
- scooter board
- various tactile textured activities
- Sensory tunnel
- Lycra hammock
- Balancing bridge
- Tactile sensory wall activities
- Sensory mats
- Rope Ladder (2 to 4 segments)
- Baby tactile path
- Appropriate Standardized assessment tools as defined in Syllabus of MOT paper 201

M.O.T. (Neurosciences)

List of Equipment

- Functional Electrical stimulation
- Neuro-muscular stimulation.
- Transcranial Magnetic stimulation device
- Biofeedback unit with the facility to do quantitative analysis and therapy
- Balance boards / Beam
- Sensory Reeducation kit
- Gait Analyzer
- Motion Analyzer is desirable
- Isokinetic unit
- Driving evaluation and simulator
- Work simulator & Work hardening unit
- Ergometer / Ergo-bicycle
- Aqua pool/ Hydro therapy unit
- Virtual Reality unit for Upper extremity functions, balance, eye hand coordination & cognition
- Antigravity treadmill
- Virtual reality treadmill
- Robotics- Desirable
- Appropriate standardized tools as defined in Syllabus of MOT paper 201

MOT (Cardiopulmonary)

List of Equipment

- Treadmill
- Ergo Bicycle with arm and leg unit
- Spirometer Portable.
- Peak Flow meters.
- Body Composition Analyzer.
- Energy consumption analyzer is desirable.

- Mannequin for CPR training.
- ECG Machine
- Appropriate standardized tools as defined in Syllabus of MOT paper 201

MOT (Mental Health)

List of Equipment

- Reaction Time Machine
- Computer based cognitive therapy unit
- Tread mill
- Ergo cycle
- Vestibular & Proprioceptive equipment
- Biofeedback
- Virtual reality unit
- Set of items used in Mindfulness
- Music System
- Standardized scales and tools to be used for learning and Spotters - each of tools as mentioned in the syllabus of MOT paper 201

MOT (Oncology)

List of Equipment:

- Equipment as mentioned in BOT & MOT (Musculoskeletal & Neurosciences)
- Pneumatic compression therapy unit with accessories for both upper and lower limbs
- Dumbbells set/Thera bands/Thera tubes
- Play activities for children for Gross motor & fine motor functions
- Therapy ball
- Low Benches/ stools/chairs/Mattresses
- Sensory Kit
- Small Bicycle
- Light weight medicine balls
- Appropriate standardized tools as defined in Syllabus of MOT paper 201

MOT (Geriatrics)

- Appropriate equipment as listed in MOT (Musculoskeletal science, Neuro science, Mental Health)
- Appropriate standardized tools as defined in Syllabus of MOT paper 201

Library:

In addition to books requirement for undergraduate teaching additional adequate reference
books to cater to the post graduate studies should be provided. Minimum 5 indexed international journals should be provided for with additional journal in each elective area/specialty. In addition, reference books, Audio visual facility, Slide projector, Computer, Internet facility is to be provided.

Clinical Facilities:

If the course is in the premises of NMC permitted/recognized Medical College as constituent college, there is no requirement for attachment of any other hospital or else Memorandum of Understanding for clinical training should be made with specialty hospitals having the specialty of Musculoskeletal/ Trauma Units, Neurology/ Neurosurgery, Oncology, Geriatrics, Cardio Pulmonary unit with intensive care facilities, Paediatrics & Neonatology, Community Occupational therapy and Sports unit. In either case each teaching unit shall accommodate 6 PG students only. Both training on in-door as well as outdoor patients should be provided.

Human resource requirement Teaching Faculty each Specialty

Professor 1

Associate professor 1

Assistant professor 2

Maximum number of students admitted for Master's program should be 3 in each specialty every year.

Services of visiting faculty can be utilized, but these faculty members will not be counted as the PG teachers and they cannot register candidates.

Non-teaching staff

Office superintendent/ assistant 1 Computer operator 1

Lab assistant / demonstrator - BOT 1

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4.25.16 Syllabus of Master of Occupational Therapy & Distribution of teaching hours, credits & University Examination Marks

MOT 1: Distribution of teaching hours, credits & University Examination Marks

Subjects	Total teaching hours -1560			Credits			Total Credits	Marks Distribution
	Theory/ Tutorials	Practical/ demo/lab work	Clinical	Theory	Practical/ demo/lab work	Clinical	62	Total No of Marks 500
MOT101 (Common Paper) Ethics, Management and Educational Technology in Occupational Therapy Practice	90			06			06	Theory -100
MOT102 (Common Paper) Research Methodology & Biostatistics	60	30		04	01		05	Theory -100
MOT 103 (Common Paper) Advanced clinical foundation in Occupational Therapy practice	90	90		06	03		09	Theory-100 Practical 100
MOT 104 (Speciality Paper 1) Basic Medical Sciences & Theoretical foundation of Occupational Therapy in speciality	60	30		04	01		05	Theory-100
Skills acquisition and refinement (Teaching Assignment, seminars, journal club & Case presentation etc.)		240			08		08	CIA only

Subjects	Total teaching hours -1560			Credits			Total Credits	Marks Distribution
	Theory/ Tutorials	Practical/ demo/lab work	Clinical	Theory	Practical/ demo/lab work	Clinical	62	Total No of Marks 500
Dissertation (to be continued in 2nd year MOT)			360			12	12	
Clinical training/Field work			510			17	17	
Total teaching hours (1560) & Total credits (62)	300	390	870	20	13	29	62	

MOT II: Distribution of teaching hours, credits & University Examination Marks

Subjects	Total teaching hours - 1560			Credits			Total Credits	Marks Distribution
	Theory/ Tutorials	Practical/ demo/lab work	Clinical	Theory	Practical/ demo/ lab work	Clinical	60	Total No of Marks 500
MOT201 (Specialty Paper 2) Advanced Occupational Therapy Diagnostic & Prognostic skills in speciality	90	90		6	03		09	**Theory -100 Practical-100**
MOT202 (Specialty paper 3) Advanced Occupational Therapy process & practice in speciality	90	90		6	03		09	**Theory -100 Practical-100**

Subjects	Total teaching hours - 1560			Credits			Total Credits	Marks Distribution
	Theory/ Tutorials	Practical/ demo/lab work	Clinical	Theory	Practical/ demo/ lab work	Clinical	60	Total No of Marks 500
MOT 203 (Specialty paper 4) Current & Future Trends in OT for specialty subject	60	30		4	01		05	Theory-100
MOT 204 (Dissertation)			360			12	12	Practical-100
Skills acquisition and refinement (Teaching Assignment, seminars , journal club & Case presentation etc.)		240			08		08	CIA only
Clinical training /Field work			510			17	17	
Total teaching hours (1560) & Total credits (60)	240	450	870	16	15	29	60	

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Master in Occupational Therapy (MOT)

MOT 101: Administration, Ethics & Educational Technology in Occupational Therapy

Course Description - This course provides a better understanding of the overall administration, management & setting up of the Occupational Therapy department/ Institute in Government & Private setup, Budgeting, Ethical practice of Occupational Therapy, disability laws, policies, and certification. The course involves a better understanding and application of disability evaluation and certification processes as per various government laws and acts etc.

Objectives (competency statements): The objectives of this course are:

1. To know the procedure for setting up the OT department/clinic in Govt. & private institutes/ hospitals/Organisations
2. To learn managerial skills for smooth learning of the department/Organisation/Institute
3. To understand the quality assurance & provision of various services.
4. To familiar with the financial & budgetary management of the OT dept./Institute
5. To understand the changing perspectives and ideological approaches to the rehabilitation of persons with disability
6. To critically examine legislations, national planning efforts and policy formulations for recognizing the human rights of persons with disability in India and actions taken their inclusion, development and rehabilitation using the rights- based perspective
7. To enhance the potential of the Occupational Therapist to become effective communicators especially in the context of education
8. To understand disability, concepts and models of disability
9. To study Disability Evaluation, Assessment and Medical Certification.

10. To know about the UNCRPD, Major Legal Provisions, Human Rights and Civil Rights for Persons with Disabilities.
11. To study the role of government organizations, NGOs and international organizations in providing services to disabled persons
12. To identify the role of occupational therapists in advocacy for influencing policy formulation, implementation and evaluation

Expected Outcomes:

1. Define disability and explain the concepts and models of disability
2. Illustrate the Disability Evaluation, Assessment and Medical Certification for Persons with Disabilities
3. State various legislations, supporting legislations and supporting services for Persons with Disabilities.

Content

UNIT I Ethical Principles & Legislation

- Legal/Legislative issues concerning Occupational Therapy
- Legal aspects of Persons with disability & Laws and National supporting bodies/organizations
- Code of ethics
- Consideration of religious belief, customs as per cultural norms prevailing in various geographical regions of practice (including spirituality, religious beliefs, cultural values & norms)
- Disability Evaluation, Assessment and Certification Process and Schemes for PWDs

UNIT II Hospital Administration

The setting of Occupational Therapy Service Unit

- Hospital administration, Principles and its applications to Occupational Therapypractice
- Planning and organization including Manpower & staffing, Equipment's (Standardized & Non-standardized), space and other physical infrastructure
- The setting of Occupational Therapy Service Unit
- Planning cycle, Principles of organizational charts,

- Occupational Therapy Management Skills (Principles, planning, organizing, staffing, Marketing, Health care delivery system, Supervision & Consultation)
- Service delivery and Resource & quality assurance- planning and management,
- Environment and environment variables
- Service design and management in various practice settings
- Budgeting, planning and income generation
- Organization, Staffing, Information & Communication technology, Coordination, Monitoring & evaluation and fiscal management.
- Medical Insurance, communication & Documentation
- Liaison, Policy making, decision and its implementation
- Organizing meetings, committees, and negotiations
- Quality Assurance (Functioning & Management of Clinical & Institutional set ups, Marketing, Controlling, Directing & Medical audit)
- Entrepreneurship in Occupational Therapy
- Personnel management: Personnel performance appraisal system

UNIT III Pedagogy and Application of Education Technology in Occupational Therapy

1. **Education Technology & Research**
   - Philosophy of education & emerging issues in education
   - Meaning , functions & aims of education
   - Agencies of education
   - Formal , informal & non – formal education
   - Current issues & trends in higher education- Issue of quality in higher education
   - Autonomy & accountability
2. **Use of Information & Communication Technology (ICT) in Occupational Therapy**
3. **Measurement of non-cognitive domains (Tests of intelligence, aptitude, attitude, and personality, Sociometry, anecdotal record, rating scales, check list and socio – economic status scale)**

4. **Professional development of teachers**
   - Education of persons with disabilities
   - Need for educational philosophy
   - Some major philosophies (idealism, naturalism , pragmatism) & their implications for education

5. **Concepts of teaching & learning**
   - Meaning, need & scope of educational psychology
   - Meaning & relationship between teaching & learning
   - Learning theories
   - Dynamics of behaviour
   - Individual differences

6. **Curriculum**
   - Meaning & concept
   - Basis for curriculum formulation/development
   - Framing objectives for a curriculum
   - Process of curriculum development (including field work)
   - Effecting curriculum development
   - Evaluation of curriculum

7. **Methods & techniques of teaching**

   (Lecture, demonstration, discussion, seminar, assignment, project method & case study)
   - Planning for teaching
   - Bloom's taxonomy instructional objectives
   - Writing instructional objectives in behavioural terms
   - Unit planning & lesson planning
   - Preparation of unit plan & lesson plan

8. **Teaching aids: Types, Principles of selection, preparation & use of audio-visual aids**

9. **Measurement & Evaluation**

Nature of educational measurement: meaning, process & types of testing

- Construction of an achievement tests & its analysis
- Standardized tests
- Introduction of some standardized tools: important tests of intelligence, aptitude, personality
- Continuous & comprehensive evaluation.

10. **Guidance & counselling**

- Meaning & concepts of guidance & counselling
- Principles
- Guidance & counselling services for students & faculty members
- Faculty development & development of personnel for O.T. services

11. **Clinical Education**

- Awareness & guidance to the common people about health & disease, and available Professional services
- Patient education
- Education of health care practitioners
- Use of media in clinical education

12. Faculty development programs and Administration in clinical settings

13. Use of audio-visual aids in teaching

14. Research, Innovation and latest advancements in Education

MOT 102: Research Methodology & Biostatistics

Objectives (competency statements): The objectives of this course are:

1. Understand the basic concepts of Research Methodology
2. Develop the Skill to Organize, Summarize & Present Data
3. Understand and interpret the commonly reported statistical measures published in healthcare research
4. To learn and apply the statistical research techniques to Occupational therapy practice

Expected Outcomes:

1. Understand different types of research design and Concepts of Research Methodology
2. Learns to control & minimize Biases & confounding factors and analyse random errors
3. Makes all the collected data reasonable and precise inferences to make correct decisions
4. Develop the ability to understand the process to conduct scientific Research
5. Understand data generated health sciences using modern Statistical Methods.

Unit I: Research Methodology

An introduction to research methodology Defining the research problem

Research methods & Research Designs

Quantitative research: Descriptive Correlational, Causal-comparative/Quasi experimental & Experimental

Qualitative research

- Case study, Case series, Cohort studies Prospective & Retrospective longitudinal cohort, Nested Case Control, Pre post intervention & Time series design, repeated measures design & analysis, Randomized control designs & its types.
- Measurement and scaling techniques
- Bias in Research
- Methods of Data Collection
- Sampling design and strategies
- Testing of hypotheses (parametric or standards tests of hypotheses, non-parametric or distribution – free test)
- Measurement Properties of measurement including validity, reliability & responsiveness
- Measurers of Outcome and communicating Research of Occupational Therapy

- Writing of a research article
- Translating of evidence-based research into clinical practice
- Good Clinical Practice guidelines & pathways
- Writing proposal
- Role of computers in research
- Funding research proposal
- Repertory grid analysis and its application to heath care research.
- Delphi technique (to arrive at a consensus of professional opinion on any given topic)
- Guideline for development / refinement, evaluation and use of assessment tools (including attitude scales)
- Scoring, administering test & critiquing tools
- Finding the Evidence: Measuring outcomes in Evidence Based Practice, Measuring Health Outcomes, Measuring clinical outcomes
- Evaluating Level of evidence in research using quantitative methods, Levels of evidence classification system, Outcome Measurement, Biostatistics, The critical review of research using qualitative methods
- Systematically reviewing the evidence: Stages of systematic reviews, Meta-analysis, The Cochrane collaboration
- Using the evidence: Building evidence in practice; Critically Appraised Topics (CATs), CAT format, Using CATs, Drawbacks of CATs
- Ethics in Research [Ethical guidelines in Research (Ethics Committee, IRB, Informed Consent, Pliagrism- Using available softwares to check for pliagiarism)]
- Manuscript & Publication (Process of Manuscript writing, Procedure to submit research paper for publication in Indexed journals, ICJME guidelines for authors) and Publication Ethics
- Reference Management [Referencing styles & guidelines (APA, Vancouver, etc.,), Reference software (Zotero, Mendeley, EndNote etc.,)]
- Intellectual Property Right [Copyright & Filling Patent]

UNIT II BIOSTATISTICS

- Processing and analysis of data (measure of Dispersion, central value normal distribution curve)
- Quantitative & qualitative analysis
- Statistical analysis for differences & correlation: Basic, Advanced & special technique (probability)
- Parametric & non-parametric tests and Hypothesis testing)
- Analysis of variance and covariance
- Correlation & Regression analysis and their Interpretation
- Multivariate analysis techniques
- Functional Epidemiological Measures i.e. frequency, association, and potential impact: Incidence, Prevalence, Odds Ratio, Likelihood ration, sensitivity & specificity, Risk ratio & relative risk etc.
- Sample size estimation & power calculation including sampling
- Software use for data analysis – STATA, SPSS etc.
- Rasch analysis, Regression analysis

MOT 103 Advanced Clinical Foundations in Occupational Therapy Practice

Objectives (competency statements): The objectives of this course are:

1. Understand & apply Philosophical & Conceptual base to OT Practice
2. Enhance the abilities of the Occupational therapist to choose the appropriate evaluations and treatment procedures based on the philosophy of Occupational Therapy.
3. To enhance the capabilities of the Occupational therapist in maximizing the client's / patient's function in occupational performance areas by using appropriate technology within the environmental context.

Expected Outcomes:

1. **Understand the rationale of practice** while promoting range of practice tools for assessments & interventions
2. To enhance the capabilities of the Occupational Therapist in optimizing the client's /patient's performance
3. Understands the Clinical Decision-making process

Content

Unit-I Application Of Occupational Therapy Theory

- Development, organization & use of OT knowledge: philosophical & conceptual base
- Emerging paradigm
- Model Base & Frames of References (FOR)
- Bridging the gap between theory & practice
- Therapeutic roles & functions
- Documentation, Assessment, Diagnosis and Independent Clinical Decision making (including establishing OT diagnosis)
- Clinical reasoning skill and Evidence based practice in Occupational Therapy
- Occupational Therapy Process Framework (OTPF); Referral & Screening occupational profile, Analysis of occupational performance, Independent Intervention Planning & Implementation, Re-evaluation & Review, Follow up, Post Discharge Support
- Recent trends in health care, WHO Clinical Practice Guidelines (CPG)
- Occupational therapy assessment & documentation pertaining to various Health & other Insurance
- Contextual framework & Socio-Cultural Influence in OT practice
- Liaison & Communication among healthcare professionals

Unit– II Assistive / (Re) Habilitation Technology

- Technological applications including Assistive technology aids & appliances in various types of disabilities including communication aids
- Prosthetic & Orthotic device and latest advancements including introduction to CAD/CAM technology, 3 D printing etc.

Unit– III Environment Adaptations, Occupational Health & Ergonomics

- Basic Ergonomics, and Elimination of environmental barriers
- Occupational Health & safety policies and legislation

Unit – IV Application of Clinical Foundation Skills

- BLS including Cardio pulmonary Resuscitation (CPR), ACLS
- OT in Acute care setting:
  1. Introduction to ICU, CCU & NICU
  2. Orientation to ICU equipment's, (Ventilators & Life support devices) and Common procedures followed, Basic OT management strategies

Reference Books and other resources for MOT 101,102 & 103

1. Children with Developmental Disability by National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities, 1999
2. Government of India Scale 2018 (The Gazette of India: Extraordinary, Part II-Section 3-Sub-section (ii),2018, Part II-Section 3-Sub-section (iiI), 2024
3. Artificial Limb Manufacturing Corporation of India (ALIMCO) scale
4. Rehabilitation Medicine – Joel A. Delisa
5. Rehabilitation Medicine Joseph Goodgold
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7. C Pharmaceutical statistics- Practical and clinical applications, Sanford Bolton, publisher Marcel Dekker Inc. NewYork.
8. Fundamental of Statistics – Himalaya Publishing House- S.C.Guptha Design and Analysis of Experiments –PHI Learning Private Limited, R. Pannerselvam,
9. Design and Analysis of Experiments – Wiley Students Edition, Douglas and C. Montgomery
10. Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, 6th Edition, 2014, ISBN: 9789351522331, JAYPEE Publications
11. Research methods for clinical therapists: applied project design and analysis by Hicks, Carolyn
12. Mahajan - Methods in Biostatistics, Jay Pee Brothers. Medical Publishers (P) Ltd. New Delhi.
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14. Singh, I.- Elementary Statistics for Medical Workers. Jaypee Brothers Medical Publishers (P) Ltd. New Delhi. 13.
15. Rehabilitation Research: Principles and Applications by Elizabeth Domholdt (Elsevier Science Health Science Div, 2004)
16. Philip Kotler and Kevin Lane Keller: Marketing Management, Prentice Hall of India, New Delhi
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Master of Occupational Therapy in Paediatrics & Neonatology- MOT (P&N)

MOT 104: BASIC MEDICAL SCIENCESS & THEORETICAL FOUNDATIONS IN OCCUPATIONAL THERAPY FOR PAEDIATICS & NEONATOLOGY

Course Description:

This course involves training in basic medical science of paediatrics & neonatology & the use of various theories, frames of references, and approaches used in Occupational Therapy intervention for paediatric populations.

Course Objectives:

- To understand principles of human development and maturation.
- To describe various developmental theories.
- To learn about genetic and embryological development.
- To understand developmental stages from birth to adolescence.
- To review medical aspects of paediatric conditions.
- To understand about various Govt. Initiatives and Ethical guidelines pertaining to practice in the specified domain.

Course Outcomes:

- Explain principles of human development and maturation.
- Illustrate various developmental theories and their applications.
- Understand genetic and embryological development processes.
- Identify and describe developmental stages and milestones.
- Review medical aspects and conditions relevant to paediatrics.
- Able to practice within the domain with understanding of Ethical principles and basic knowledge base for Client Centred Practice.

UNIT 1: Principles of human development and maturation

- Principles of Human Development
- Growth, Development and Maturation

UNIT 2: Developmental theories including

- Psychosexual theory of Freud
- Ego psychology of Erikson
- Cognitive theory of Piaget
- Kohlberg's stages of moral development
- Maslow's humanistic psychology
- Gessels' developmental schedule
- Hanghurst – developmental tasks
- Skinners theory of radical behaviourism
- Rogers' self-theory
- Learning theories

UNIT 3: Overview of Genetics

Review of cellular mitosis and meiosis, Chromosomes–sex determination, Chromosomal aberration, Patterns of inheritance, Molecular genetics and protein synthesis, Heredity and environment, Medical genetics

UNIT 4: Embryology:

Development of a foetus, Development of various systems stressing on neuromuscular and hand development

UNIT 5: Developmental Stages:

The development process from birth to adolescence including: Physical, Cognitive, Emotional, Social, Language, Adaptive, Cognitive-Perceptual, Emotional and Play.

UNIT 6: Current trends in developmental theory:

Hemispheric specialization, Sociology, Interactionism

UNIT 7: Prenatal Diagnosis in Paediatrics and implication for Occupational Therapy.:

Prenatal problems – birth defects and their causes, the detection and monitoring of high-risk pregnancies, foetal diagnostic and intervention procedures

UNIT 8: Review medical aspects of the following Paediatric and Neonatal conditions: High risk infant, Complications related to Birth Trauma, Congenital Defects, Cerebral palsy, Muscular dystrophy, Neural tube defects, Still's disease, Lung infections, Congenital Cardio pulmonary conditions, Paediatric Orthopaedic problems, Genetic skeletal dysplasia, Nutritional disorder, Intellectual Disability, Neuro Developmental disorders(ASD,ADHD,SLD), Neuro Psychiatric Disorders, Complications related to Trauma and Burns, Haematological Disorders etc.

UNIT 9: Paediatric health care services in India:

Health promotion and well-baby clinics, Community based care, Preventive Paediatrics, Screening tests and procedures, Immunization and Nutritions, Various Child healthcare initiatives by Government of India including Vaccination schedule, Early Intervention Program, Child and adolescent Health schemes, Child Development Clinics, High risk Infant clinic.

UNIT 10: Role of the family in Paediatric Management

UNIT 11: Major theoretical approaches to Paediatric Management:

Neuro-physiological approaches, Reilly-an explanation of play, Llorens facilitation growth and development, Guilfoyle & Brady – spatiotemporal adaption, Sensory integration, Behaviour modification approach, Biomechanical approach, Activities therapy – including activity analysis for paediatric condition, Visual perception, Acquisition frames of reference, Motor Control, Motor Learning, Cognitive behavioural approaches.

UNIT 12: Play:

Theories, using play as media, Importance of Play, Play as Occupation.

UNIT 13: Ethical Considerations in Paediatric Occupational Therapy Practice

- Considerations for Socio-Cultural norms and spirituality.
- Ethical Guidelines to be followed while handling children (Age specific)

UNIT 14: Disability Evaluations

Overview of Disability Certification in Paediatrics

Guidelines for Disability Certification of Benchmark disabilities related to Paediatric Population.

MOT 201: Advanced Occupational Therapy Diagnostic & Prognostic skills in Paediatrics & Neonatology

Course Description:

This course deals with methods of assessment and screening, evaluating components of function in Neonates and children.

Course Objectives (Competency Statements):

- To understand basic methods of assessment and screening.
- To evaluate components of behavior and childhood performance.

Course Outcomes:

- Explain basic methods of assessment and screening.
- Illustrate the components of behavior and childhood performance.

Course Content:

UNIT I: Basic Methods of Assessment and Screening

- Clinical observation of basic skills
- Clinical observation of the child interacting with the environment
- Interviewing and history taking
- Screening instruments including standardized tests (e.g., Apgar score, Denver developmental screening test)
- Use of checklists

UNIT 2: Assessment for Neonates and Child Development

a. INFANIB, NBAS NNNE Pain Scales, Neonatal Reflexes

b. INFANIB, NOMAS, LATCH Score, Pre feeding Readiness Scale

c. PEDI, BSID II, PDMS, Ages & Stages Questionnaire

d. Oral Motor Skills: Feeding & Swallowing Assessment in Infants

UNIT 3: Methods of Evaluating Childhood Performance Skills

- Testing motor function and other systems of evaluation: GMFM, BOT-2, PDMS2
- Evaluating hand functions: Box & Block Test, Jebson Taylor Hand Function Test, ABILHAND -Kids
- Testing sensory processing (integrative) dysfunction: Sensory Profile
- Testing Cognition: Griffith's scale BSID scale DASII Scales, DOTCA
- Assessment of Performance Area (ADL, Play): Wee FIM, COPM
- Asessment of Play: Test of Playfulness, Revised Knox Preschool Play Scale, Test of Environmental Supportiveness, Takata Play Asessment
- Testing Visual perceptual function: Berry VMI, TVPS, MVPT
- Testing psychosocial function
- Testing language and communication: Peabody Picture Vocabulary Test, Preschool Language Scale
- Handwriting evaluation: ETCH, PRINT 2
- Behavior evaluation: Conner's Behaviour rating scale BRIEF Child Behaviour checklist

UNIT 4: Condition Specific Scales

- Indian Scale for Assessment of Autism (ISAA)
- Tools for ADHD (Vanderbilt),
- Autism (M-chat, CARS)
- NIMHANS Battery for SLD
- NITI (NIEPID Indian Scale of Intelligence)

UNIT 5: Hand Function Development

- Hand function development stages
- Development of Pencil grasp, Prewriting and Writing Skills

UNIT 6: Investigative procedures supplementary to Occupational therapy in Pediatrics and Neonatology

- Radiological
- Biochemical and Other relevant Lab Investigations
- Electro physiological Studies
- Specific disease markers

UNIT 7: Occupational Therapy Practice Framework (OTPF)

Application of Domain and Process components to formulate Client Centred Occupational Therapy Program.

UNIT 8: ICF

- Understanding ICF
- Application of ICF in Paediatric Occupational Therapy

UNIT 9: Documentation in Paediatric Occupational Therapy.

MOT –202 Advanced Occupational Therapy Process & Practice in Paediatrics & Neonatology

COURSE DESCRIPTION:

The Course aims to train Occupational Therapy Students in understanding Evidence based practice and application of best practices in Occupational Therapy in Paediatrics & Neonatology.

COURSE OBJECTIVES.

- To understand the use of various treatment approaches in planning interventions in Occupational Therapy
- To give an overview of the treatment techniques used in Occupational Therapy in Paediatrics & Neonatology.

COURSE OUTCOMES

- To demonstrate clinical skills in selecting the most appropriate treatment technique for a given condition
- To practice Client centred Occupational Therapy.
- UNIT 1: Conventional Occupational Therapy Approaches in Occupational Therapy: Planning Interventions in Paediatric Occupational Therapy based upon:
- Neuro-Developmental Therapy
- Sensory Integration
- Teaching-Learning four Quadrant Model
- Motor Skills Acquisition
- Bio-mechanical FOR

- Cognitive Behaviour Therapy
- Behaviour Therapy
- Narrative Processes
- Applied Behaviour analysis

UNIT 2. Sensory IntegrationTherapy

- Introduction to Sensory Integration
- Neuroanatomy and Physiology of Sensory Systems
- Theoretical Foundations of Sensory Integration Therapy (Models and Approaches)
- Principles of Sensory integration Therapy
- Sensory Processing Disorders
- Assessment Tools used in Sensory processing disorders
- Intervention Techniques & Strategies used in Sensory processing disorders
- Applications in Clinical Practice

UNIT 3. Interventions in NICU

- Environmental Modifications in NICU
- Positioning and Handling / Kangaroo Care
- Sensory Stimulation & Regulation
- Feeding & Swallowing Support
- Neuro protective approach
- Neurodevelopmental Interventions
- Caregiver Education & Family Support

UNIT 4: Occupational Therapy in Early Intervention

- Neuro protective approach
- Ladder approach
- Encompassing all Neuro Developmental approaches and related interventions

UNIT 5: Evidence Based Practice- Specific Occupational Therapy Interventions

- Interventions for Neuro-sensory/Neuro-motor/Neuro-Psychiatric/Musculoskeletal dysfunctions
- Interventions for enhancing Childhood Occupations/ADL
- Interventions for Social Participations
- Interventions for Visual Perceptual Deficits
- Interventions for Motor Skill Acquisition
- Interventions for handwriting skill
- Interventions for Cognitive Deficits
- Interventions for behavioural Dysfunctions
- Interventions for Communication Dysfunctions

UNIT 6: Self-Maintenance Activities

- Eating: Oral motor control evaluation and treatment
- Toileting
- Grooming and hygiene
- Mobility, including the use of mobility aids, Wheelchairs
- Screen time management
- Home program

UNIT 7: Adaptations for Independence

Techniques and tools for fostering independence

UNIT 8: Orthosis and Prosthesis in Children

- Types and applications of orthosis and prosthesis
- Condition specific and Topographical

UNIT 9: Group Therapy for Children

Strategies and benefits of group therapy

UNIT 10: Play and Recreational Activities

Importance and implementation of play in therapy

UNIT 11: School-Based Interventions

Occupational Therapy in the school setting

UNIT 12: Interventions for Pre Vocational Skills Development & Training

Pre Vocational assessments and intervention

UNIT13: Preventive Occupational Therapy

Community Wellness Programs for children

MOT –203: Current & Future Trends in Occupational Therapy Practice in Paediatrics & Neonatology

The Course aims to train Occupational Therapy Students in developing awareness related to the latest Research, Innovations and Technology in Occupational Therapy in Paediatrics & Neonatology.

COURSE OBJECTIVES

- To train students with the latest developments in field of Paediatric Occupational Therapy.
- To train Occupational Therapy Post Graduates in blending conventional Occupational Therapy interventions and newer technologies for formulating Client centred Occupational Therapy.

COURSE OUTCOMES

- Illustrate the use of recent advances in routine Occupational therapy interventions
- To adopt best practices in Occupational therapy using latest Technology and adjuncts.

1. **Augmented Reality (AR) and Virtual Reality (VR) for Children**
   - Immersive Therapy
   - App based simulation of skills
2. **Advanced Orthotic and Prosthetic Devices**
   - Exoskeletons
   - Wearable Devices
   - Thera suite
   - Therapy Garments

3. **Adjuncts to Occupational Therapy**

- Alert Program
- Picture Exchange Communication Skills
- ABA
- Floor Time
- Aquatic Therapy
- Brain Gym
- Kinesio-taping
- PAMOT (As applicable)
- Yoga
- Animal Assisted
- Robotics
- Botox Application and Rehabilitation Concerns
- MFR techniques (Preparatory stage)

4. **Tele health and Tele therapy**:

- Remote Access.
- Virtual Therapy Sessions
- Digital Assessment Tools
- Distance Monitoring

5. **Adaptive Devices & Communication Aids**

6. Mindfulness and Mental Health Programs for School Children

7. Adaptive Sports/ Special Olympics/ Para Sports for Children with Special Needs

Skill Assessment

Training for specific skills related to Sports.

<u>Suggested Readings:</u>

Reference Books:

1. Principles and Practice of Pediatric Neurology by Kenneth F. Swaiman and Stephen Ashwal
2. Neonatal and Pediatric Respiratory Care by Brian K. Walsh
3. Occupational Therapy for Children and Adolescents by Jane Case-Smith and Jane Clifford O'Brien
4. Pediatric Skills for Occupational Therapy Assistants by Jean W. Solomon and Jane Clifford O'Brien
5. Developmental and Therapeutic Interventions in the NICU by Susan E. Swedo and Audrey L. Holland
6. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer and Jim Hinojosa
7. The Developing Child: Using Jungian Type to Understand Children by Elizabeth Murphy and Joseph Diegmueller
8. Cerebral Palsy: A Complete Guide for Caregiving by Freeman Miller and Steven J. Bachrach
9. Pediatric Physical Therapy by Jan Stephen Tecklin
10. The Out-of-Sync Child: Recognizing and Coping with Sensory Processing Disorder by Carol Stock Kranowitz
11. Handbook of Pediatric Neuropsychology by Andrew S. Davis
12. Child Development by Laura E. Berk
13. Textbook of Clinical Pediatrics edited by A. Parthasarathy
14. Neonatology: Principles and Practice edited by V. K. Paul and A. Bagga

Journals:

1. American Journal of Occupational Therapy (AJOT)
2. Journal of Pediatric Rehabilitation Medicine
3. Pediatric Physical Therapy
4. Developmental Medicine & Child Neurology
5. Journal of Developmental & Behavioral Pediatrics
6. Physical & Occupational Therapy in Pediatrics
7. Indian Journal of Pediatrics
8. Journal of Neonatology (India)
9. Indian Journal of Occupational Therapy (IJOT)
10. Indian Journal of Pediatrics and Child

Health Position Papers:

1. American Occupational Therapy Association (AOTA) - Position Paper on Occupational Therapy Practice with Children and Youth
2. World Federation of Occupational Therapists (WFOT) - Position Statement on Pediatric Occupational Therapy
3. National Neonatology Forum (NNF) of India - Guidelines and Position Papers on Neonatal Care
4. All India Occupational Therapists' Association (AIOTA) - Position Papers on Pediatric Occupational Therapy Practice
5. European Academy of Childhood Disability (EACD) - Guidelines and Position Papers on Developmental Disabilities
6. American Academy of Pediatrics (AAP) - Policy Statements on Pediatric Care and Development

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Master of Occupational Therapy in Neurosciences – MOT (NEURO)

Course Description

This course focuses on the role of occupational therapy in various neurological conditions rehabilitation settings (in-patient, out-patient and home care), long-term care programs, and community-based rehabilitation. In order for occupational therapists to understand the needs of neurologically compromised persons, the course addresses the neuroscience process and its application on management of the individuals. Students also learn about common impairments and disabilities and rehabilitation needs of these individuals. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of neurologically compromised individuals. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention of the concerned population.

Course Objectives (competency statements)

- The objective of this course is to enable candidate to apply general principles of practice in therapy and enhance Occupational Therapy process.
- The candidate should be able to understand the nature of Occupation and its influences on the humans have sound theoretical knowledge about the professional ethics and skills required for making a competent Occupational Therapy professional.
- The candidate is intended to inculcate managerial skills and be able to take various roles in the organizations.
- The candidate will fortify themselves as a researcher and an Evidence-Based practitioner to add to the pool of existing knowledge in the given context
- The candidate will be able to understand the community needs, implement, regulate, and apply various approaches for the wellness and integration of the individuals in the community.

- The candidate will be well versed with the use and application of various advanced technologies, recent trends and alternatives for the Occupational Therapy Practices.
- The candidate will be proficient in various models of occupational therapy practice, understand their principles and be able to apply in the given clinical conditions and setting.
- Candidate will be well prepared for the management of disasters like epidemics, pandemics, and natural and un-natural calamities.

Competency Domains and Learning Outcomes:

Domain 1: Clinical Assessment and Evaluation

- **Learning Outcomes:**
  - Conduct interviews and evaluations of persons with neurological impairments in multiple settings
  - Conduct comprehensive assessments of functional abilities.
  - Apply specialized standardised evaluation tools relevant to clinical features
  - Analyze assessment findings to formulate client-centered treatment plans.
  - Explain the importance of quality of life issues for persons with neurological impairments and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

- **Learning Outcomes:**
  - Design evidence-based intervention plans tailored to each individual with neurological impairments
  - Implement treatment plans for persons with neurological impairments in multiple settings.
  - Formulate treatment plans (including discharge planning) in partnership with persons with neurological impairments /families utilizing behavioural objectives.

- Demonstrate knowledge of community programs and organizations that assist the persons with neurological impairments.
- Understand the hospice concept, formulate treatment plans to address quality of life issues for the terminally ill.

Domain 3: Inter professional Collaboration

- **Learning Outcomes:**
  - Understand the persons with neurological impairments as a high-risk group with regard to medication interactions, including how physiologic changes influence medication effects.
  - Collaborate effectively with other professionals of Neurology team and other healthcare providers.
  - Participate in multidisciplinary teams to optimize the intervention outcomes.
  - Communicate occupational therapy perspectives and contributions in persons with neurological impairments.

Domain 4: Professionalism and Ethical Practice

- **Learning Outcomes:**
  - Articulate how ethical considerations in neuro-rehab practice relate to the Code of Ethics regulations by NCAHP
  - Knowledge of how demographics and policy influence healthcare in neurological patients

Domain 5: Research and Evidence-Based Practice

- **Learning Outcomes:**
  - Critically appraise research literature relevant to occupational therapy in Neuroscience Occupational Therapy
  - Integrate research findings into clinical practice to enhance the treatment outcomes.

MOT 104: Basic Medical Sciences & Theoretical foundation in Occupational Therapy for Neurosciences

Course Description:

The overall goal of the course is to provide a conceptual framework for the study of neuroscience as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the persons with neurological impairments. It involves the training in the use of various theories Frames of references & approaches used in Occupational Therapy intervention of persons with neurological impairments,

Course Objectives (competency statements) –
The objectives of this course are:

1) Integrate prior knowledge of anatomical, physiology, sensory, motor, cognitive, and functional deficits in neurological conditions for purposes of occupational therapy intervention
2) To understand the basic and related neuroscience.
3) Understand the importance of functions persons with neurological impairments
4) Understand the cultural diversity and heterogeneity among the persons with neurological impairments, and its impact upon assessment, treatment planning and discharge planning
5) To describe the biological and psychological, psycho-social theories related to neuroscience
6) Use the various frames of references in the intervention of persons with neurological impairments
7) To identify & document the appropriate frames of reference used for the specific condition in neurological conditions
8) Use the latest technology for assessment, intervention and documentation
9) Explain the role of occupation in the promotion of health and the prevention of disease and disability for the individual, family, and society
10) Demonstrate knowledge of community programs and organizations that assist the persons with neurological impairments.

Course Outcomes:

1. Explain the normal motor control and learning among healthy individuals and across the life span.
2. Explain the process of impairments following neurological insult.
3. Explain the process of neural recovery after neural damage.
4. State various frames of references, theories & approaches used in neurological conditions

Course Contents:

Be able to discuss the neuro-scientific process, theories of movement and the relevant neurophysiological, physical and psychological aspects.

UNIT 1: To describe the Neurophysiology: Theoretical Consideration

1. Neurophysiology of motor control
2. Overview of CNS Function
3. Sensory-motor perceptual systems
4. Motor development across the life span

UNIT 2: To understand the Motor Control theories

1. Understanding the nature of movement
2. Task and environmental constraints on movement control
3. Theories of motor control
4. Practical application of motor control

UNIT 3: To understand the Motor Learning theories

1. Nature of motor learning
2. Theories of motor learning
3. Stages of Motor learning and motor skills
4. Practical application of motor learning

UNIT 4: To explain the Neurophysiological basis of recovery

1. Recovery of motor function – concepts and factors affecting the motor recovery
2. Neuroplasticity – Definition, mechanism, theories
3. Neuroplasticity and learning
4. Neurolasticity and recovery of function
5. Neuroplasticity and neurodegenetrative disease

UNIT 5: To describe the Postural & Mobility control

1. Normal Postural & Mobility control
2. Development of Postural & Mobility control
3. Ageing and Postural & Mobility control
4. Abnormal Postural & Mobility control

UNIT 6: To describe the Reach, grasp & manipulation control

1. Normal Reach, grasp & manipulation control
2. Development of Reach, grasp & manipulation control
3. Reach, grasp & manipulation control across the life span
4. Abnormal Reach, grasp & manipulation control

UNIT 7: To understand the Neurological Impairments

1. Impairments associated with nervous system involvement
2. Impairments in the motor system
3. Impairments in sensory systems
4. Cognitive impairments
5. Other deficits

UNIT 8: To understand Theories, Models, Approaches and Frames of references

1. Traditional treatment approaches
2. Contemporary treatment approaches (Task oriented approach, MRP etc.)
3. Cognitive disability FOR
4. Rehabilitative FOR
5. Biomechanical FOR
6. Cognitive Behaviour FOR

7. Behavioural FOR
8. Activities health model
9. Psychosocial model
10. Other OT related FOR / approaches in neurological conditions

UNIT 9: To apprise about various Legislation & Laws related to neurological conditions/disabilities

1. National health policies & schemes related to various neurological conditions
2. The Rights of Persons with Disabilities Act, 2016

UNIT 10: To understand about guidelines related to evaluation and certification of disability related to various neurological conditions

Recent government guidelines to assess neurological and related disabilities

As per the guidelines, described in the latest/ revised Government Gazette published by Department of empowerment of persons with Disabilities (Divyangjan), Ministry of Justice & Empowerment, New Delhi March 2024

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MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Neurosciences

Course Description:

1. A better understanding & process of the various diagnostic procedures used in Occupational Therapy for various neurological conditions.
2. Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention

Course Objectives (Competency statements)

- Elicit and interpret clinical signs and symptoms & interpret clinical tests and special investigations commonly used in the diagnosis of neurological conditions.
- Illustrate the diagnostic tools to identify health problems in neurological conditions
- Understand the appropriate use of assessment tools for specific problems in neurological conditions
- Able to administer the specific tool for screening the other associated issues in neurological conditions
- Describe & administer Specialized tools of OT assessment in neurological conditions
- Compare the scoring with norms & analyse it for planning of OT Program
- Administer the tools for assessing progress in the patients.
- Demonstrate a broad range of technical skill in diagnosing the Occupational Therapy related neurological conditions.
- Generate a primary diagnosis and a list of differential diagnoses consistent with typical presentations.
- Make Critical decision and selection of outcome measures in Occupational Therapy for neurological conditions

Course Outcomes:

1. Able to understand about various investigation used for the diagnosis of neurological conditions
2. Able to apply various statndarized and non-standarized outcome measure used in evaluation of neurological conditions
3. Able to identify and criticize outcome measures
4. Able to plan management based on the assessment

Course Contents:

Types, understanding, procedure of carrying out and interpretation of findings of the various investigation and OT assessment method used in neurological conditions

UNIT 1: Neurological investigation

1. Investigation procedures used in Neurology and Neurosurgery
2. Biopsy, Densitometry, Arthroscopy, etc.,
3. Biomarkers specific to neurological disorders
4. Principles, Techniques and interpretation of biochemical and Pathological investigations
5. Recent advances in Medical/diagnostic assessment and evaluation

UNIT 2: Neuro-radiological investigation

1. Skull X- Ray
2. Magnetic Resonance Imaging Scan (MRI)
3. Computerized Tomography(CT)
4. Positron Emission Tomography (PET)
5. Ultrasonography
6. Brain Angiography
7. Intracranial pressure monitoring
8. Lumbar puncture
9. Other neuro-radiological assessment

UNIT 3: Neurophysiological investigation

1. EMG (Qualitative and Quantitative EMG)
2. NCV (Conventional Methods)
3. MCV, RNS, EPS, EEG related to neurological disorders with interpretation.
4. Other Electrophysiological assessment

UNIT4: Occupational therapy Evaluation

1. Importance of assessment & evaluation, Outlines of principles and Methods of evaluation
2. Knowledge and assessment for using common standardized and non-standardized tools/ instruments/tests/ scales in neurological disorders, neurosurgical, neuropsychiatric, and developmental disorders
3. Condition / impairment specific outcome measure
4. Clinical analysis of posture, movement and gait
5. Neuro-motor evaluation
6. Sensory evaluation
7. Cognitive and perceptual evaluations
8. Psychological evaluation
9. ICF and other Occupation based conceptual frame work for assessment
10. Critical decision making and selection of outcome measures
11. Assessment, differential diagnosis and diagnosis of various neurological conditions
12. Assessment of Physical and Neurological Functions of Patients in ICU

UNIT 5: To identify & administer appropriate standardised tests for specific problems in neurological conditions

Standardised OT tools (include following but not restricted to and equivalent to, Use of relevant test batteries, carry out the correct procedure and their interpretation)

I. Motor recovery

a. Brunnstorm recovery stages
b. Fugl-Meyer assessment (FMA)
c. Action research arm test (ARAT)
d. Wolf motor function test (WFMT)

II. Cognition

a. Montreal cognitive assessment (MoCA)
b. Mini mental status examination (MMSE)
c. Lowenstein occupational therapy cognitive assessment (LOTCA)

III. Sensory

a. Nottingham Assessment of Somato-Sensations
b. Erasmus modified Nottingham Sensory Assessment
c. Thumb localization test

IV. Posture & balance

a. Time up & Go (TUG)
b. Berg balance scale (BBS)
c. Functional Reach Test
d. Functional ambulation category (FAC)
e. Trunk impairment scale (TIS)
f. Postural Assessment Scale for Stroke

V. Ambulation

a. Functional ambulation category (FAC)
b. 10-meter walk test (10-MWT)
c. Rivermead Visual Gait Assessment (RVGA)
d. Tinetti Performance Oriented Mobility Assessment
e. Multiple Sclerosis Walking Scale (MSWS-12)
f. 6-minute walk test

VI. Depression

a. Beck depression inventory (BDI)
b. Hamilton depression rating Scale
c. Geriatric depression scale

VII. Function

a. Barthel Index (BADL)
b. Functional independence measure (FIM)
c. IADL, BADL – Lawton & Brody's Scales
d. Katz index of independence
e. Spinal cord independence measure (SCIM)
f. Canadian occupational performance measure (COPM)

VIII. Disability

a. Modified ranking Scale (mRS)
b. Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH)
c. Disability Rating Scale (for TBI)

IX. Quality of Life

a. QOL – Short form 36
b. QOL – Short form 12

UNIT 6: Analysis & interpretation of Assessment:

1) Screening the other associated issues in neurological conditions
2) A primary clinical/functional diagnosis and a list of differential diagnosis
3) Planning of OT Program
4) Critical decision and selection of outcome measures necessary for prognostic purpose & research studies

MOT 202: Advanced Occupational Therapy Process & Practice in Neurosciences

This course focuses on the role of occupational therapy in various neurological conditions rehabilitation settings (in-patient, out-patient and home care), long-term care programs, and community-based rehabilitation. In order for occupational therapists to understand the needs of neurologically compromised persons, the course addresses the neuroscience process and its application on management of the individuals. Students also learn about common impairments and disabilities and rehabilitation needs of these individuals. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of neurologically compromised individuals. It also trains the students on various evident based frames of references & approaches used in Occupational Therapy intervention of the concerned population.

Course Objectives (Competency statements):

1. The objectives of this course are to provide the candidate with expertise in advanced knowledge with respect to the intervention strategies for neurological conditions (including neuro-pediatrics, neurosurgical, neuro-psychiatric, neuro-oncology conditions).
2. The candidate will be able to acquire in depth knowledge about various neurological conditions, and will be able to plan and implement occupational therapy intervention for the same
3. The candidate will be able to decide and implement evidence based practice for a specific neurological disorder
4. The course addresses the importance of evidence-based practice, including occupational therapy, life-long learning and professional development, the benefits of collaborative partnerships and the relationships between policy, legislation and practice.

Course Learning Outcomes:

The overall goal of the course is to provide a conceptual framework for the study of neuroscience as it relates to occupational therapy and to assist occupational therapy post graduate students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the neurological conditions.

Course Contents:

UNIT 1: Occupational therapy for the Neurological conditions

a. Disorders of Central Nervous System
b. Various disorders of the Motor Unit – Neuropathies, Myopathies and Neuromuscular junction Disorders.
c. Autonomic Nervous system dysfunction
d. Peripheral Nervous system conditions
e. Cerebellar Disorders
f. Demyelinating, Inflammatory, Infectious and Degenerative conditions.
g. Metabolic and Deficiency Disorders

UNIT 2: Occupational therapy for the Neuro-pediatric conditions

a. Developmental neuro-pediatric conditions
b. Congenital neurological anomalies
c. Genetic disorders
d. Other disorders

UNIT 3: Occupational therapy for the Neurosurgical conditions

a. Traumatic Brain Injury
b. Traumatic Spinal Cord Injury
c. Peripheral nerve injuries
d. Others

UNIT 4: Occupational therapy for the Neuro-oncological conditions

Tumours of neurological origin -

a. Brain Tumours
b. Spinal Tumours
c. Others

UNIT 5: Occupational therapy for the Neuro-psychiatric conditions

a. Anxiety disorders
b. Depression
c. Trauma- and Stressor-Related Disorder
d. Neurocognitive disorders
e. Other related disorders

UNIT 6: Occupational therapy for the Specific neurological impairments

a. Sensory System Dysfunction and management
b. Visual Deficits and its management
c. Management of perceptual disorders
d. Management of cognitive disorders
e. Oromotor Dysfunctions and Management
f. Vestibular Dysfunction and its rehabilitation
g. Psychosomatic conditions and management.
h. Disorders of consciousness (including coma) and Intensive Care Units (ICU)
i. Pain management
j. Pharmacology in Neurorehabilitation
k. Community-based rehabilitation for neurological conditions
l. Palliative care approach in neurological conditions

UNIT 7: Evidence–based practice

Evidence-based occupational therapy / rehabilitation for -

a. Neurological conditions
b. Neuro-pediatric conditions
c. Neurosurgical conditions
d. Neuro-oncological conditions
e. Neuropsychiatric conditions

MOT 203: Current & Future Trends in Occupational Therapy Practice in Neurosciences

Course Description:

It involves the training in the use of various recent trends used in Occupational Therapy intervention of neurological condition. Neuroscience is a rapidly evolving field, with numerous trends and innovations that are helping to improve the quality of care for the patients with neurological impairments.

Course Objectives (competency statements):

1) To apprise about the recent and future investigation methods in the field of neurosciences
2) To acquaint about the recent and future intervention methods in the field of neurosciences
3) To describe the neurobiological, neurotechnogical, and other euroscientific updates in the field and its application in the investigation and intervention
4) To induce abilities to carry out researches in the upcoming field of neuro-rehabilitation

Course Outcomes:

1. Explain the recent knowledge in the field of neurociences
2. Illustrate the recent diagnostic and assessment tools to identify subtle neurological impairments
3. State various recent and future approaches used in neurological conditions

Course Contents:

UNIT 1: Advanced and evident based use of Orthotics, Assistive and adaptive technology in neurological conditions

a. Splinting and orthosis
b. Adaptive devices
c. Assistive devices
d. Wheelchair
e. Mobility Devices
f. Other devices

UNIT 2: Advances in Assessment and Evaluation

a. Posture analyzer
b. Gait analyzer
c. Motion Analyzer
d. rTMS
e. fMRI
f. Other methods

UNIT 3: Advances in rehabilitation and adjunctive intervention in Occupational therapy

a. Robotics
b. Virtual reality
c. Mirror therapy
d. Mental / motor imagery
e. CIMT
f. BWSTT
g. Biofeedback
h. Neural mobilization and Neuro Dynamics
i. FES
j. NMES
k. Transcranial Magnetic Stimulation
l. Transcranial direct current stimulation
m. Kinesiotaping
n. Yoga therapy
o. Other recent neuro-rehabilitation interventions

UNIT 4: Advances in medical intervention

a. Genetic counselling
b. Stem cell therapy
c. Gene therapy
d. Other recent neuro-regenerative interventions

UNIT 5: Advances in Technological Intervention

a. Digital health interventions
b. Artificial intelligence intervention
c. Brain computer interface
d. Neuroprosthesis
e. Telemedicine:
f. Wearable technology:
g. Smart home technology:
h. Virtual assistants
i. Remote patient Monitoring
j. Smart Devices
k. Other recent neuro-technological devices

Recommended Texts:

1. Occupational Therapy and Physical Dysfunction Trombly, 3rd and 4th edition.
2. OT practice skills for physical dysfunction by L.V. Pedretti
3. OT for physical dysfunction by CA Trombly
4. Willard and Spackman's O.T – Helen Hopkins and Smith A.H.
5. Cognitive and Perceptual dysfunction: A clinical reasoning approach to evaluation and intervention. Carolyn Unsworth. Lippincott Williams and Wilkins.
6. Neuroscience: Fundamentals for Rehabilitation. Laurie Lundy Ekman. W. B.Saunders.
7. Motor control: Therapy and Practical Applications. Anne Shumway Woollacott. Lippincott Williams and Wilkins.
8. Neurological Rehabilitation. Darcy Ann Umphred. Mosby.
9. Neuropsychiatry. Fogel&Schiffs. Williams & Wilkins.
10. Neuropsychology for Occupational Therapists: Cognition in Occupational Performance- Maskill, Linda
11. Physical Agent Modalities: Theory and Application for the Occupational Therapist- Bracciano, Alfred G.
12. Vision, Perception, and Cognition: A Manual for the Evaluation and Treatment of the Adult with Acquired Brain Injury-Zoltan, Barbara

13. Cognitive and Perceptual Rehabilitation: Optimizing Function- Glen Gillen
14. Stroke Rehabilitation- Glen Gillen
15. Cancer of Nervous System-Balck-2nd Edition
16. Handbook of Pain & Palliative Approach-Amit Dutta
17. Cancer of Head and Neck-Stephon Ariyan
18. Carpenter M.B: Human Neuroanatomy.Williams & Wilkins, Baltimore, n1
19. Fraser: Physical Management of Multiple Handicapped. William & Wilkins, Baltimore
20. Aisen: Orthotics in neurological rehabilitation. Demos Publication, New York
21. Delisa: Manual of nerve conduction velocity techniques. Raven press, New York,
22. Kimura J, F.A Davis: Electrodiagnosis in diseases of nerve and muscle. Philadelphia ,
23. O' Sullivan, F. A Davis: Physical rehabilitation: Assessment and treatment. Philadelphia
24. Farber: Neuro – rehabilitation. W.B. Saimders , Philadelphia
25. Kerb D: Bio- Feedback – A practitioner's guide. Guiford press.
26. Black I: The neural basis of motor control. Churchill, Livingstone , London –
27. Bobath B: Abnormal postural reflex activity caused by Brain Lesions. Aspen publications, Rockville
28. Eagel: Disorders of Voluntary Muscle. Churchill, Living stone Edingburgh 3
29. Knot M. and Voss: Proprioception, neuro muscular facilitation techniques. Harper and Row

, New York

30. Gowitzke,Williams and Wilkins.Scientific Basis of Human Movement .Baltimore..
31. Handbook of Physiology in Aging- Masoro, C.R.C. Press.
32. Laidler, Capman and Hall: Stroke rehabilitation. London
33. Carr J.H, Shephered R.B: Motor relearning programme for stroke. Aspen publication, Rock Ville,
34. Bobath B. Heinmann: Adult hemiplegia evaluation and treatment: London

35. Brombley: Paraplegia and tetraplegia. Churchill, Livingstone, Edingburgh
36. Maria stokes: Physical management neurological rehabilitation, Elsevier,Mosby.
37. Misra U.K, Kalita J: Clinical Neurophysiology NCV, EMG, Evoked Potentials, Elsevier, New Delhi,
38. Joel A Delisa, Gans B.M: Rehabilitation medicine principles and practice, revan, Philadelphia, New York,
39. Robert Gunzbng, MarekSzpalski: Whiplash Injuries, current concepts in prevention diagnosis and treatment, Lippincot Williams &wilkins.
40. Krusen's: Hand book of physical rehabilitation, kottke, lehmann, Saunder's Publications,
41. Ropper A.H, Brown R.H: Adam and victors principle of neurology, Mcgraw – hill companies USA
42. Richard S. Snell: Clinical Neuroanatomy for medical students, Lippincott Williams &wilkins Martha Freeman Somers: Spinal cord injury functional rehabilitation 4
43. David S Butler: Mobilisation of the nervous system Churchill Livingstone, New York.
44. Darcy A. Umphred: Neurological rehabilitation, Mosby, Sydney,
45. Kenneth W. Lindsay, Ian Bone: Neurology & Neurosurgery illustrated,
46. M Flint Beal, Anthony.E. Lang, Albert Ludolph: Neurodegenerative Diseases, Cambridge University Publication, USA
47. Jose .I. Suarez :Critical Care Neurology and Neurosurgery, HUMANA PRESS PUBLICATIONS,USA.
48. David .R. Lynch:Neurogenetics-Scientific& Clinical Advances,Taylor& Francis Group Publication New York
49. Asbury, Mckann, Medonald: Diseases of Nervous System- Vol .I and Vol II, Mcarthur public, 3rd edition.
50. Disabled Village Children: A Guide for Health Workers, Rehabilitation Workers, and Families, Published January 1st 1987 by Hesperian Foundation

51. Community Based Rehabilitation. Malcolm Peat. W.B. Saunders
52. Physical Rehabilitation Outcome Measures 2nd Edition, Finch E, Brooks D, Startford PW, Mayo NE. Candian Physiotherapy Association.
53. www.sralab.org/rehabilitation-measures
54. https://pubmed.ncbi.nlm.nih.gov/
55. https://www.cochranelibrary.com/

Journals for reference:

1. Indian Journal of Occupational Therapy
2. American Journal of Occupational Therapy
3. British Journal of Occupational Therapy
4. Canadian Journal of Occupational Therapy
5. Archives of Physical Medicine and Rehabilitation
6. Neurorehabilitation & Neural repair
7. Other Occupational therapy, Neurosciences and Neurorehabilitation related Journals

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राष्ट्रीय सहबद्ध और स्वास्थ्य देख-रेख वृत्ति आयोग

Master of Occupational Therapy in Geriatrics - MOT (GR)

Course Description

This course focuses on the role of occupational therapy with the aged within geriatric rehabilitation settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments. In order for occupational therapists to understand the needs of older persons, the course addresses the aging process and its physiological, sociological, and psychological effects, with attention to heterogeneity and older person's strengths and capabilities. Students also learn about common impairments and disabilities and rehabilitation needs of older persons. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of older persons. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention of Geriatric population,

Course Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and the relationships between policy, legislation and practice. This course builds upon prior course work, particularly Growth and Development, Clinical Conditions in Occupational Therapy, Assessment and Intervention of Psychosocial Issues, Theories of Adult Rehabilitation. The topics of aging and gender issues, successful aging, and community and home safety are also added for quality care of elderly persons

Competency Domains and Learning Outcomes: Domain 1: Clinical Assessment and Evaluation

Learning Outcomes:

- Conduct interviews and evaluations of aged persons in multiple settings
- Conduct comprehensive assessments of functional abilities.
- Apply specialized standardised evaluation tools relevant to clinical features
- Analyze assessment findings to formulate client-centered treatment plans.
- Explain the importance of quality of life issues for older persons and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

Learning Outcomes:

- Design evidence-based intervention plans tailored to each individual aged person
- Implement treatment plans for aged individuals in multiple settings.
- Formulate treatment plans (including discharge planning) in partnership with older persons/families utilizing behavioural objectives.
- Demonstrate knowledge of community programs and organizations that assist the elderly, particularly frail older people.
- Understand the hospice concept, formulate treatment plans to address quality of life issues for the terminally ill.

Domain 3: Inter professional Collaboration

Learning Outcomes:

- Understand the elderly as a high-risk group with regard to medication interactions, including how physiologic changes influence medication effects.
- Collaborate effectively with other professionals of Geriatrics team and other healthcare providers.
- Participate in multidisciplinary teams to optimize the intervention outcomes.
- Communicate occupational therapy perspectives and contributions in geriatric nursing homes, geriatric community homes

Domain 4: Professionalism and Ethical Practice

Learning Outcomes:

- Articulate how ethical considerations in geriatric practice relate to the Code of Ethics regulations by NCAHP
- Knowledge of how demographics and policy influence healthcare in elderly patients

Domain 5: Research and Evidence-Based Practice

Learning Outcomes:

- Critically appraise research literature relevant to occupational therapy in Geriatrics Occupational Therapy
- Integrate research findings into clinical practice to enhance the treatment outcomes.

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MOT 104: Basic Medical Sciences & Theoretical foundations in Occupational Therapy of Geriatrics

Course Description:

The overall goal of the course is to provide a conceptual framework for the study of gerontology as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the older adult. It involves the training in the use of various theories Frames of references & approaches used in Occupational Therapy intervention of Geriatric population,

Course Objectives (competency statements) –
The objectives of this course are:

1) Integrate prior knowledge of anatomical, physiology, sensory and cognitive changes in late adulthood for purposes of occupational therapy intervention with older adults
2) To understand the aging process –acute and chronic.
3) Understand the importance of sexuality and sexual expression among older persons
4) Understand the cultural diversity and heterogeneity among the aged, and its impact upon assessment, treatment planning and discharge planning
5) To describe the Biological and psychological, psycho social theories of aging
6) Use the various frames of references in the intervention of older person
7) To identify & document the appropriate frames of reference used for the specific condition in Geriatric patients
8) Use the latest technology for assessment, intervention and documentation
9) Explain the role of occupation in the promotion of health and the prevention of disease and disability for the individual, family, and society
10) Demonstrate knowledge of community programs and organizations that assist the elderly, particularly frail older people.

Course Outcomes:

1. Explain the process of aging & the health problems following aging
2. Illustrate the diagnostic tools to identify health problems in Geriatric patients
3. State various frames of references, theories & approaches used in Geriatric population

Course Contents:

Be able to discuss the aging process, theories of aging and the relevant physical and psychological aspects.

UNIT 1: To describe the Ageing Process: Theoretical Consideration

1) Ageing: Roles & factors
2) Biological and psychological theories of aging
3) Personality theories
4) Challenges for occupational therapy
5) Use of the ICF

UNIT 2: To understand the body structures and body functions of geriatrics

1) The central nervous system
2) The peripheral nervous system
3) Voice and speech production
4) Mental functions
5) The sensory systems: structure and function
6) The integumentary system
7) The cardiovascular system
8) The respiratory system
9) The immune system
10) The neuro-musculoskeletal system
11) The digestive system
12) Metabolism
13) Thermoregulation
14) Endocrine functions
15) The genito-urinary systems

UNIT 3: To explain Bio-physical changes in Ageing

1) Aging, Functional Change, and Adaptation.
2) Age-Related Organismic Changes.
3) Age-Related Sensory Change.
4) Age-Related Changes in Cognitive Function.
5) Age-Related Changes in Physical Activity.
6) Age-Related Changes in Digestion and Excretion.
7) Age-Related Changes in the Body's Defense Mechanisms.
8) Age-Related Changes in Sexual Activity.

UNIT 4: To explain Culturally Diverse Elders.

- Health Beliefs and Practices.
- Implications for Intervention with Ethnic Elders.

UNIT 5: To Analyse the Investigations in the Elderly:

1) Policy and interpretation
2) Radiological, Haematological and Biochemical investigations
3) ECG
4) Urinalysis
5) Radioisotope tests/ Bone Scan
6) Imaging – Ultrasound, CT, Scan, MRI
7) How much to investigate
8) Concept of normal range
9) Nutritional Assessment

UNIT 6: To elicit & interprate the clinical features related to Functional Performances in Pathologies of old age

1) Cancer
2) Dementia
3) Depression
4) Diabetes
5) Falls
6) Fractures and osteoporosis
7) Heart failure

8) Learning disabilities
9) Musculoskeletal problems/arthritis
10) Respiratory disease
11) Stroke (cerebrovascular accident)

UNITS 7: Describe the appropriate OT frames of reference (FOR) & approaches in specific Geriatric Condition:

1) Acquisitional FOR
2) Behavioural FOR
3) Biomechanical FOR
4) Cognitive behavioural FOR
5) Compensatory FOR
6) Psychodynamic FOR
7) Psycho analytical FOR
8) Psycho spiritual FOR
9) Rehabilitative FOR
10) Sensory Integration FOR
11) Cognitive disability FOR
12) MOHO
13) Activities health model
14) Psychosocial model
15) Behavioural approach
16) Task oriented Approach
17) Other OT related approaches

UNIT 8: Older people and Occupational Justice

A) Occupation as a right
B) Occupation as a matter of social justice
C) Occupational justice & older people
D) Occupation, morbidity and mortality and the promotion of health

UNIT 9: Ethical Consideration in geriatric Occupational Therapy practice:

a) Consideration of socio-cultural norms & spirituality
b) Ethical guidelines to be followed for treatment of Cancer Patients

UNIT 10: Evaluate in details for Disability certification:

For permanent disability/ multi-disabilities specific to Geriatric conditions:

a) Locomotor disabilities due to Amputation, Musculoskeletal conditions neurological conditions & any other

b) Mental Health disabilities

***As per the guidelines, described in the latest/ revised Government Gazette published by Department of empowerment of persons with Disabilities (Divyangjan), Ministry of Justice & Empowerment, New Delhi March 2024

UNIT 11: To enlist & identify the systems, services and policies for Elderly persons:

National policies for older persons: Older Indians carries a large burden of disease and disability and pose a tremendous challenge for the health sector as well as also social and economic infrastructure.

Govt. of India Initiatives:

1) National Policy on Older Persons (1999),
2) National Health Policy (2015),
3) National Population Policy (2015),
4) Maintenance and Welfare of Parents and Senior Citizens Act, (2007)
5) National Program for Health Care of the Elderly (2011, 2014the state initiatives in old age care.
6) The development of services for older people
7) Finance and employment
8) Driving and transportation
9) Housing and adaptations
10) Health and social care
11) Quality in health and social care
12) Patient/carer experience
13) Efficiency
14) Effective delivery of appropriate care

MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Geriatrics

Course Description:

- A better understanding & process of the various diagnostic procedures used in Occupational Therapy for Geriatric patients.
- Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention.

Course Objectives: **(Competency statements)**

- Elicit and interpret clinical signs and symptoms & interpret clinical tests and special investigations commonly used in the diagnosis of geriatric conditions.
- Illustrate the diagnostic tools to identify health problems in Geriatric patients
- Understand the appropriate use of assessment tools for specific problems in geriatric patients
- Able to administer the specific tool for screening the other associated issues in geriatrics
- Describe & administer Specialized tools of OT assessment in Geriatric population
- Compare the scoring with norms & analyse it for planning of OT Program
- Administer the tools for assessing progress in patients.
- Demonstrate a broad range of technical skill in diagnosing the Occupational Therapy related Geriatric conditions.
- Generate a primary diagnosis and a list of differential diagnoses consistent with typical presentations.
- Make Critical decision and selection of outcome measures in Geriatric Occupational Therapy

Course contents:

UNIT 1: Evidence-Based Practice

- Current Research in Geri care: Reviewing and applying the latest research findings to assessment and diagnosis.
- Outcome Measures: Using validated tools to track progress and outcomes of interventions.

UNIT 2. Medical-diagnostic evaluation:

1 Investigations:

- Biopsy, Densitometry, Arthroscopy, etc.,
- Biomarkers specific to neurological disorders
- Principles, Techniques and interpretation of biochemical and Pathological investigations
- Recent advances in Medical/diagnostic assessment and evaluation

2. **Radiological evaluation**

a) X- Rays
b) Magnetic Resonance Imaging Scan (MRI)
c) Computerized Tomography (CT)
d) Positron Emission Tomography (PET)
e) Ultrasonography
f) Angiography
g) Intracranial pressure monitoring
h) Other-radiological assessment

3. **Neurophysiological evaluation**

a. EMG & NCV interpretation
b. MCV, RNS, EPS, EEG related to neurological disorders with interpretation.

4. **Other Electrophysiological assessment**

UNIT 3: Diagnostics in Geriatric Occupational Therapy:

1. Occupation and Occupational Science
2. Application of Occupational therapy Practice Frame work (OTPF) for elderly persons:

Domains & Process to formulate client centered occupational therapy program

I. Occupational Therapy Domains
   a. Occupations
   b. Occupational Profile
   c. Contexts
   d. Performance Patterns
   e. Performance Skills
   f. Client Factors

II. Occupational Therapy Process
   a) Evaluation
   b) Intervention
   c) Outcomes

UNIT 4: ICF:

Understanding ICF & its application in geriatric Occupational Therapy

UNIT 5: Occupational Therapy Evaluation

a) Importance of assessment & evaluation, Outlines of principles and Methods of evaluation
b) Knowledge and assessment for using common standardized and non-standardized tools/ instruments/tests/ scales in neurological disorders, neurosurgical, neuropsychiatric, and musculoskeletal disorders
c) Condition specific outcome measures
d) Clinical analysis of posture, movement and gait
e) Neuro-motor evaluation
f) Sensory evaluation

g) Cognitive and perceptual evaluations
h) Psychological evaluation
i) ICF and other Occupation based conceptual frame work for assessment
j) Critical decision making and selection of outcome measures
k) Assessment, differential diagnosis and diagnosis of various neurological conditions
l) Assessment of Physical and Neurological Functions of Patients in ICU

UNIT 6: To identify & administer appropriate standardised tests for specific problems in geriatrics

Standardised OT tools in geriatrics (include following but not restricted to and equivalent to, Use of relevant test batteries, carry out the correct procedure and their interpretation)

X. Posture, balance and gait:

a. Time up & Go
b. POMA performance-oriented mobility assessment
c. Tandem / Semi tandem stand
d. Functional research scale

XI. Scales for fall prevention:

Fall risk assessment

XII. Activity Participation and community Integration:

a. Activity specific balance, confidence (ABC) scale
b. Community integration questionnaire

XIII. Cardio pulmonary function and age-related changes:

Ten-minute targeted geriatric assessment

XIV. Hearing – vision and functional performance:

a. Whisper test
b. Hearing handicap index
c. Inventory for the elderly NHANES battery
d. Functional Low Vision assessment (IADL)
e. OARS – Older American Resources & Services Geriatric Functional Rating Scale

XV. Cognitive functions:

a. Mini mental status examination (MMSE)
b. MOCA (Montreal cognitive assessment)
c. LOTCA (Lowenstein occupational therapy cognitive assessment)

XVI. Mental status and Depression:

a. Geriatric depression scale
b. Geriatric depression scale short form

XVII. Activities of Daily Living:

a. Barthel Index (BADL)
b. FIM – FAM
c. IADL, BADL – Lawton & Brody's Scales
d. Katz index of independence
e. A-ONE (Arnadottir OT neuro behavioural evaluation)

XVIII. Work and Retirement:

a. Validation of driving simulator by measuring visual attention skills of older adult drivers
b. community integration questionnaire
c. social adaptive functioning scale

XIX. Sexuality in late Adulthood:

a. Perceived sexuality distress scale
b. King's health care questionnaire

XX. Home and environment

a. Home FAST
b. Social adaptive functioning scale
c. Resident Assessment Protocol (RAPS)

XXI. Quality of Life

a. QOL – Short form 36
b. QOL – Short form 12

XXII. Urinary incontinence

a. Questionnaire for urinary incontinence
b. Incontinence QOL

XXIII. Conservative Pain Assessment:

a. VAS – visual analogue scale
b. Geriatric pain measure – short form
c. advanced dementia pain scale

XXIV. Faces pain scale

XXV. Sleep & Sleep Disorders Assessment:

a. Pittsburgh sleep quality index (PSQI)
b. Consensus sleep diary (CSD)
c. Epworth sleepiness scale
d. Stanford health care sleep questionnaire
e. Global sleep assessment scale

XXVI. End of life & terminal illness

a. Hospice history & philosophy
b. HAOF OT assessment –Hospice Assessment of Occupational function.
c. c)Themes in hospice O.T
d. d)Hospice goal planning & treatment

XXVII. Holistic Approach to Geri Care

a. Integrated Approach: Combining physical, psychological, and social assessments to form a comprehensive evaluation.
b. Personalized Assessment Plans: Tailoring evaluation methods to the individual needs of each athlete.

UNIT 7: Analysis & interpretation of Assessment:

- Screening the other associated issues in geriatrics
- A primary clinical/functional diagnosis and a list of differential diagnosis
- Planning of OT Program
- Critical decision and selection of outcome measures necessary for prognostic purpose & research studies

UNIT 8: Documentation:

Document the Assessment, outcome measures & interpretation

MOT 202: Advanced Occupational Therapy Process & Practice in Geriatrics

Course Description

This course focuses on the role of occupational therapy with the aged within geriatric rehabilitation settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments. In order for occupational therapists to understand the needs of older persons, the course addresses the aging process and its physiological, sociological, and psychological effects, with attention to heterogeneity and older person's strengths and capabilities. Students also learn about common impairments and disabilities and rehabilitation needs of older persons. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of older persons.

Course Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT- OTA partnerships and the relationships between policy, legislation and practice. Additional topics include aging and gender issues, successful aging, and community and home safety.

This course builds upon prior course work, particularly Growth and Development, Clinical Conditions in Occupational Therapy, Assessment and Intervention of Psychosocial Issues, Theories of Adult Rehabilitation.

Course Learning Outcomes:

The overall goal of the course is to provide a conceptual framework for the study of gerontology as it relates to occupational therapy and to assist occupational therapy post graduate students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the older adult.

Course Contents:

To promote occupational functions in the geriatric conditions with advanced clinical occupational therapy interventions in the following:

UNIT 1: Occupational Therapy in Social Geriatrics:

The Social context of older people

A) Ageist attitudes, values, assumptions, and stereotypes
B) Ageism and discrimination
C) Cross cultural perspectives on ageing and older people
D) Exploring the social networks of older people
E) Mapping social networks
F) Types of social support
G) Types of support network
H) Pets as members of the older person's social context
I) Health professionals as sources of social support
J) Dysfunctional social contexts
K) The social context, health and longevity
L) Implications for occupational therapists

Management of elderly with respect to social context :

A) Role of Government and NGOs in up-liftmen of socio-economic status of older people
B) national policies on ageing and old age care
C) Geriatric Service for the Elderly with consent of family/client
D) Day Hospital, Day Care Centre, Long Stay Care Institution, Home for the aged
E) Nursing Home for geriatrics
F) Ethical Issues in Geriatric Medicine

UNIT 2: Occupational Therapy in Preventive Geriatrics:

A) Preventing Diseases and promoting health in old age - Types of preventive activities - Risk factor management in elderly - screening
B) Health belief model - General Health practices in elderly
C) Exercise in the elderly - Physical and Mental domain - Benefits of Exercise
D) Development of Anticipatory Care and its Rationale - methods of Anticipatory Care
E) Health promotion and Health Education in the Elderly
F) Anti-Aging interventions

UNIT4: Occupational Therapy in Rehab settings

A) The concepts and History of Rehabilitation
B) The goals of Rehabilitation
C) Principles of Rehabilitation - Assessment, goals, priorities and monitoring progress
D) Rehabilitation in old age - Special features in relating to aging, multiple pathology, Policies, expectation, carers, acute illness, social and financial support
E) Clinical evaluation of rehabilitation - impairment, disability and handicap
F) Prevalence of disability, types of disability
G) Rehabilitation as Team work - Team leadership, therapist, physiotherapy, occupational therapy, social worker, physician and nursing personnel.
H) Aids and application - tools for living
I) Application of productive leisure activities
J) Contractures and other deleterious effects of immobility
K) Pressure Ulcer - factors, prevention and management
L) Organization and effectiveness of rehabilitation services - Community Services
M) Geriatric Unit, Day hospital, Day Care Centre, Long Stay Care Institution - role of rehabilitation in the above services

UNIT 5: Geriatric Occupational therapy in community

A) Community-Based Occupational Therapy in Healthy and Frail Elderly
B) Healthy Ageing for the Well Elderly Through Prevention
C) Home-Based Occupational Therapy Services to specific conditions.

UNIT 6: Geriatric Occupational Therapy in the ICU

- Long-Term Outcomes After Critical Illness and Post Intensive Care Syndrome
- The Role of Occupational Therapy in Critical Illness

UNIT 7: Hospice & Palliative care:

- To identify the need of specific approach to be used in Geriatric conditions
- Describe characteristics of loss, grief & bereavement in relation to occupational performance.
- Develop treatment program for hospice patients & their care givers.
- Explain hospice family system & the need for treatment of the family as a unit of care.
- Role of OT in Hospice & Palliative care

UNIT 8: Geriatric Psychiatry:

1) Dementia & Alzheimer's disease

- Describe the cognitive changes in normal aging, cognition and activities in normal aging
- Assessing functional performance in dementia, managing dementia
- Assessing functional performance in. Alzheimer's disease, managing Alzheimer's disease

2) Depression

Overview of depressive disorders, Depression and functional status, treatment of depression, cultural factors in depression

3) Personality traits.

Overview of Personality traits, Personality traits and functional status, treatment of Personality traits, cultural factors in Personality traits

UNIT 9: Forensic Occupational therapy:

a. Team: It including clinical and forensic psychiatry and mental health professionals, geriatricians and internists, attorneys and courts, regulators, and other professionals working with the older population.
b. Its include clinical forensic evaluation, regulations and laws, civil commitment, different forms of capacity, guardianship, patient rights, medical-legal issues
c. Identify the five most common types of abuse found among elderly.
d. Recognize relationship between deteriorating functional structure & the potential for abuse & reflect.
e. Incorporate preventive strategies in the treatment plan

UNIT 10: Visual rehabilitation in Geriatric Occupational Therapy

a) Symptoms of low vision
   Blurred vision, Central field loss, Contrast loss and glare problems, Multiple field loss, Distortion, Tunnel vision
b) Employment and job training
c) Assistive products, like lighting and reading stands
d) Technology, like magnifiers and screen readers
e) Daily living and independent living skills trainings
f) Emotional support, like counselling or support groups
g) Transportation and household services

UNIT 11: Documentation:

a. Document the Occupational Therapy intervention planning & periodic progress report
b. Modification in the intervention if any

MOT 203: Current & Future Trends in OT for Geriatrics

Course Description:

It involves the training for the use of various theories, Frames of references & latest approaches used in Occupational Therapy intervention of geriatric population, The Occupational Therapy technology is a rapidly evolving field, with numerous trends and innovations that are helping to improve the quality of care for elderly persons.

This course updates the knowledge of students about the latest technologies used in OT intervention.

Course Objectives (competency statements) –

1. To implement latest technologies for the OT intervention in geriatrics.
2. Understand the Frames of reference in OT while applying any new technology for various geriatric conditions.
3. To identify & document the appropriate newer assessment, planning goals & application of evidence based latest OT approaches used for the specific needs of elderly patients
4. Document & monitor the progress of implemented recent approaches

Course Outcomes:

1. Explain the recent knowledge in the field of geriatrics
2. Illustrate & describe the recent diagnostic and assessment tools to identify specific impairments in elderly persons.

Course Contents:

UNIT 1: Recent Technologies in Assessment & Evaluation:

a) Motion Capture Systems: Detailed analysis of movement patterns and identification of dysfunctional mechanics.
b) Posture analyser
c) Gait analyser
d) Motion Analyser
e) trims
f) fMRI
g) Other methods

UNIT 2: Advanced and evidence-based use of Orthotics, Assistive and adaptive technologies:

a) Splinting and orthosis
b) Adaptive devices
c) Assistive devices
d) Wheelchair
e) Mobility Devices
f) 3D printing
g) Other devices

UNIT 3: Recent advances in OT intervention

1. Recent Therapies

a) Mirror therapy
b) Mental / motor imagery
c) CIMT
d) BWSTT
e) Vestibular Rehabilitation Therapy (VRT) For vestibular & balance disorders
f) Virtual reality (VR):
g) Virtual reality applications for motor learning and rehabilitation
1) Virtual environments for pain distraction and management

2. Adjunctive Therapies

a) Neural mobilization and Neuro Dynamics
b) FES
c) NMES
d) Transcranial Magnetic Stimulation
e) Transcranial direct current stimulation
f) Pain Modulation and intervention
g) PAMOT
h) Yoga therapy
i) MFR
j) Kinesiotaping

UNIT 4: Recent advances in medical intervention

a) Genetic counselling
b) Stem cell therapy
c) Gene therapy
d) Other recent neuro-regenerative interventions

UNIT 5: Technology and Older Adults

1 Considerations of Assistive technologies

a) Aging and functional performance, assistive technology for elder adults
b) Barriers and Acceptance of Technology in the Elderly
c) Environmental impacts, products and technology
d) Indoor environments and older people

2.Augmentative & Alternative Communication (AAC) in Geriatrics: Augmentative and Alternative Communication (AAC) to facilitate expression of basic wants and needs. When it comes to implementing an AAC system into a care plan, there are a vast number of options available. A thorough evaluation is crucial when determining the most appropriate AAC system to use.

A) Understanding Augmentative and Alternative Communication (AAC)
B) Categorization of AAC
C) Types Of AAC Systems
   I. Symbols-based system
   II. Communication boards
   III. Text to Speech devices
   IV. Speech generating devices
D) Implementing AAC in daily Life
E) AAC, Aging, and Telephone Relay Access Technology
F) Challenges and considerations

3. Brain computer Interface for functional Activities in Geriatrics

(1) Training motor/cognitive abilities for preventing the aging effects,
(2) Controlling home appliances,
(3) Communicating with others during daily activities,
(4) Controlling an exoskeleton to enhance the strength of the body's joints.
(5) Electroencephalogram (EEG) to improve their quality of life

UNIT 6: Future trends in elderly care

- **Telemedicine:**
- **Wearable technology:** Wearable devices, smart clothing, and assistive technologies are used for enhancing independence. Wearable technology is used into assessments and interventions, helping patients track progress, manage health conditions, and improve mobility. Occupational therapists use latest assistive devices like Smartwatches, body-mounted sensors, and fitness trackers
- **Smart home technology:** smart thermostats and smart home security system
- **Virtual assistants**: Virtual assistants: Amazon's Alexa or Google Assistant : elderly individuals stay connected and manage their daily tasks, such as setting reminders or making phone calls.
- **Robotics**: Robotics technology
- **Remote patient Monitoring**

  Remote patient monitoring (RPM) tools
- **Smart Devices**
  - Technology evolving from personal emergency response service tools (PERS
  - Smartphones with large buttons and displays.
  - Voice assistants such as Amazon Echo and Google Home. Reminder to eat, take medication, and when their next doctor's appointment is scheduled

UNIT 7: Other Facilities:

I. Home based Elderly care

II. Training for trainer

III. Productive Ageing: Finding innovative approaches to support productive aging

   a) Exploring the Productive ageing resources
   b) Driving & Community Mobility
   c) Falls Prevention
   d) Occupational engagement & Productive ageing

Recommended texts:

1) Jean M Kiernat. Occupational Therapy and Older adult: A Clinical Manual
2) Anee Mclntyre and Anita Atwal. Occupational Therapy and Older People
3) Christian Pozzi, Alessando Lanzoni. Maud J L Graif. Occupational Therapy for Older people
4) Bortnick, K. (2017). *Occupational Therapy Assessment for Older Adults.* Thorofare, NJ: SLACK
5) Turpin, & Wama, (2011). Using *Occupational Therapy Models in Practice: A Field Guide.* St. Louis MO, Elseveir 2011
6) Poo, A. (2015). *The Age of Dignitiy: Preparing for the Elder Boom in a Changing America.* New York, NY: The New Press.
7) Bjorklund, B.A. (2015). *The Journey of Adulthood (8th ed.).* Boston, MA: Pearson
8) Sirven & Malamut, (2008) *Clinical Neurology of the Older Adult 2nd Edition Stony Brook Library Catalog Number:*
9) Lewis,S.C. (2003). *Elder Care in Occupational Therapy (2nd ed.)* Thorofare, NJ: Slack
10) Piersol, C.V. & Erlich, P.L. (2008) *Occupational Therapy in Home Health Care, PRO-ED, Incorporated*
11) Radomski, M.V. & Trombly-Latham, C.A. (2008). *Occupational therapy for physical dysfunction (7th ed.).* Baltimore: Lippincott Williams & Wilkins.
12) Crepeau, E.B., Chon, E.S., Schell, B.A. (Eds.) (2007). *Willard and Spackman's Occupational Therapy. (12th ed.).* Philadelphia, PA: Lippincott, Williams & Wilkins.
13) Pendleton, HM, and Krohn, W.S. (Eds.) (2006). *Pedretti's*: *Occupational therapy: Practice skills for physical dysfunction*, 8th ed., St. Louis, MO: Mosby/Elsevier
14) Lichtenberg, P. (Ed.) (2008) Handbook of Assessment in Clinical Gerontology 2nd Ed., St. Louis, MO: Mosby/Elseviere
15) Marilyn B. Cole, Karen Crane Macdonald (2015) Productive Aging: An Occupational Perspective
16) Abhaya Gupta. Measurement scales used in Elderly.

Master of Occupational Therapy in Oncological Science MOT (ONCO)

Course Description

This course focuses on the role of occupational therapy for cancer patients in various settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs). In order for occupational therapists to understand the needs of cancer patient, the course addresses the basic medical science like clinical oncology, Cancer Biology, Radiobiology and the effects of chemo therapy & radiations on the cancer biology . Students also learn about common impairments and disabilities and rehabilitation needs of cancer patient persons. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support, community living and to improve the quality of life of persons. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention of patients undergoing surgical & or non-surgical treatment of cancer

Course Objectives:

The course also addresses the importance of evidence-based practice in occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and the relationships between policy, legislation and practice. This course builds upon prior course work, particularly on clinical Conditions in Occupational Therapy & their assessment and intervention theories of occupational therapy in rehabilitation. The student also learns about the current advanced & the future occupational therapy interventional technologies used for these patients.

Competency Domains and Learning Outcomes:

Domain 1: Clinical Assessment and Evaluation

- **Learning Outcomes:**
  - Conduct interviews and evaluations of persons in multiple settings
  - Conduct comprehensive assessments of functional abilities.
  - Apply specialized standardised evaluation tools relevant to clinical features
  - Analyze assessment findings to formulate client-centred treatment plans.
  - Explain the importance of quality of life needs of patients in palliative care

Domain 2: Intervention Planning and Implementation

- **Learning Outcomes:**
  - Design evidence-based intervention plans tailored to each individual
  - Implement treatment plans for individuals having cancer in multiple settings.
  - Demonstrate knowledge of community programs and organizations that assist them financially & psychosocially.
  - Understand the hospice concept, formulate treatment plans to address quality of life issues for the terminally ill.

Domain 3: Inter professional Collaboration

- **Learning Outcomes:**
  - Understand the complications which may arise in persons undergoing chemotherapy / radiation Therapy & the effects of medication on their quality of life
  - Collaborate effectively with team professionals and other healthcare providers.
  - Participate in multidisciplinary teams to optimize the intervention outcomes.
  - Communicate occupational therapy perspectives and contributions in hospice care, nursing homes

Domain 4: Professionalism and Ethical Practice

- **Learning Outcomes:**
  - Articulate how ethical considerations in oncology practice relate to the Code of Ethics regulations by NCAHP
  - Knowledge of how demographics and policy influence healthcare of patients with cancer.

Domain 5: Research and Evidence-Based Practice

- **Learning Outcomes:**
  - Critically appraise research literature relevant to occupational therapy in Onco-Occupational Therapy
  - Integrate research findings into clinical practice to enhance the treatment outcomes.

MOT 1st year

MOT 104:Basic Medical Sciences & Theoretical foundation in Occupational Therapy for oncological science

Course Description:

The overall goal of the course is to provide a conceptual framework for the study of oncology related to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in quality of life of persons undergoing chemotherapy & radiation therapy which need to be addressed in OT practice. It involves the training in the use of various theories Frames of references & approaches in Occupational Therapy intervention of Oncology population.

Course Objectives (competency statements) –
The objectives of this course are

1. Integrate prior knowledge of anatomical, physiological, motor, sensory, cognitive & psychosocial aspects of person for the purposes of occupational therapy intervention of person suffering from cancer.
2. To understand the cancer biology & the stages
3. Understand the cultural diversity and heterogeneity among the aged, and its impact upon assessment, treatment planning and discharge planning
4. To identify & document the appropriate frames of reference used for the specific condition.
5. Use the various frames of references in the intervention of individual person having specific problems due to specific cancer disease

6. Use the latest technology for assessment, intervention and documentation
7. Explain the role of occupational therapy in the promotion of health and the prevention of disability for the individual, family, and society
8. Demonstrate knowledge of community programs and organizations that assist the people undergoing treatment

Course Outcomes:

- Understand the cancer biology & radiobiology
- Identify normal & pathological anatomy on diagnostic images
- Understand the diagnosis, radio diagnosis & other investigations used in cancer
- Disability evaluation as per the specific disabilities due to specific oncological condition
- State various frames of references, theories & approaches used in the OT treatment

Course Contents:

UNIT 1: Learn the basics of Clinical Oncology

a) Introduction to oncology
b) Principal of clinical and pathological staging of cancer, diagnosis and principals of treatment
c) Basics of Radiation Therapy
d) Basics of cancer Chemotherapy, Hormone & Biological Therapy
e) Basics of cancer surgery
f) Combined modality of Radiotherapy and Surgery
g) Combined modality of Radiotherapy and Chemotherapy
h) Basics of Radiation treatment planning: Clinical aspects.

UNIT 2: Understand Cancer Biology in depth

a) Cellular structure and function
b) Cell membrane and Cytoplasm
c) Nucleus, normal gene transcription, DNA repair mechanism, polymorphism, micro-satellites, Methylation, hypomethylation & methylation reversal
d) Haemopoiesis: Marrow structure, haemopoietic microenvironment, cell linage & hierarchies

e) Cell growth control: Normal cell growth & control, Autocrine, paracrine & endocrine control, signal transduction, cyclin kinases, gene promoters, signal pathways
f) Cell Cycle Control and cancer, basic kinetics
g) Growth disorders: Hyperplasia, dysplasia, carcinoma-in-situ and neoplasia
h) Causation of cancer: Environmental factors, carcinogenesis (viral, radiation) normal tissue damage (early & late)
i) Mechanism of spread, local invasion, metastasis
j) Multistage carcinogenesis and metastatic cascade
k) Tumour vasculature & angiogenesis

UNIT 3: Understand the radiobiology

1. Cell, tissue and tumor kinetics, Cell survival curve & basic of fractionation
2. Radiation damage at cellular level (membrane, cytoplasmic, nuclear): normal tissue tolerance, effect on different tissues, schemes of reporting normal tissue damage
3. Acute and late effects of Whole body irradiation.
4. Molecular Biology of Radiation Damage & Repair: molecular process in radiation damage repair, time course of repair, chemotherapy drug resistance, damage (lethal, sublethal, potentially lethal)
5. Acute & Late responding tissue and dose response relationship
6. Predictive assay of radiation response
7. Molecular basis of radiation sensitivity with respect to cancer biology

UNIT 4: Understand the chemotherapy process & clinical pharmacology

1. Mechanism of action of Cytotoxic drug: Mechanism of action, Phase & cell cycle specific drug, Mechanism of cell death, Mechanism of cell death, Drug resistance modifiers, drug interaction.
2. Toxicity of Chemotherapy: Mechanism of toxicity, Dose limiting & common toxicities, Dose related & idiosyncratic toxicities, early, intermediate & late toxicity, factors modifying toxicities, safe handling of Cytotoxic drugs
3. Molecular basis of cytotoxic drug action and drug resistance with respect to cancer biology

UNIT 6. Describe the Clinical signs and symptoms in different categories of cancer

1) Bone and soft tissue Cancer
2) Neuro oncology
3) Breast, Reproductive & Genital Cancer
4) Lung Cancer
5) Gastrointestinal cancer
6) Head and neck Cancers
7) Haematology cancer
8) Systemic and Organ Cancers

UNIT 7: Describe the appropriate OT frames of reference (FOR), Models & approaches in specific oncological Conditions (Not Limited to)

Behavioral Frame of Reference (FOR), Biomechanical FOR, Cognitive disability FOR, Developmental FOR, Neurodevelopmental FOR, Sensory Integration FOR, Rehabilitative Frame of Reference/ Rehabilitation FOR, Psychodynamic FOR, Spatiotemporal Adaptation FOR, Occupational Adaptation: An Integrative FOR, Model of Human Occupation FOR, Acquisitional FOR, Compensatory FOR, Biomechanical FOR for Positioning Children for Function, Cognitive-Behavioral FOR, FOR for Motor Skill Acquisition, FOR for Visual Perception, Neuro-Developmental Treatment FOR, Occupational Adaptation FOR, Psychoanalytic Frame of Reference, Psychodynamic Frame of Reference, Psychospiritual Integration FOR, Social Participation FOR, Model of Human Occupation (MOHO), Occupational Adaptation Model (OAM)

UNIT 8: Ethical Consideration in Occupational Therapy practice in Oncology:

- Consideration of socio cultural norms & spirituality
- Ethical guidelines to be followed for treatment of Cancer Patients

UNIT9: Evaluate in details for Disability Certification:

For permanent disability/ multi-disabilities specific to oncological conditions:

1. Locomotor disabilities due to Amputation, Musculoskeletal conditions. neurological conditions & any other
2. Mental Health disabilities

***As per the guidelines, described in the latest/ revised Government Gazette published by Department of empowerment of persons with Disabilities (Divyangjan), Ministry of Justice & Empowerment, New Delhi March 2024

UNIT 10: Enlist & describe the Legal issues/ Legislations acts / policies concerning:

- Occupational Therapy Profession
- Persons with Disability
  - I. Metrics in Cancer Rehabilitation
  - II. Research Funding Issues and Priorities in Cancer Rehabilitation
  - III. Health Maintenance and Screening in Cancer Survivor

Govt. Schemes & services for Cancer Treatment

a) Assistance from Government for poor & needy
b) Affordable cancer treatment schemes **in all the states of India**
c) Free accommodation for under treatment patient & family members
d) Genetic Counselling & free check up
e) Comprehensive Cancer Survivorship Act (CCSA)
f) Ayushman Bharat - National Health Protection Scheme
g) All India Health Minister's Discretionary Grant (HMDG)
h) All India Health Minister's Cancer Patient Fund (HMCPF) of Rashtriya Arogya Nidhi (RAN)
i) All India Railway concession for Cancer patient
j) All India Health Minister's Cancer Patient Fund (HMCPF) of Rashtriya Arogya Nidhi (RAN)

MOT 2nd Year

MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Oncology

Course Description:

Candidates will get wide knowledge of various assessment tools and outcome measures applicable in Oncology. Candidates will be able to identify and apply the relevant assessment tool to a specific oncology condition & will be able to identify different types of cancers.

The candidate should be able to know recent trends in investigative assessment methods for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention.

Course Objectives: (Competency statements)

1. Elicit and interpret clinical signs and symptoms of diseases commonly seen in oncology & interpret clinical tests and special investigations commonly used in the diagnosis of these conditions.
2. Identify normal & pathological anatomy on diagnostic images
3. Illustrate the diagnostic tools to identify health problems in Geriatric patients
4. Understand the appropriate use of assessment tools for specific problems in geriatric patients
5. Able to administer the specific tool for screening the other associated issues in geriatrics
6. Describe & administer Specialized tools of OT assessment of cancer patients
7. Compare the scoring with norms & analyse it for planning of OT Program
8. Administer the tools for assessing progress in patients.
9. Demonstrate a broad range of technical skill in diagnosing the Occupational Therapy related Geriatric conditions.
10. Generate a primary diagnosis and a list of differential diagnoses consistent with typical presentations.
11. Make Critical decision and selection of outcome measures in Geriatric Occupational Therapy

Course contents:

UNIT 1: Assess & evaluate on basis of Evidence

1. Current Research: Reviewing and applying the latest research findings to assessment and diagnosis.
2. Outcome Measures: Using validated tools to track progress and outcomes of interventions.

UNIT 2: Analyse & interpret the diagnostic & radio diagnostic investigations in cancer

- Basics and outline of types of diagnostic imaging techniques in various types of cancer,
- clinical interpretation and significance X-rays, CT, MRI, Ultrasound, SPETCT, CT scan, Mammography and mammogram, Colonoscopy, Endoscopy, Gastroscopy, Laparoscopy, Pap smear test, Bone scan, Barium swallow, Barium enema, USG abdomen, and other diagnostic imaging, fiber optic endoscopy for diagnosis
- Nuclear & Radio-imaging
- Principles of pathological, hematological, bacteriological investigations related to oncological disorders with interpretation.
- Investigational techniques in clinics and laboratory, Technology assessment and outcome measure.
- Chemotherapy Induced Peripheral Neuropathy Assessment Tool (CIPNAT)
- Radiation oncology toxicity grading (RTOG))

UNIT 3: Diagnostics in Occupational Therapy for oncology:

a. Occupation and Occupational Science
b. Occupational therapy Practice Frame work (OTPF) for person having cancer:

Domains & Process to formulate client centered occupational therapy program:

Occupational Therapy Domains

a. Occupations
b. Occupational Profile
c. Contexts
d. Performance Patterns
e. Performance Skills
f. Client Factors

Occupational Therapy Process

Evaluation & outcome measures

UNIT 4: Occupational Therapy Evaluation

a. Importance of assessment & evaluation, Outlines of principles and Methods of evaluation
b. Knowledge and assessment for using common standardized and non-standardized tools/ instruments/tests/ scales in neurological disorders, neurosurgical, neuropsychiatric, and musculoskeletal disorders
c. Condition specific outcome measures
d. Clinical analysis of posture, movement and gait disorders & cardio respiratory fitness
e. Neuro-motor evaluation
f. Sensory evaluation
g. Cognitive and perceptual evaluations
h. Psychological evaluation
i. ICF and other Occupation based conceptual frame work for assessment
j. Critical decision making and selection of outcome measures
k. Assessment, differential diagnosis and diagnosis of various neurological conditions
l. Assessment of Physical and Neurological Functions of Patients in ICU

m. Influence and relation of physical activity, diet, nutrition, life style,obesity and anthropometric
n. Evaluation of Cancer Complications like Lymphedema, musculoskeletal, neurological, cardio respiratory.
o. Evaluation of Exercise and cancer related fatigue

UNIT 5: ICF:

Understanding ICF & its Application in Occupational Therapy for cancer patients.

UNIT 6: To identify & administer appropriate standardised tests for specific needs in oncology with respect to Occupational Therapy:

Standardised OT tools: (include following but not restricted to and equivalent to: (Use of relevant test batteries, carry out the correct procedure and their interpretation)

- **Patient Performance status (PPS):**
  - Zubrod scale,
  - ECOG (Eastern Cooperative Oncology Group) scale,
  - Karnofsky scale.
- **Basic and Instrumental Activity of Daily Living Skills:**
  - Kohlman Evaluation of Living Skills (KELS)
  - Assessment of Motor and Process Skills (AMPS)
- **Quality of life scales:**
  - European Organization for Research and Treatment of Cancer (EORTC) quality of life questionnaire Version 3.0 (QLQ-C30)
  - EORTC for different cancer specific questionnaires and cancer induced toxicity
  - EORTC scale for sexual health
  - IADL for cancer related fatigue, radiation proctitis, oral health, spiritual well- being, survivorship etc.

- The International Classification of Functioning, Disability and Health (ICF), Quality of life Index.
- Quality of Life: QoL assessment tools for clinical trials & routine practice, outcome measures

- **Treatment toxicity assessment Scales:**
  - Chemotherapy induced Peripheral Neuropathy (CIPN)
  - Functional Independence Measure (FIM +FAM)
  - Klein-Bell Activities of Daily Living Scale (Klein-Bell)
  - Barthel Index

- **Psychosocial Skills The Assessment of Occupational Functioning (AOF)**
  - Ways of Coping Checklist (WCC)
  - Assessment of Common Interaction Skills (ACIS),
  - Hospital Depression Anxiety Scale

- **Self-Perception**
  - The Canadian Occupational Performance Measure (COPM)

- **Specific Mental Functions Test:**
  - Functional Assessment of Cancer Therapy-Cognitive function (FACT-COG), Perceived cognitive questionnaire,
  - Cognitive Performance Test (CPT),
  - Mini Mental State Examination (MMSE),
  - Montreal Cognitive Assessment (MoCA), Loewenstein Occupational Therapy Cognitive Assessment (LOTCA) battery, Addenbrooke's Cognitive Examination - ACE-III.

- **Others**
  - Cancer coping questionnaire
  - **Pain: Visual Analogue scale (VAS), Numeric rating Scale** (NRS), Facial Pain scale- Revised, Verbal reporting scale (VRS), Brief pain Inventory (BPI), Pain Disability Index (PDI)
  - **Neuromusculoskeletal & movement related structure & Functions –**
    - Functions of Joints & Bones: ROM, Sit & Reach Test
    - **Muscle Function:** Manual muscle testing, Hand held Dynamometry, Grip strength, Back Leg Chest Dynamometer
  - **Cardio-vascular & respiratory capacity-** Graded activity testing, Duke's activity scale inventory, 2 or 6minutes' walk test, 9min run walk test, Borg's rating scale of perceived exertion.
  - **Immunological function (Lymphatic system):** National cancer institute common terminology criterion for adverse effects version3, Breast Cancer Chemotherapy Questionnaire (BCCQ).
  - **Onco-Psychiatric conditions:** "Depression, Anxiety, and Stress Scale -21 items (DASS-21).
  - **Functional Outcomes** "Toronto Extremity Salvage Score (TESS), Musculoskeletal Tumor Society Rating Scale. (Upper extremity-top, Lower extremity-bottom) (MSTS), TUG
  - **Sexual functions:** LENT SOMA, EORTC Ca Cx, SVQ, CTCAE for vaginal stenosis
  - **Trismus:** Jaw Function Limitation Scale (JFLS), Gothenberg trismus scale, Head and Neck cancer scales for lymphedema assessment.

- **Pediatric Oncology scales:**
  - **Reduction of fatigue:** Multidimensional Fatigue Scale
  - Visual Analog Scale-numeric (VAS), Faces Rating Scale
  - **Gross & Fine Motor Skills** Bruininks Oseretsky Test of Motor Proficiency (BOTMP-2edition), Purdue Pegboard, Jebsen Hand Function Test, Nine Hole Peg Test
  - **Quality of Life**: Quality of Life for Cancer Survivors, Childhood Health Assessment Questionnaire (CHAQ)
  - Balance Assessment: The Berg Balance Test (Berg)
  - **cognitive performance:** Dynamic Occupational Therapy Cognitive Assessment (DOTCA), Mini mental state examination-child
  - **Activity Performance and Participation:** Canadian Occupational Performance Measurement (COPM)
  - **Play Scales—**Scale of playfulness, Revised Knox preschool play Scale (PPS)

- **Geriatric cancer patients:**
  - **Nutrition**- BMI, MNA - Mini Nutritional Assessment
  - **Cogntion-**MMSE,
  - **Comorbidities**-CCI-Charlson comorbidity index,
  - **Onco psychiatry:** GAD Generalized Anxiety And Depression Scale
  - **For Social Support-** OARS MSS -Caregiver burden scale.
  - Fatigue-MOB H, MOB T.

UNIT 7: Analyse & Interpret the Assessment:

1. Screening the other associated issues in person with cancer
2. A primary clinical/functional diagnosis and a list of differential diagnosis
3. Planning of OT Program
4. Critical decision and selection of outcome measures necessary for prognosis

UNIT 8: Documentation:

Document the Assessment , outcome measures & interpretation

MOT 202: Advanced Occupational Therapy Principles & Practices in Oncology

Course Description

This course focuses on the role of occupational therapy in oncology within multiple settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs (socialization, day treatment, adult day care programs), and alternative housing arrangements. In order for occupational therapists to understand the needs of cancer person, the course addresses the common impairments and disabilities and rehabilitation of these patients. Students will develop and demonstrate skills in the treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of person having cancer

Course Objectives:

Learning objectives: On successful completion of this subject it is expected that students will be able to

1. Understand and apply the information regarding recent advances in Occupational Therapy for cancer patient care.
2. Search the evidences available for assessment and management of oncological conditions.
3. Apply the evidences available for the management of various oncological conditions
4. Addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative partnerships and the relationships between policy, legislation and practice.
5. To build upon prior course work, particularly anatomy, Physiology, Clinical Conditions in Occupational Therapy, Assessment and Intervention of neuro, musculoskeletal & Psychosocial Issues using frame of references & theories of Rehabilitation.

Course Learning Outcomes:

The overall goal of the course is to provide a conceptual framework for the study of oncology as it relates to occupational therapy and to assist occupational therapy post graduate students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the oncology.

Course Contents:

UNIT 1: To promote occupational functions in the oncological conditions with advanced clinical Occupational Therapy interventions of the following:

a. Neuro oncology
b. Head & Neck Cancers
c. Bone & Soft Tissue Cancer
d. Paediatric oncology
e. Breast and Reproductive System & Genital Cancers
f. Systemic and Organ Cancers
g. Paediatric cancers
h. Haematological cancers
i. Lung cancers

UNIT 2:

OT Management by using appropriate frames of references in the children, adolescents, adults and elderly individuals having following dysfunctions but not limited to:

a. Psychological dysfunctions (anxiety, depression) & psychosocial affectation due to cancer.
b. Musculoskeletal complications & dysfunctions of cancer
c. Neurological Dysfunctions
d. Genital & Urinary Dysfunctions
e. Respiratory dysfunctions
f. Pain in Cancer
g. Oncological Occupational Therapy in ICU
h. Gynaecological Dysfunctions
i. Postsurgical management

j. Dysfunctions due to Radiation therapy and Chemotherapy and surgical procedures
k. Cancer related fatigue.
l. Bowel & Bladder dysfunction in cancer patient
m. **Lymphedema** in cancer: OT Management
n. Sexuality issues and OT application in cancer rehabilitation.
o. Sleep issues in cancer and OT management.
p. Communication and swallowing dysfunction
q. Occupational Therapy in discharge planning, home assessment and home program in cancer patients
r. Vocational fitness program and job analysis based on ergonomic principles.
s. Return to work, school & Play.
t. Addressing Architectural barriers for cancer patients.
u. Application of ergonomics in Oncology.
v. Nutritional & diet care of cancer patients
w. Application of Occupation of Leisure & play in addition to conventional Occupational Therapy approaches

UNIT3: Enlist the alternate practice settings in Oncology from Occupational Therapy perspective:

a) Day care centers,
b) Community Services,
c) Preventive model
d) Long term care in Rehab Setting

UNIT 4: Describe the Rehabilitation Setting:

a. The Concept & goals of Rehabilitation
b. Principles of Rehabilitation - Assessment, goals, priorities and monitoring progress
c. Rehabilitation organisation-policies, expectation, carers, acute illness, social and financial support
d. Clinical evaluation in rehabilitation - impairment, disability and handicap
e. Prevalence of disability, types of disability

f. Rehabilitation as Team work - Team leadership, therapist, physiotherapy, occupational therapy, social worker, physician and nursing personnel.
g. Aids and application - tools for living
h. Leisure & Play activities: Indoor & outdoor
i. Contractures and other deleterious effects of immobility
j. Pressure Ulcer - factors, prevention and management
k. Organization and effectiveness of rehabilitation services -/ Community Services
l. Day hospital, Day Care Centre, Long Stay Care Institution - role of rehabilitation in these settings

UNIT 5: Explain the Occupational Therapy in elderly with cancer in the ICU

- Long-Term Outcomes After Critical Illness and Post Intensive Care Syndrome
- The Role of Occupational Therapy in Critical Illness

UNIT 6: Describe the Hospice & Palliative care:

a) Explain what is palliative care &need for palliative care
b) Principles of palliative & hospice care ,with the application of evidence based palliative care
c) To identify the need of specific approach to be used in oncological conditions
f. Describe characteristics of loss, grief & bereavement in relation to occupational performance.
g. Develop evidence based treatment program for hospice patients associated with other medical, neurological, orthopedic, psychological conditions.
h. Explain hospice family system & the need for treatment of the family as a unit of care.
i. Application of assistive technology, orthosis, prosthesis, assistive aids in individuals receiving Palliative/Hospice care.
j. Advocacy in Palliative care
k. OT Management for Pain in Palliative care / in hospice
l. Fatigue assessment and management in individuals with Palliative/Hospice care.

m. Sleep assessment and management in individuals receiving Palliative/Hospice care.
n. Sexuality issues and OT application in individuals receiving Palliative/Hospice care.
o. Psychosocial issues and OT application in individuals with systemic/organ cancers.
p. Postsurgical Occupational Therapy application in individuals receiving Palliative/Hospice care.
q. Application of various OT techniques in individuals
r. Geri care in individuals receiving Palliative/Hospice care.

UNIT 7: Documentation:

- Document the Occupational Therapy intervention planning & periodic progress report
- Modification in the intervention if any

NATIONAL COMMISSION FOR ALLIED AND HEALTHCARE PROFESSIONS
स्वास्थ्यम् सर्वार्थसाधनम्
NCAHP
Since-2021
राष्ट्रीय सहबद्ध और स्वास्थ्य देख-रेख वृत्ति आयोग

MOT 203: Current & Future Trends in Occupational Therapy in Oncology

Course Description: It involves the training in the use of various theories, Frames of references & latest approaches used in Occupational Therapy intervention of cancer population, The Occupational Therapy care with technology is a rapidly evolving field, with numerous trends and innovations that are helping to improve the quality of care for persons having cancer.

Course Objectives (competency statements) –

- To implement latest technologies for the OT intervention in oncology
- Understand the Frames of reference in OT while applying any new technology for various Oncological conditions
- To identify & document the appropriate newer assessment, planning goals & application of evidence based latest OT approaches used for the specific needs of patients
- Document & monitor goals of implementing recent approaches

Course Outcomes:

- Explain the recent knowledge in the field of oncology
- Illustrate & describe the recent diagnostic and assessment tools to identify specific impairments
- State various recent and future approaches used in Occupational Therapy for management of cancer person

Course Contents:

UNIT 1: Recent Technologies in Assessment & Evaluation:

- Motion Capture Systems: Detailed analysis of movement patterns and identification of dysfunctional mechanics .
- Posture analyser
- Gait analyser
- Motion Analyser
- trims
- fMRI
- Other methods

UNIT 2: Advanced and evidence based use of Orthotics, Assistive and adaptive technologies:

- Splinting and orthosis
- Adaptive devices
- Assistive devices
- Wheelchairs
- Mobility Devices
- 3D printing
- Other devices

UNIT 3: Recent advances in OT intervention

-Recent Therapies

- Mirror therapy
- Mental / motor imagery
- CIMT
- BWSTT
- Aquatic Therapy
- Bio feedback: For stress & pain management

Virtual reality (VR):

- Reality applications for cognitive rehabilitation

Adjunctive Therapies

- Neural mobilization and Neuro Dynamics
- FES
- NMES
- Transcranial Magnetic Stimulation
- Transcranial direct current stimulation
- Pain Modulation and intervention
- PAMOT
- Yoga therapy
- MFR
- Kinesiotaping
- Manual Therapy

UNIT 4: Recent advances in medical intervention

- Genetic counselling
- Stem cell therapy
- Gene therapy
- Other recent neuro-regenerative interventions

UNIT 5: Technology and Older Adults

1. Considerations of Assistive technologies

- Aging and functional performance, assistive technology for elder adults
- Barriers and Acceptance of Technology in the Elderly
- Environmental impacts, products and technology
- Indoor environments and older people

2. Augmentative & Alternative Communication (AAC) in Geriatrics: Augmentative and Alternative Communication (AAC) to facilitate expression of basic wants and needs. When it comes to implementing an AAC system into a care plan, there are a vast number of options available. A thorough evaluation is crucial when determining the most appropriate AAC system to use.

- Understanding Augmentative and Alternative Communication (AAC)
- Categorization of AAC
- Types Of AAC Systems
- Symbols-based system
- Communication boards
- Text to Speech devices
- Speech generating devices
- Implementing AAC in daily Life
- AAC, Aging, and Telephone Relay Access Technology
- Challenges and considerations

3. **Brain computer Interface for functional Activities in Geriatrics oncology patients:**

(1) Training motor/cognitive abilities for preventing the aging effects,

(2) Controlling home appliances,

(3) Communicating with others during daily activities,

(4) Controlling an exoskeleton to enhance the strength of the body's joints.

UNIT 6: Future trends :

Telemedicine

a) **Wearable technology:** Wearable devices, smart clothing, and assistive technologies are used for enhancing independence. Wearable technology is used into assessments and interventions, helping patients track progress, manage health conditions, and improve mobility. Occupational therapists use latest assistive devices like Smartwatches, body-mounted sensors, and fitness trackers

b) **Smart home technology:** smart thermostats and smart home security system

c) **Virtual assistants**: Virtual assistants: Amazon's Alexa or Google Assistant : elderly individuals stay connected and manage their daily tasks, such as setting reminders or making phone calls.

d) **Robotics**: Robotics technology

e) **Remote patient Monitoring**: Remote patient monitoring (RPM) tools

f) **Smart Devices**

a. Technology evolving from personal emergency response service tools (PERS

b. Smartphones with large buttons and displays.

c. Voice assistants such as Amazon Echo and Google Home. Reminder to eat, take medication, and when their next doctor's appointment is scheduled

Unit 7: Other Facilities:

- Hoist rehab
- Powered Exoskeleton Walk Training
- Rehab gyms : Occupational therapy departments are equipped with gyms to help patients remain healthy after being discharged from the hospital. Therapists also partner with gym facilities close to the patients and monitor their progress through technology.

Recommended books :

1. Cancer Rehabilitation: Principles and Practice by Michael Stubblefield & Michael O'Dell 1st Edition
2. Cancer Rehabilitation and Survivorship: Trans disciplinary approaches to Personalized care by Joanne L & Patricia Schmitt 1st Edition
3. Palliative Care & Rehabilitation of Cancer Patients (Cancer Treatment and research) by Charles F. Von Gunten 1st edition
4. Willard and Spackmans occupational therapy by Crepeau, Elizabeth B | Boyt Schell, Barbara A | Cohn, Ellen S. Publisher: Philadelphia Wolters Kluwers/LWW 2009Description: XXXI + 1191.ISBN: 9780781760041.Edition: 11
5. Willard and spackman's occupational therapy by Hopkins, HL | Smith, HD. Publisher: Philadelphia J.B. Lippincott Company 1988. Edition: 8
6. Occupational therapy for children by Case-Smith, Jane | OBrien, Jane Clifford.Publisher: Missouri Mosby Elsevier 2010 Edition: 6
7. Occupational therapy for physcial disfunction by Trombly, CA.Publisher: Baltimore William and Wilkins Co. 1983 . Edition: 2nd
8. Occupational therapy with elders: strategies for the COTA by Padilla, Rene L | Byers- Connon, S | Lohman, Helene L.Publisher: St. Louis Elsevier Mosby 2011. Edition: 3
9. Orthopaedic neurology: a diagnostic guide to neurologic levels by Hoppenfeld, D | Hoppenfeld, Stanley [Co-Author].Publisher: Philadelphia Wolters Kluwer 2018 Edition: 2nd Ed

10. Lymphedema Presentation, Diagnosis, and Treatment by Greene, Arin K [Editors] | Slavin, Sumner A [Editors] | Brorson, Håkan [Editors]. Publisher: Cham Springer 2015 Description: 353.ISBN: 978-3-319-14492-4.
11. Daniels and worthingham's muscle testing: techniques of manual examination and performance testing by Avers, Dale | Brown, Marybeth | Daniels, Lucille | Worthingham, Catherine. Publisher: Missouri Elsevier 2019 Description: XIII + 400. ISBN: 978-0-323- 56914-9. Edition: 10th Ed
12. ACSM's Guide to Exercise and Cancer survivorship By American College of Sports medicine, Melinda Irvin
13. Fatigue in Cancer: A Multidimensional Approach by Maryl Lynne Winningham, Margaret Barton Burke
14. Oxford Textbook of Palliative Medicine By Geoffrey Hanks, Nathan I. Cherny, Nicholas Christakis, Stein Kaasa 4th Edition
15. Lymphedema: A Concise Compendium of Theory and Practice By Byung-Boong Lee, John Bergan, Stanley G. Rockson 1st edition
16. Rehabilitation in Cancer Care by Rankin 1st Edition 5 501
17. Occupational Therapy In Oncology by Cooper 2nd edition
18. Cancer Pain Management: A Comprehensive Approach by Karen H. Simpson, Keith Budd
19. Exercise and Cancer Survivorship: Impact on Health Outcomes and Quality of Life edited by John Saxton, Amanda Daley 1st edition
20. Physical Rehabilitation by Osullivan.S.B. & Schmitz.T.J 3rd Edition
21. Rehabilitation Medicine by Delisa.J.A.& Gans.B.M 2nd Edition
22. Physical Medicine and Rehabilitation by Braddom.R.L 1st edition
23. Evidence-Based Rehabilitation; a Guide to Practice by Law.M. 1st edition
24. Assistive Technologies; Principles and Practice by Cook.A.M. & Hussey.S.M. 1st Edition
25. American Cancer Society Textbook Of Clinical Oncology By Murphy.G.P.;Lawrence.W 2nd Edition
26. Cancer: Principles And Practice Of Oncology By Devita.V.T; Hellman.S. 7th Ed

27. Clinical Oncology; By Abeloff.M.D; Armitage.J.O. 3rd Ed. 501
28. Bone Tumours (A Clinico Pathological Study) by Vastrad.M.C. 1st edition
29. Therapeutic Exercise by Caroline Kisner 5th edition
A. Kinesiology Of The Musculoskeltal System : Foundations Of Rehabilitation By Donald Neumann 2nd Edition
30. Principles Of Exercise Therapy by M. Dena Gardiner 6th edition
31. Clinical Decisions In Therapeutic Exercise by Patricia E. Sullivan, Prudence D. Markos 2nd edition
32. Evidence-Based Guide To Therapeutic Physical Agents 1st Edition
33. Therapeutic Exercise by Basmajian.J.V. & Wolf.S.L 5th Edition.
34. Disability Evaluation by Demeter.S.L. & Andersson.G.B.I 1st edition
35. Community Based Rehabilitation Of Persons With Disabilities by Pruthvish.S 1st edition
36. Model of Human Occupation Key Reference- Kielhofner, G., & Burke, J. P. (1980). A model of human occupation, part 1. Conceptual framework and content. American Journal of Occupational Therapy, 34, 572-581. Year Published-1980 Primary Developer- Gary Kielhofner
37. Proprioceptive Neuromuscular Facilitation: Patterns and Techniques by Dorothy Knott, Margaret; Voss (Author) Publisher : Harper and Row; Second Edition (January 1, 1968)
38. Atlas of Limb Prosthetics: Surgical and Prosthetic Principles Mosby; 2nd edition (1 October 1992)
39. The Hand: Fundamentals of Therapy by Judith Boscheinen-Morrin (Author), FACS conolly, W Bruce, A, FRACS, FRCS (Author) Publisher Ltd, 3rd edition (19 December 2000)
40. Clinical Reasoning & Code of Ethics by Doris Pierce Heinemann-Butterworth
41. Qualitative Research In Occupational Therapy: Strategies And Experiences by Joanne Valiant Cook (Author) Publisher : Singular; 1st edition (April 24, 2001)
42. Activity Analysis: Application To Occupation by Gayle I. Hersch (Author), Nancy K. Lamport (Author), Margaret S. Coffey (Author) Publisher : Routledge; 5th edition (17 February 2005)

43. Activity analysis creativity & playfulness in Peaditric Occupational Therapy by Elissa Miller (Author), Heather Miller Kuhaneck (Author), Susan L. Spitzer (Author) Publisher: Jones and Bartlett Publishers, Inc; 1st edition (29 September 2009)
44. Ergonomics-How to design for ease and efficiency by K.H.E. Kroemer (Author), H.B. Kroemer (Author), K.E. Kroemer-Elbert (Author) Publisher : Pearson; 2nd edition (5 July 2001)
45. Occupational Therapy and Dementia Care by Ph.D. Gitlin, Laura N. (Author), Mary A. Corcoran (Author), Ph.D. Chee, Yeon Kyung(Contributor), Pamalyn Kearney (Contributor), Rosalyn S. Lipsitt (Contributor), Geri Shaw(Contributor), Susan Toth-Cohen (Contributor) Publisher : Amer Occupational Therapy Assn (May 15, 2005)
46. Group Dynamics in Occupational Therapy: The Theoretical Basis and Practice Application of Group Intervention by Marilyn B. Cole (Author) Publisher : SLACK Incorporated; 5th edition (30 August 2017)
47. Rehabilitation of Movement: Theoretical Basis of Clinical Practice by Judith Pitt- Brooke (Author) Publisher : Bailliere Tindall; 1st edition (13 October 1997)
48. Yoga & Rehabilitator by Nilima Patel (Author) Publisher : Jaypee Brothers Medical Publishers; First Edition (1 December 2008)
49. Mental Health Concepts And Techniques For The Occupational Therapy Assistant by Mary Beth Early (Author) Publisher: Lippincott Williams and Wilkins; 5th edition (17 August 2016)

Master of Occupational Therapy in Mental Health – MOT (MH)

Course Description

This course focuses on the role of occupational therapy for the Individuals diagnosed with Mental Health issues in multiple settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments. In order for occupational therapists to understand the needs of clients, the course addresses the Mental Health issues and its physiological, sociological, and psychological effects, with attention to heterogeneity and person's strengths and capabilities. Students also learn about common impairments and disabilities and rehabilitation needs of Mentally ill persons.

Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of persons with Mental Illness. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention for person with Mental Illness.

Course Objectives:

The course also addresses the importance of evidence-based practice, including Occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and the relationships between policy, legislation and practice.. This course builds upon prior course work, particularly Growth and Development, Clinical Conditions in Occupational Therapy, Assessment and Intervention of Psychosocial Issues, Theories of Mental Health Rehabilitation.

Competency Domains and Learning Outcomes: Domain 1: Clinical Assessment and Evaluation

- **Learning Outcomes:**
  - Conduct interviews and evaluations of persons with Mental Health issues in multiple settings
  - Conduct comprehensive assessments of functional abilities.
  - Apply specialized standardised evaluation tools relevant to clinical features
  - Analyze assessment findings to formulate client-centered treatment plans.
  - Explain the importance of quality of life issues for persons and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

- **Learning Outcomes:**
  - Design evidence-based intervention plans tailored to each individual person
  - Implement treatment plans for individuals in multiple settings.
  - Formulate treatment plans (including discharge planning) in partnership with persons/families utilizing behavioural objectives.
  - Demonstrate knowledge of community programs and organizations that assist the people.
  - Document the necessary findings

Domain 3: Inter professional Collaboration

- **Learning Outcomes:**
  - Understand the Individual as a high-risk group with regard to medication interactions, including how physiologic changes influence medication effects.
  - Collaborate effectively with other professionals of team and other healthcare providers.
  - Participate in multidisciplinary teams to optimize the intervention outcomes.
  - Communicate occupational therapy perspectives and contributions in hospitals, community centres and halfway homes

Domain 4: Professionalism and Ethical Practice

- **Learning Outcomes:**
  - Articulate how ethical considerations relate to the Code of Ethics regulations by NCAHP
  - Knowledge of how demographics and policy influence healthcare in patients

Domain 5: Research and Evidence-Based Practice

- **Learning Outcomes:**
  - Critically appraise research literature relevant to occupational therapy in Mental Health Occupational Therapy
  - Integrate research findings into clinical practice to enhance the treatment outcomes

MOT 1st year

MOT 104: Basic Medical Sciences & Theoretical foundation of Occupational Therapy in Mental Health

Course Description:

The overall goal of the course is to provide a conceptual framework as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the Patients diagnosed with Mental Health Issues. It involves the training in the use of various theories Frames of references & approaches used in Occupational Therapy intervention of Mental Health population

Course Objectives (competency statements) – The objectives of this course are:

1. To create valuable human resource for providing occupational therapy in the speciality area of mental health.
2. To know the history and knowledge base of mental health occupational therapy including recovery model, medical model and occupational science.
3. To understand human occupation and mental health throughout life span.
4. To study in-depth foundation of occupational therapy related to mental health.
5. To study in-depth specific factors of mental health.
6. To be able to participate in a lifelong process of learning, practicing, advocating and researching occupational therapy in mental health.

Course Outcomes:

1. Define Human Occupation throughout life span and explain the foundation of occupational therapy, concepts and models of mental health and wellbeing.
2. Describe the specific client factors related to mental health.
3. Describe clinical reasoning, psychiatric OT & evidence based practice in mental health Occupational therapy.

UNIT 1: History of Occupational Therapy in Mental Health

UNIT 2: Knowledge base of Mental Health occupational Therapy

- Recovery model
- Medical, psychological and occupational therapy theories and models related to mental health occupational therapy.
- Psychosocial, family systems and client centered approach in OT.
- Suicide prevention and psychological first aid.

UNIT 3: Human occupation and mental health throughout the lifespan

I. Development of Human Occupation and brief description of developmental stages
II. Factors promote healthy Development and Developmental Problems
III. Application and Critique of various Developmental Theories.

UNIT 4: Foundation in Mental health Occupational Therapy

Section A: Specific client factors related to Mental Health

a. Cognitive Skills
b. Cognitive Beliefs
c. Sensory Skills
d. Communication and Social Skills
e. Coping Skills
f. Motivation
g. Emotion Regulation
h. Pain Regulation
i. Thinking
j. Perception and awareness
k. Risk assessment

Section B: Symptoms of Mental illness

a. Disturbance of consciousness
b. Disturbance of reasoning and judgment
c. Disturbance of memory
d. Disturbance of thought and perception

e. Disturbance of vision
f. Disturbance of motor behavior
g. Disturbance of speech
h. Disturbance of affect

Section C: Interaction with Patients:

a. Therapeutic Use of Self
b. Responding to symptoms of Behaviour
c. Safety Techniques
d. Group Concepts and Techniques

UNITS 5: Describe the appropriate OT frames of reference (FOR) & Treatment approaches in specific Mental Health Conditions:

a. Behavioural FOR
b. Biomechanical FOR
c. Cognitive behavioural FOR
d. Compensatory FOR
e. Psychodynamic FOR
f. Psycho analytical FOR
g. Psycho spiritual FOR
h. Rehabilitative FOR
i. Sensory Integration FOR
j. Cognitive disability FOR
k. MOHO
l. Acquisitional Frame of reference
m. Developmental

UNIT 8: To apprise about various Legislation & Laws related to Mental Health conditions / disabilities

1. National health policies & schemes related to various Mental Health conditions
2. Recent Rights of Persons with Disabilities act
3. The Rights of Persons with Disabilities Act, 2016
4. Mental Health Act ,2017 and other relevant legislation implemented in the area of Mental Health
   - To understand the provisions of Mental Health act for effective service delivery
   - Laws of the land pertaining to mental illnesses like MHCA 2018, RPWD 2016, JJ act
   - National policies for older persons, women, children, LGBTQ and other vulnerable population

UNIT 9: To understand about guidelines related to evaluation and certification of disability related to various Mental Health conditions

a. Recent government guidelines to assess Mental Health and related disabilities

b. As per the guidelines, described in the latest/ revised Government Gazette published by Department of empowerment of persons with Disabilities (Divyangjan), Ministry of Justice & Empowerment, New Delhi March 2024

UNIT10: Ethical considerations in Mental Health Occupational Therapy:

a) Considerations for Sociocultural norms and spirituality

b) Ethical guidelines for patient handling

UNIT 11: Occupational Therapy Practise Framework (OTPF)and ICF:

a) Application of Domain and Process components to formulate client centred Occupational Therapy Program

b) Understand ICF

c) Application of ICF in Mental Health Occupational Therapy

MOT 2nd Year

MOT 201: Advanced Occupational Therapy Diagnostic & Prognostic skills in Mental Health

Course Description:

1. A better understanding & process of the various diagnostic procedures used in Occupational Therapy for Mental Health Patients .
2. Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention.

Course Objectives: **(Competency statements)**

1. To understand the Mental health Assessment, the Process and the methods of Assessment
2. To critically examine the behavioural strengths and barriers in the context of occupational performance using standardized and non- standardized assessments
3. To understand Psychopathology and function of various Mental Health conditions
4. To study the foundation of occupational therapy related to mental health
5. To understand DSM -V criteria & ICD-10

Course Outcomes:

1. Define the OT Mental health assessment process and methods.
2. Describe the standardized & Non- standardized assessment
3. Describe the psychopathology and function of various Mental Health conditions
4. Define the disease model of psychiatric diagnosis. discuss how the American Psychiatric Associations (APA), Diagnostic and statistical manual of mental disorders (DSM) and World health Organization (WHO) , International Classification of disease (ICD) have developed in parallel.
5. Discuss the ways in which Occupational therapy categorization of psychosocial dysfunction differs from psychiatric diagnosis.
6. Identify the six areas of focus for Occupational therapy as described in occupational therapy practice framework.

Course contents:

UNIT 1: Evidence Based Practice

- Current Research; Reviewing and applying the latest research findings to assessment and diagnosis.
- Outcome Measure: Using validated tools to track progress and outcome of Interventions

UNIT 2: Analyse & interpret the Medical investigations in Mental Health

Section I: Biological Investigations

- Medical Investigations
- Toxicology Screen
- Drug Level Electrophysiologcal Studies
- Brain Imaging
- Neuro Endocrine Tests
- Biochemical Tests
- Genetic Tests
- Sexual Disorder Investigations

Section II: Psychological Investigations

- Objective Tests
- Projective tests
- Psychological tests
- Rating Scales

- **Understand Child Psychiatry Assessments tools and interpret in relation to Occupational Therapy Practice:**
  - Child behaviour checklist/youth self-report,
  - Brief Psychiatric Rating Scale – Children (BPRS-C)
  - Childhood Autism Rating Scale, 2nd Edition (CARS2)
  - The Carolina Vineland Social Maturity Scale (VSMS) Vineland Adaptive Behavior Scale (VABS)
  - Indian Scale for Autism (ISAA)

- **Understand Adult Psychiatry Assessments tools and interpret in relation to Occupational Therapy practice**
    - Hamilton Rating Scale for Depression (HAM-D or HRSD)
    - Beck Depression Inventory (BDI)
    - Inventory of Depressive Symptomatology
    - Geriatric Depression Scale (GDS)
    - Beck Anxiety Inventory
    - Hamilton Rating Scale for Anxiety,
    - Yale-Brown Obsessive Compulsive Scale (YBOCS) Short PTSD Rating Interview (SPRINT)
    - Panic Disorder Severity Scale
    - Alcohol Use Disorders Identification Test (AUDIT) Iowa Personality Disorder Screen (IPDS)
    - Inventory of Interpersonal Problems
    - Wechsler Adult Intelligence Scale (WAIS)
    - NIMHANS screening tool

UNIT III: Diagnostics in Mental Health Occupational Therapy:

- Occupation and Occupational Science
- Occupational therapy Practice Frame work for elderly persons : Domains & Process :

Occupational Therapy Domains

- Occupations
- Occupational Profile
- Contexts
- Performance Patterns
- Performance Skills
- Client Factors
- Occupational Therapy Process
- Evaluation
- Intervention
- Outcomes

UNITIV: Occupational Therapy Evaluation

- Importance of assessment & evaluation, Outlines of principles and Methods of evaluation
- Knowledge and assessment for using common standardized and non-standardized tools/ instruments/tests/ scales used in Mental Health conditions
- Condition specific outcome measures
- Clinical analysis of posture, movement and gait disorders & cardio respiratory fitness
- Neuro-motor evaluation
- Sensory evaluation
- Cognitive and perceptual evaluations
- Psychological evaluation
- ICF and other Occupation based conceptual frame work for assessment
- Critical decision making and selection of outcome measures
- Assessment, differential diagnosis and diagnosis of various Mental Health conditions

UNIT V: To identify & administer appropriate standardised tests for specific problems in Occupational Therapy Mental Health.

The following tools are recommended but are not limited to.Interviews: The purpose of Interview is to gather information about the patients

- Occupational Performance History Interview
- Role Check List
- The Canadian Occupational Performance Measure(COPM)
- Model of Human Occupation Screening Test 2

Observation Checklists:

Comprehensive Occupational Therapy Evaluation Tool(COTE)

Assessment of Daily Living Skills:

- Milwaukee Evaluation of Daily Living skills
- Kohlman Evaluation of Living skills
- Vellore Inventory of Life Skills- for BADL/ IADL assessment
- Global Assessment of Functioning (GAF)
- ICF Checklist- for overall functional assessment

Assessment of Time Use:

- Occupational Questionnaire
- Barthel Time Construction

Assessment of Process skills and Mental functions:

- The Bay Area Functional Performance Evaluation
- Allen Cognitive tests
- Montreal Cognitive Assessment
- Assessment tools to assess Psychological Functions
- Rosenberg Self-Esteem Scale
- Tennessee Self-Concept Scale
- Resiliency Scales for Children & Adolescents

Assessments of Leisure Interest and Social Participation:

- Modified Interest Checklist
- Adolescent Leisure Interest Profile
- Vellore Assessment of Social Performance
- Leisure Satisfaction Scale
- NonVerbal social skills rating scale for mentally Ill

Assessment of prevocational/ vocational skills

Vocational potential assessment tool - for

UNIT VI: Documentation in Mental Health Occupational Therapy

Initial assessment and Follow up

MOT 202: Advanced Occupational Therapy Process & Practice in Mental Health

Course Description:

This course focuses on the role of occupational therapy with the Individuals diagnosed with Mental Health issues in multiple settings (in-patient, out-patient and home care), long-term care programs, wellness & safety programs, hospice, and community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments. In order for occupational therapists to understand the needs of clients, the course addresses the Mental Health issues and its physiological, sociological, and psychological effects, with attention to heterogeneity and person's strengths and capabilities. Students also learn about common impairments and disabilities and rehabilitation needs of Mentally ill persons. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of persons with Mental Illness. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention for Mental Health population.

Course Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and the relationships between policy, legislation and practice.. This course builds upon prior course work, particularly Growth and Development, Clinical Conditions in Occupational Therapy, Assessment and Intervention of Psychosocial Issues, Theories of Mental Health Rehabilitation.

Course Learning Outcomes:

The overall goal of the course is to provide a conceptual framework for the study of Mental Health Occupational Therapy to assist occupational therapy post graduate students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to the patients with Mental illness.

COURSE CONTENT:

Description of the various clinical conditions including Epidemiology, Etiology, clinical features, course, treatment, prognosis on the bases of DSM- V and ICD. Application of Evidence based Occupational Therapy approaches and treatment in the following conditions:

UNIT I: Occupational therapy for the Neurodevelopmental Disorders

a. Intellectual Developmental Disorders
b. Communication Disorders
c. Autism Spectrum Disorder
d. Specific Learning Disorder
e. Motor Disorders
f. Tic Disorders

UNIT II: Occupational therapy for the Schizophrenia Spectrum and Other Psychotic Disorders

a) Schizophrenia
b) Bipolar and Related Disorders
c) Anxiety Disorders
d) Obsessive-Compulsive and Related Disorders
e) Dissociative Disorders
f) Somatic Symptom and Related Disorders
g) Feeding and Eating Disorders
h) Elimination Disorders
i) Sleep-Wake Disorders
j) Sexual Dysfunctions
k) Gender Dysphoria
l) Substance-Related and Addictive Disorders
m) Personality Disorders

UNIT III: Occupational therapy for the Neurocognitive Disorders

a. Neuro Psychiatric aspects of CVA, Tumor, Head Trauma, Multiple sclerosis, headache, demyelinating disorders, infectious disorders endocrine disorders and Epilepsy.

b. Dementia, Delirium, amnestic and other cognitive disorders due to a general medical condition

UNIT IV: Occupational therapy for the Medication-Induced Movement Disorders and other Adverse Effects of Medication

a) Medication-Induced Parkinsonism
b) Antipsychotic Medication and Other Dopamine Receptor Blocking Agent–Induced Parkinsonism
c) Neuroleptic Malignant Syndrome
d) Medication-Induced Acute Dystonia
e) Medication-Induced Acute Akathisia
f) Tardive Dyskinesia
g) Tardive Dystonia
h) Tardive Akathisia
i) Medication-Induced Postural Tremor

UNIT V: Occupational therapy for the other Conditions that May Be a Focus of Clinical Attention

a) Suicidal Behaviour and Non suicidal Self-Injury
b) Abuse and Neglect
c) Child Sexual Abuse
d) Child Psychological Abuse
e) Spouse or Partner Violence, Sexual and Neglect, Abuse and Neglect
f) Relational Problems
g) Occupational Problems (Work Related Problems)

UNIT VI: Family involvement in Mental Health Occupational Therapy.

UNIT VII: Vocational Rehabilitation in Mental Health Occupational Therapy

Occupational Therapy process of Vocational Rehabilitation

UNIT VIII: Forensic Occupational therapy:

a. Team: It including clinical and forensic psychiatry and mental health professionals, geriatricians and internists, attorneys and courts, regulators, and other professionals working with the patients having Mental Ilness
b. Its include clinical forensic evaluation, regulations and laws, civil commitment, different forms of capacity, guardianship, patient rights, medical-legal issues related to treatment, long term care and telemedicine, risk management, patient safety , sociopathy and aggression, offenders and the adjudication process, criminal evaluations, corrections, ethics, culture, cognitive impairment, substance abuse, trauma, high risk behaviour, and forensic mental health training and research.
c. Understanding the relationship between clinical issues, laws and regulations, and managing risk and improving safety, will help to serve the patients with Mental Ilness.
d. Recognize relationship between deteriorating functional structure & the potential for abuse & reflect.
e. Incorporate preventive strategies in the treatment plan
f Understanding the legal aspects of various provisions from admission to discharge of Mentally ill patient in a Psychiatric hospital.

UNIT IX: Alternate practice settings in Mental Health from Occupational Therapy perspective:

a) Day care centres
b) Community Services
c) Preventive model
d) Long term care in Rehab Setting

UNIT X: Documentation in Mental Health Occupational Therapy

Occupational Therapy planning, monitoring and progress

MOT 203: Current & Future Trends in OT for Mental Health

Examination: At the end of Second year of MOT

Theory Exam: 100 Marks

IA: 50 Marks

Instruction hours: 100

(Lecture / Tutorials Hours - 75 and Practical Hours- 25, Clinical hours: 290

Course Description:

It involves the training in the use of various theories Frames of references & approaches used in Occupational Therapy intervention of patients diagnosed with Mental Illness.

Course Objectives (competency statements) –
The objectives of this course are:

a. To understand the Mental Health process –current and future trends
b. To discuss latest treatment methods in Mental Health Occupational Therapy
c. Document and Monitor the progress of implemented recent approaches
d. To identify possible treatment technique applicable to improve Occupational Performance

Course Outcomes:

Explain the recent knowledge in the field of Mental Health Occupational Therapy

a. Illustrate & describe the recent diagnostic and assessment tools to identify specific impairments in patients diagnosed with Mental Illness
b. Illustrate & describe the recent treatment approach, techniques in Mental Health Occupational Therapy

Course Content:

UNIT I: Advancements in the Occupational Therapy management of Self Awareness and Self Control

i. Values
ii. Interests
iii. Self Concept
iv. Anger Management

UNIT II: Advances in management of issues related to Engagement in Occupation

a. Role performance
b. Communication and Interaction skills
c. Assertiveness
d. Self Expression

UNIT III: Advances to improve Self-Management skills

a. Coping skills
b. Stress Mangement
c. Manging grief
d. Loss Time management
e. Mindfulness Practise

UNITIV: Advance techniques to improve Cognitive skills and Psychological skills

a. Reality Orientation
b. Remotivation
c. Yoga
d. Brain gym
e. Computer softwares to improve Cognition
f. CBT
g. DBT
h. Mindfulness

UNIT V: Advance techniques to improve Sensory and Motor Functions

1. Tactile and Awareness Processing
2. Olfactory and Gustatory Awareness Processing
3 Therapeutic exercise Program
4 Snoezelen room

UNIT VI: Advances in rehabilitation and adjunctive intervention in Occupational therapy

1. Relaxation techniques
2. Virtual reality
3. Mirror therapy
4. Mental / motor imagery
5. Biofeedback
6. rTM, TMS, MECT, Physical Agent Modalities
7. FES and NMES

Recommended texts:

- Clifford T, Morgan, Richard A. King, John. R. Weisz, John Schopler (1996), Introduction to Psychology. 7th ed. McGraw Hill International Edition; New Delhi.
- Bem, S. and De Jong, H. L. (2006).Theoretical issues in psychology: An Introduction. London: Sage.
- Baron, R.A., Byrne, D. (2005).Social psychology, 10thEdn. New Delhi: Prentice Hall of India.
- Hjelle, L.A. and Ziegler, D.J. (2002).Personality theories: Basic assumptions, research, and applications, 3rd Edition. New Delhi: McGraw-Hill.
- Murphy, K.R., & Davidshofer, C.O.(1998). Psychological testing: Principles and Applications.4th Edition. New Jersey: prentice Hall International.
- Sternberg,R.J.(1996). Coginitive psychology.Newyork: Harcourt Brace College Publishers.
- Capuzzi, D. & Gross, R. D. (2008). Counselling and Psychotherapy: Theories and Interventions. California: Sage publications.
- Occupational Therapy and Mental Health edited by Jennifer Creek , Lesley Lougher
- Frames of Reference in Psychosocial Occupational Therapy by Mary Ann Bruce, Barbara Borg

- Occupational Therapy in short Term Psychiatry by Moya Willson
- Occupational therapy in Long Term Psychiatry by Moya Willson
- Willard & Spackman's Occupational Therapy
- Mental Health Concepts and Techniques for the Occupational Therapy Assistant by Mary Beth Early

Journals for reference:

1. Indian Journal of Occupational Therapy
2. American Journal of Occupational Therapy
3. British Journal of Occupational Therapy
4. Canadian Journal of Occupational Therapy
5. Archives of Physical Medicine and Rehabilitation

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Masters in Occupational Therapy (MUSCULOSKELETAL SCIENCES) MOT (MSK)

Course Description

This course focuses on the role of occupational therapy for establishing diagnosis and Independent Clinical decision making, in patients with **Musculoskeletal** conditions in both Acute & Chronic care clinical settings (in-patient, out-patient and home care), for both short & long-term wellness, safety and management including community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments.

In order to understand the needs of patients with musculoskeletal conditions (diseases & injuries), the course addresses the disease process and its anatomical, physiological, sociological, and psychological implications, with attention to heterogeneity and person's strengths and capabilities. The students should learn about common illnesses, impairments, disabilities and rehabilitation needs of patients suffering from musculoskeletal diseases or injuries. They will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of patients suffering from musculoskeletal conditions. It also trains the students on various theories, Frames of references & approaches used in Occupational Therapy intervention of musculoskeletal conditions,

Course Objectives:

The course also addresses the importance of evidence-based practice, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and the relationships between policy, legislation and practice. Students should develop both skill & proficiency in Assessment, establishing OT diagnosis and treatment planning & Intervention of illness, impairment, disability or handicap as well as develop the ability to address associated Psychosocial Issues for restoring function and enhance /improve quality of life by quality service delivery, care & follow up.

Program Goals:

1. **Develop Clinical Competence:** To equip students with advanced clinical skills in occupational therapy, specifically in the context of musculoskeletal sciences.
2. **Promote Evidence-Based Practice:** To cultivate the ability to integrate current research and evidence into clinical decision-making in musculoskeletal sciences.
3. **Foster Leadership and Advocacy:** To prepare students to assume leadership roles and advocate for the advancement of occupational therapy in musculoskeletal sciences & rehabilitation settings.

Competency Domains and Learning Outcomes:

Domain 1: Clinical Assessment and Evaluation

- **Learning Outcomes:**
  - Conduct comprehensive interview, history taking and evaluations in multiple settings
  - Conduct comprehensive assessments of clinical & functional status
  - Apply specialized evaluation techniques relevant to musculoskeletal injuries and rehabilitation
  - Apply specialized standardized evaluation tools relevant to clinical features
  - Analyze assessment findings to formulate client / patient-centered treatment plans
  - Explain the importance of quality of life issues within their context and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

- **Learning Outcomes:**
  - Design evidence-based & individually tailored intervention plans tailored to patient's needs and goals.
  - Implement therapeutic techniques, procedures and modalities specific to musculoskeletal conditions.
  - Modify treatment plans based on ongoing assessment and client progress.
  - Ability to implement treatment plans & intervention in multiple settings.

- Formulate treatment plans (including discharge planning) in consultation with patient / families members as applicable utilizing behavioral objectives.
- Demonstrate knowledge of community programs
- Formulate treatment plans to address quality of life issues of concern

Domain 3: Inter professional Collaboration

- **Learning Outcomes:**
  - Collaborate effectively with other professionals of healthcare service providers.
  - Participate in multidisciplinary teams to optimize intervention outcomes.
  - Communicate occupational therapy perspectives and contributions in musculoskeletal rehabilitation settings
  - Understand the high-risk group with regard to medication interactions, including how physiologic changes influence medication effects
  - Communicate occupational therapy perspectives and contributions in variety of clinical setting

Domain 4: Professionalism and Ethical Practice

- **Learning Outcomes:**
  - Demonstrate ethical decision-making and adherence to professional standards in musculoskeletal rehabilitation.
  - Articulate how ethical considerations in musculoskeletal practice relate to the Code of Ethics regulations by NCAHP
  - Engage in reflective practice to continuously improve clinical skills and professional conduct.
  - Advocate for the rights and well-being of patients through ethical practice and advocacy efforts.
  - Knowledge of how demographics and policy influences healthcare

Domain 5: Research and Evidence-Based Practice

- **Learning Outcomes:**
    - Critically appraise research literature relevant to occupational therapy practice in musculoskeletal sciences
    - Integrate research findings into clinical practice to enhance treatment outcomes.
    - Contribute to the advancement of knowledge in musculoskeletal rehabilitation sciences through scholarly activities.

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MOT 104: Basic Medical Sciences & Theoretical foundation of Occupational Therapy in Musculoskeletal Sciences

Paper Description:

The overall goal of the course is to provide a conceptual framework for the study of musculoskeletal sciences as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to musculoskeletal conditions. It involves the training in the use of various theories Frames of references & approaches used in Occupational Therapy intervention of musculoskeletal conditions.

Objectives (competency statements) –
The objectives of this course are:

1) Integrate prior knowledge of anatomical, physiological, sensory and motor changes for purposes of occupational therapy intervention
2) To understand the disease process
3) Understand the cultural diversity and heterogeneity and its impact upon assessment, treatment planning, implementation and discharge planning
4) To identify, implement & document the appropriate frames of reference used for the specific condition in musculoskeletal conditions
5) Use the latest technology for assessment , intervention and documentation
6) Explain the role of occupational therapy for promoting health & well-being and the prevention of disease and disability

Expected Outcomes:

1. Illustrate the diagnostic tools to identify health problems in musculoskeletal conditions
2. State various frames of references, theories & approaches used in musculoskeletal conditions
3. Able to understand the disease process, its implication on functional performance areas

CONTENTS

UNIT I Associated Medical Conditions

1 Trauma & Associated medical condition (Cardiopulmonary, Neurological & Psychosocial complications)

2 Lifestyle Diseases (Obesity, Hypertension, Diabetes) and common associated surgical conditions like hernia, varicose veins etc.

3 Occupational diseases & their functional implications

UNIT II Theoretical foundation of Occupational Therapy Practice

1 Principles of exercise physiology and measurers. Monitoring physiological responses to exercise

2 Wellness Programme Psychosocial aspects of disability

3 International classification of functioning (ICF)

4 Regulations concerning accessibility to physical environment

5 Review of Work Physiology & ergonomics (Work hardening & conditioning and design work readiness program)

6 Frames of References and Models in OT practice in musculoskeletal conditions (Such as Biomechanical FOR, Rehabilitative FOR, MOHO, Occupational Performance FOR etc.)

UNIT III: Occupational Therapy Practice Framework (OTPF)

Application of Domain and Process components to formulate client centred occupational Therapy Program

UNIT IV: International classification of functioning (ICF) Understanding ICF

Application of ICF for cardiopulmonary conditions

UNIT V:

Ethical consideration in Musculoskeletal Occupational Therapy Practice Considerations for Socio-cultural norms & spirituality

Ethical guidelines to be followed

UNIT VI: Govt. Schemes & Policy PwD Acts & Legislation
Liaising with stake holders for fund generation under corporate social responsibility in community welfare schemes like PMJAY, RBSK etc. for equipment's & research in musculoskeletal condition

UNIT VII: Disability Evaluations Overview of Disability certification process Guidelines for Disability certification for Benchmark disabilities PwD Acts & Legislation

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Second Year MOT

Paper MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Musculoskeletal Sciences"

Course Description:

1. A better understanding & process of the various diagnostic procedures used in Occupational Therapy for musculoskeletal conditions
2. Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention

Objectives: **(Competency statements)**

1. Elicit and interpret clinical signs and symptoms & interpret clinical tests and special investigations commonly used in establishing diagnosis
2. Illustrate the diagnostic tools
3. Understand the appropriate use of assessment tools for specific musculoskeletal conditions
4. Able to administer the specific tool for screening the other associated issues in various musculoskeletal conditions
5. Describe, administer & interpret Specialized tools of OT assessment in in various musculoskeletal conditions
6. Administer the tools for assessing progress in patients.
7. Establishment of clinical diagnosis
8. Make Critical decision and selection of outcome measures

CONTENTS

UNIT I History Taking, General Assessment and Documentation

1 History Taking, observational assessment, examination supplementing medical notes and investigation for establishing provisional clinical diagnosis

2 Documentation (Initial assessment & Follow up)

UNIT II: Application of clinical biomechanics for identifying & managing clinico-pathological functional impairments

UNIT III: Applied basic sciences in context to OT (anatomy, physiology, biomechanics & kinesiology of Joints & Soft tissue, and imaging techniques

UNIT IV: **Application of Contextual Models & framework in OT practice** [such as Canadian Model of Occupational Performance and Engagement (CMOP-E), **Person-Environment-Occupation-Performance (PEOP) Model,** Model of Human Occupation (MOHO) etc.]

UNIT V:: Radiological, Biochemical & other relevant Lab Investigations: Diagnostic imaging & other investigation(X Ray, CT Scan, MRI, F-MRI, PET Scan, LFT, KFT, Genetic profile etc.

UNIT VI: Electrophysiological studies such as EMG, NCV etc.

UNIT VII Clinical & Functional Assessment scales/Tools

- **Clinical correlation & interpretation of various provocative / stress tests** for examination of Upper & Lower Extremity, & Trunk
- **Various Standardized Assessment Tools** applicable to clinical setups/settings
- **Pain assessment** in musculoskeletal conditions (such as Numeric Rating Scale (NRS), VAS, McGill Pain Questionnaire etc.)
- **Hand function Assessment** (such as sollerman hand function test, Jebsen-Taylor Hand Function Test, Box and Blocks Test, Nine-Hole Peg Test (NHPT), Minnesota Manual Dexterity Test (MMDT) etc.
- **Functional & ADL Assessment Tools** [such as **Barthel Index (BI),** Katz Index of Independence in Activities of Daily Living, Functional Independence Measure (FIM), Lawton Instrumental Activities of Daily Living (IADL) Scale, Functional Reach Test, Duke Mobility protocol etc.]
- **Physical & Functional Capacity Evaluation** [Physical Abilities Assessment (Strength, ROM, endurance etc.; Functional Capacity Assessment (ADL & Work Specific assessment and Psychosocial and Cognitive Factors (Pain, psychosocial & cognitive)]
- **Balance Dysfunction** examination, assessment tools & scales, their application [such as Berg Balance Scale (BBS), Tinetti Performance-Oriented Mobility Assessment (POMA), Timed Up and Go Test (TUG), Dynamic Gait Index (DGI) etc.]

- **Posture & Gait Assessment** [such as Functional Gait Assessment (FGA), **Timed Up and Go Test (TUG),** Postural Assessment Scale for Stroke Patients (PASS), Dynamic Gait Index (DGI), Tinetti Performance-Oriented Mobility Assessment (POMA) etc.]
- **Ergonomic Assessment Tool** [Such as Job analysis based on ergonomic principles [such as Rapid Entire Body Assessment (REBA), Rapid Upper Limb Assessment (RULA), Occupational Repetitive Action (OCRA) Checklist, Strain Index (SI), Ergonomic Workplace Analysis (EWA), Position Analysis Questionnaire (PAQ), Functional Job Analysis (FJA), Task Inventory etc.]
- **Identifying barriers & facilitators for implementing Evidence Based occupational therapy Practice** [such as SWOT Analysis, Barrier and Facilitator Mapping, Adapted Fresno Test of Competence in Evidence-Based Practice (EBP), Occupational Therapy Evidence-Based Practice Questionnaire (OT-EBPQ), Occupational Therapy Practice Framework: Domain and Process (OTPF) etc.]

UNIT VIII application of Diagnostic & Prognostic indicators to OT Practice

- Assessment of need and Prescription of assistive technology aids & appliances such as orthotic & prosthetic devices in musculoskeletal conditions
- Critical analysis of the various approaches used (e.g. Specific techniques, evaluations etc.)
- OT Practice Issues in community including adults with developmental disabilities, Community based services & CBR
- Current trends in screening/evaluation of various Musculoskeletal Condition

MOT 202: Advanced Occupational Therapy Processes & Practices in Musculoskeletal Sciences

Course Description

This course focuses on the role of occupational therapy in musculoskeletal conditions rehabilitation various practice settings from Acute to chronic care, long-term care programs, and wellness & safety programs. Students learn about common impairments and disabilities and rehabilitation needs of older persons. Students will develop and demonstrate skills in evaluation, treatment planning and implementation, documentation, and discharge planning (including collaborative client and family education), to enhance / improve the quality of life

Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT- OTA partnerships and the relationships between policy, legislation and practice. This course builds upon prior course work, particularly Growth and Development, Clinical Conditions in Occupational Therapy, Assessment and Intervention of Psychosocial Issues, Theories of Adult Rehabilitation.

Expected Outcomes:

The overall goal of the course is to provide a conceptual framework and to assist occupational therapy post graduate students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to musculoskeletal conditions.

Advanced Occupational Therapy Principles & intervention in Musculoskeletal Sciences

UNIT I: Management strategies in different Medical & Surgical Conditions

1. Trauma Care & Resource Matrix
2. Acute care management strategies (including ICU, CCU, NICU etc.) & Ventilatory muscle retaining strategies in OT Practice
3. OT management in Plastic Surgery conditions including tendon transfer & grafts, amputation & reconstructive surgeries

4. OT management in various musculoskeletal (Orthopaedic) conditions (Fractures & dislocations)
5. OT management in Benign & Malignant tumours of musculoskeletal system
6. Hand Rehabilitation & Surgeries (To e-transfer, tendon & nerve repair, Fractures etc.)
7. Cumulative Trauma Disorders (Repetitive strain Injuries)
8. OT management for Joint Replacement surgeries (Arthroplasty)
9. OT management in Sports & Soft tissue injuries
10. OT management in Paediatric Musculoskeletal Conditions including Congenital anomalies
11. OT management in Peripheral nerve injuries
12. Spinal Cord Injury and OT management
13. OT Management in Infective & Arthritic Conditions
14. OT Management in Traumatic Brain Injury
15. Scar management, Tendon Injuries &Tendon Transfer Surgeries and OT management
16. OT management in Geriatric musculoskeletal Conditions
17. OT management in Metabolic bone diseases
18. Pain management, strengthening & conditioning strategies via. splinting, positioning, mobilizing, Task Simulation and neuromuscular education

UNIT II Management Strategies

1. OT Planning & Monitoring
2. Graded Multisensory stimulation, in both Acute Care (including ICU) & Chronic Care
3. In-hand manipulation Skill training
4. Arousal strategies and Cognitive Retraining Strategies
5. Managing Pain in musculoskeletal conditions
6. Manipulation & Functional mobilization technique (using direct & indirect technique & Strategy)
7. Stress management & relaxation strategy
8. Applicable of OT techniques strategies for musculoskeletal conditions (such as sensorimotor & Motor relearning approaches, PNF technique, NFDR etc.)

9. Ergonomics, its types & Application to OT Practice
10. Work station designs for maximizing performance within the environment
11. Work Assessment and Work surface adaptations & accommodation
12. Management of Balance Dysfunction
13. Chronic conditions, Job analysis, Workplace accommodations, promoting health & Safety, Injury Prevention & management and return to work Programs
14. OT management strategies for Occupational diseases
15. Neuromuscular Taping Techniques
16. Disaster Management

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MOT 203: Current & Future Trends in Occupational Therapy Practice in Musculoskeletal Sciences

Examination: At the end of First year of

Paper Description: It involves the training in the use of Frames of references & approaches, current trends & latest advancements applicable to musculoskeletal conditions to improve / enhance function and quality of life

Objectives (competency statements) –
The objectives of this course are:

- Understand, demonstrate & apply and document the Frames of reference musculoskeletal conditions
- Develops proficiency in applying current trends
- Develop & innovative skills to clinical practice

Expected Outcomes:

1. Understand & apply current trends & innovative ideas for managing disease process
2. State various frames of references, theories & approaches used in musculoskeletal conditions

Course Content:

UNIT I Current trends in rehabilitation such as Assistive technology, aids & appliances in musculoskeletal conditions including prosthetic & orthotic devices like splints, callipers, etc.

UNIT II Current practice & Recent advances (including material technology)

UNIT III Advanced trends in rehabilitation Environmental controlled units and Universal Design

UNIT IV Latest Advancements in Rehabilitation Technology

- Adjuncts to OT Practice (For preparing the patient for occupational therapy) such as Physical agent modalities (PAMOT), Pilates, Yoga & meditation etc.
- Application of Artificial Intelligence into OT Practice
- Stem Cell therapy (in SCI, Tissue Healing etc.)

- Robotic technology & its application in musculoskeletal conditions
- Advances in computer applications in O.T
- Concept of telemedicine /rehabilitation & information technology
- Environmental control units & their application to OT Practice

UNIT V Latest Rehab Equipment's (such as Virtual Reality, EMG Biofeedback, FES etc.)

UNIT VI Future of technology & O.T. Practice

Suggested Books and Journals for Reading

Textbooks

1. Musculoskeletal Examination and Joint Injections Techniques by David P. Bahs and Stanley Hoppenfeld
2. Physical Examination of the Shoulder: An Evidence-Based Approach by Ryan J. Warth, Peter J. Millett
3. Clinical Orthopaedic Examination by Ronald McRae
4. Apley's System of Orthopaedics and Fractures by Louis Solomon, David Warwick, Selvadurai Nayagam "Therapeutic Exercise for Musculoskeletal Injuries" by Peggy A. Houglum
5. "Orthopedic Physical Assessment" by David J. Magee
6. "Examination of Orthopedic and Athletic Injuries" by Chad Starkey, Sara D. Brown, and Jeff Ryan
7. "Functional Performance in Older Adults" by Bette R. Bonder
8. Pain Management in Rehabilitation" by Kimberly M. Spence, et al. Therapeutic Exercise: Foundations and Techniques" by Carolyn Kisner and Lynn Allen Colby"Virtual Reality for Physical and Motor Rehabilitation" edited by Patrice L. (Tamar) Weiss, Emmanuel Keshner, and Mindy Levin
9. "Regenerative Medicine and Biomaterials for the Repair of Connective Tissues" edited by Charles Archer and James Ralphs
10. "Pain-Free Biomechanics: Clinician's Guide" by Craig Liebenson
11. "Mindfulness for Health: A Practical Guide to Relieving Pain, Reducing Stress and Restoring Wellbeing" by Vidyamala Burch and Danny Penman
12. Craig's Orthopedic Manual of Physical Assessment
13. Adams's Outline of Orthopaedics" by David L. Hamblen and Hamish Simpson

14. Rockwood and Wilkins' Fractures in Children," edited by Peter M. Waters and James H. Beaty,
15. Skeletal Trauma: Basic Science, Management, and Reconstruction - Edited by Bruce D. Browner, Jesse B. Jupiter, Christian Krettek, and Paul A. Anderson,
16. Fracture Management for Primary Care - Written by M. Patrice Eiff and Robert L. Hatch
17. Basic Biomechanics by Susan J. Hall
18. Clinical Biomechanics of the Spine by Augustus A. White III and Manohar M. Panjabi
19. Biomechanics: Principles and Applications by Daniel J. Schneck and Joseph D. Bronzino
20. Orthopaedic Physical Therapy Secrets by Jeffrey D. Placzek and David A. Boyce
21. Occupational Therapy for Physical Dysfunction" by Mary Vining Radomski and Catherine A. Trombly Latham
22. Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction Heidi McHugh Pendleton, Winifred n by Schultz-Krohn
23. Orthopaedic Rehabilitation: Mark D. Broutman, S. Brent Brotzman

Journals:

1. Journal of Bone and Joint Surgery
2. Journal of Orthopaedic Research
3. **Clinical Orthopaedics and Related Research**
4. Foot & Ankle International
5. Spine
6. Journal of Arthroplasty
7. Journal of Pediatric Orthopaedics
8. Journal of Hand Surgery

MOT: Masters in Occupational Therapy (Cardiopulmonary Sciences) Abbreviation: MOT (CPMS)

Course Description

This course focuses on the role of occupational therapy for establishing diagnosis and Independent Clinical decision making, in patients with Cardiopulmonary condition in both Acute & Chronic care clinical settings (in-patient, out-patient and home care), for both short & long-term wellness, safety and management including community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments etc. In order to understand the needs of patients with cardiopulmonary conditions (diseases & injuries), the course addresses the disease process and its anatomical, physiological, sociological, and psychological effects, with attention to heterogeneity and person's strengths, limitations and capabilities. Students also learn about common illnesses, impairments, disabilities and rehabilitation needs of patients. They will develop and demonstrate skills in evaluation, treatment planning & its implementation and therapeutic adaptations, documentation, and discharge planning (in collaboration with patient and their family member). They will also demonstrate knowledge of assistive technology devices, equipment, and work & environmental modifications strategy as per functional status, clinical conditions and MET levels to improve / enhance the quality of life of patient population. It also trains the students on various theories, Frames of references & approaches applicable to Occupational Therapy treatment & intervention processes in cardiopulmonary conditions,

Course Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and also understand the relationships between policy, legislation and practice. This course enhances the skills of Occupational Therapy professionals for Assessment and Intervention of illness, impairment, disability or handicap as well as associated Psychosocial Issues for restoring function to enhance /improve quality of life by providing quality service delivery, care & follow up.

Program Goals:

- Develop Clinical Competency: To equip students with advanced clinical skills in occupational therapy, specifically in the context of cardiopulmonary health sciences.
- Promote Evidence-Based Practice: To cultivate the ability to integrate current research and evidence into clinical decision-making in cardiopulmonary health sciences.
- Foster Leadership and Advocacy: To prepare students to assume leadership roles and advocate for the advancement of occupational therapy in cardiopulmonary health sciences & rehabilitation settings.

Competency Domains and Learning Outcomes:

Domain 1: Clinical Assessment and Evaluation

- **Learning Outcomes**:

- Conduct comprehensive interview, history taking and evaluations in multiple settings
- Conduct comprehensive assessments of clinical & functional status
- Apply specialized evaluation techniques relevant to cardiopulmonary conditions and their rehabilitation
- Apply specialized standardized evaluation tools relevant to clinical features
- Analyze assessment findings to formulate client / patient-centered treatment plans
- Explain the importance of quality of life issues within their context and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

- **Learning Outcomes:**

- Design evidence-based & individually tailored intervention plans tailored to patient's needs and goals.
- Implement therapeutic techniques, procedures and modalities specific to cardiopulmonary conditions.
- Modify treatment plans based on ongoing assessment and client progress.

- Ability to implement treatment plans & intervention in multiple settings.
- Formulate treatment plans (including discharge planning) in consultation with patient / families members as applicable
- Demonstrate knowledge of community programs
- Formulate treatment plans to address quality of life issues of concern

Domain 3: Inter professional Collaboration

- **Learning Outcomes**:

- Collaborate effectively with other professionals of healthcare service providers.
- Participate in multidisciplinary teams to optimize intervention outcomes.
- Communicate occupationaltherapyperspectives and contributionsin cardiopulmonary clinical and rehabilitation settings
- Understand the high-risk group with regard to medication interactions, including how physiologic changes influence medication effects
- Communicate occupational therapy perspectives and contributions in variety of clinical setting

Domain 4: Professionalism and Ethical Practice

- **Learning Outcomes:**

- Demonstrate ethical decision-making and adherence to professional standards in cardiopulmonary rehabilitation.
- Articulate how ethical considerations in musculoskeletal practice relate to the Code of Ethics regulations by NCAHP
- Engage in reflective practice to continuously improve clinical skills and professional conduct.
- Advocate for the rights and well-being of patients through ethical practice and advocacy efforts.
- Knowledge of how demographics and policy influences healthcare

Domain 5: Research and Evidence-Based Practice

- **Learning Outcomes:**
  - Critically appraise research literature relevant to occupational therapy practice in cardiopulmonary sciences
  - Integrate research findings into clinical practice to enhance treatment outcomes.
  - Contribute to the advancement of knowledge in cardiopulmonary rehabilitation sciences through scholarly activities.

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MOT 104: Basic Medical Sciences & Theoretical foundation in Occupational Therapy for Cardiopulmonary Sciences

Paper Description:

The overall goal of the course is to provide a conceptual framework for the study of Cardiopulmonary sciences as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice related to Cardiopulmonary conditions. It involves the training in the use of various theories Frames of references & approaches applicable to Occupational Therapy intervention processes applicable to Cardiopulmonary conditions.

Objectives (competency statements) –
The objectives of this course are:

1) Integrate prior knowledge of anatomical, physiological, sensory and motor changes for purposes of occupational therapy intervention
2) To understand the disease process
3) Understand the cultural diversity and heterogeneity and its impact upon assessment, treatment planning, implementation and discharge planning
4) To identify, implement & document the appropriate frames of reference used for the specific cardiopulmonary conditions
5) Use the latest technology for assessment, intervention and documentation
6) Explain the role of occupational therapy for promoting health & well-being and the prevention of disease and disability

Expected Outcomes:

- Illustrate the diagnostic tools to identify health problems in cardiopulmonary conditions
- State various frames of references, theories & approaches used in cardiopulmonary conditions
- Able to understand the disease process, its implication on functional performance areas

CONTENTS

UNIT I Overview of Basic Science

Review of Anatomy, Embryology, Physiology and Epidemiology of cardio-vascular, pulmonary and lymphatic system

UNIT II Theoretical foundation of Occupational Therapy Practice

1. Principles of exercise physiology and measurers and monitoring physiological responses to exercise
2. Review of Work Physiology & ergonomics (Work hardening & conditioning and design work readiness program)
3. Examination of Biophysical Fitness (Anthropometric and biophysical measurement and body composition, Flexibility tests & its interpretation, Muscle strength & Endurance testing, Agility tests and coordination tests)
4. Psychosocial Aspects of Acute & Chronic Illnesses (Addressing psychological and social factors affecting individuals with chronic cardiopulmonary conditions and their families)
5. Introduction to ventilators, mode of ventilation, their classification and understanding, interpretation and augmenting the variables using facilitatory & inhibitory strategies in cardiopulmonary conditions
6. Measurers of function and Quality of Life
7. Critical analysis of the various approaches used (e.g. Specific techniques, evaluations etc.)

UNIT III Overview of Associated Medical Conditions

1. Cardiovascular and Pulmonary Anatomy and Pathophysiology (Overview of medical conditions affecting the cardiovascular and pulmonary systems, including heart disease, respiratory disorders (COPD, asthma), and related comorbidities)
2. Associated medical condition (Vascular, Surgical, Musculoskeletal, Neurological & Psychosocial complications)
3. Obstructive & restrictive Pulmonary Diseases [Bronchitis (Acute& Chronic), Emphysema, Asthma, Bronchiectasis, Cystic Fibrosis]
4. Systemic Hypertension, its complication
5. Pulmonary Thrombo-embolism
6. Congenital conditions of cardiopulmonary system

7. Lifestyle Diseases (Obesity, Hypertension, Diabetes)
8. Occupational diseases affecting cardiopulmonary health
9. Major manifestations of Lung Diseases (Respiratory failure & sleep disorder, Dyspnoea etc.
10. Polysomnography & sleep Disorders

UNIT IV MODELS & FOR applicable to OT Practice

a. Frames of References and Models of Practice in cardiopulmonary conditions (such as Occupational Performance FOR, Rehabilitative FOR, Psychosocial FOR etc.) UNIT IV: Occupational Therapy Practice Framework (OTPF)
b. Application of Domain and Process components to formulate client centered occupational Therapy Program

UNIT V: International classification of functioning (ICF) & ICD

1. Understanding ICF
2. Application of ICF for cardiopulmonary conditions
3. ICD 10 coded diagnosis

UNIT VI: Ethical concerns, Govt. Schemes & Policy

1. Ethics in Cardiopulmonary Rehabilitation
2. Confidentiality, concerns and precautions
3. Consideration of Socio-cultural norms & spirituality
4. PwD Acts & Legislation
5. Liaising with stake holders for fund generation under corporate social responsibility in community welfare schemes like PMJAY etc. for equipment's & research in cardiopulmonary condition

UNIT VII: Documentation, Clinical reasoning skill & Evidence based practice in Cardiopumonary conditions

Second Year MOT 2

Paper MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Cardiopulmonary Sciences

Course Outcome:

a. A better understanding & process of the various diagnostic procedures used in Occupational Therapy in cardiopulmonary conditions
b. Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention

Objectives: (Competency statements)

- Elicit and interpret clinical signs and symptoms & interpret clinical investigations, stress tests and special investigations commonly used in establishing diagnosis
- Illustrate the diagnostic tools
- Understand the appropriate use of assessment tools for specific cardiopulmonary conditions
- Able to administer the specific tool for screening the other associated issues in various cardiopulmonary conditions
- Describe, administer & interpret and develop Specialized tools of OT assessment
- Administer the tools for assessing progress in patients.
- Establish clinical diagnosis
- Make Critical decision and selection of outcome measures

CONTENTS

UNIT I History Taking, General Assessment and Documentation:

1. History Taking, observational assessment, examination supplementing medical notes and investigation for correlating clinical diagnosis
2. Documentation (Initial assessment & Follow up)

UNIT II: Identification of clinico-pathological functional impairments:

1. Application of clinical biomechanical and neurophysiological principles for identifying & managing Clinico-pathological functional impairments of cardiopulmonary condition
2. Examination of Clinical Signs & symptoms in cardiopulmonary conditions

UNIT III: Application of Contextual Models & framework in OT practice

UNIT IV: Radiological, Biochemical & other relevant Lab Investigations:
Diagnostic imaging & other investigation [Cardiac computed Tomograpghy (CAT scan), ECG, ECHO, TMT, Pulmonary Function Test (PFT), CT Angioplasty, Angiography, X Ray, Venous Doppler, Cardiac Magnetic Resonance Imaging (MRI), PET Scan, LFT, KFT, PT-INR, Genetic profile etc.]

UNIT V: Clinical & Functional Assessment scales/Tools

1. **Functional assessment tools for Cardiac rehabilitation** [such as Six-Minute Walk Test (6MWT), St. George's Respiratory Questionnaire (SGRQ), Duke Activity Status Index (DASI), Functional Independence Measure (FIM), Incremental Shuttle Walk Test (ISWT), Minnesota Living with Heart Failure Questionnaire (MLHFQ)
2. **Functional assessment tools for Pulmonary rehabilitation** [such as Six-Minute Walk Test (6MWT), Chronic Respiratory Disease Questionnaire (CRQ), Dyspnea Scales (e.g., Modified Borg Scale, Pulmonary Function Tests (PFTs), Incremental Shuttle Walk Test (ISWT)
3. **Pain assessment (Type, nature & distribution)**
4. **MET level:** Basics, classification of Activities based on MET level (Clinical correlation, interpretation & application)
5. **Physical & Functional Capacity and Endurance Evaluation** [Physical Abilities Assessment (Strength, ROM, endurance etc.; Functional Capacity Assessment (ADL & Work Specific assessment and Psychosocial and Cognitive Factors (Pain, psychosocial & cognitive)]

6. **Posture & gait Assessment** in relation to cardiopulmonary conditions [such as Functional Gait Assessment (FGA), **Timed Up and Go Test (TUG)** etc.]
7. **Functional & ADL Assessment Tools**, [Functional Independence Measure (FIM), Step test, Laboratory tests: maximal Oxygen Uptake-VO2 Peak-aerobic Capacity etc.]

UNIT VI Interpretation and clinical correlation of Spirometry, ABG Analysis & Pulse Oximetry, PFT, ECG, Chest X Ray, Capnography etc. and tools / strategy for Cardiopulmonary monitoring

UNIT VII Application of Diagnostic & Prognostic indicators to OT Practice

- Assessment of need and Prescription of assistive technology aids & appliances such as orthotic & prosthetic devices in musculoskeletal conditions
- Cardiopulmonary examination and clinical correlation & interpretation of various stress tests & procedures
- Assessment and Evaluation in Cardiopulmonary OT (Techniques and tools for assessing functional abilities and limitations related to cardiopulmonary conditions)
- Identifying stressors and their assessment
- Identifying barriers & facilitators for implementing Evidence Based occupational therapy Practice
- Evidence Based Practice & Clinical reasoning skill development and its application

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MOT 202: Advanced Occupational Therapy Process & Practices in Cardiopulmonary Sciences

Paper Description

This course focuses on the role of occupational therapy in cardiopulmonary conditions in various practice settings from Acute to chronic care, long-term care programs, including wellness & safety programs. Students learn about common impairments and disabilities and rehabilitation needs. They will develop and demonstrate skills in evaluation, treatment planning and implementation, documentation, and discharge planning (including collaborative client and family education), to enhance / improve the quality of life

Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT- OTA partnerships and the relationships between policy, legislation and practice.

Expected Outcomes:

The overall goal of the course is to provide a conceptual framework and to assist occupational therapy post graduate students to develop the skills and knowledge to understand the disease process, assess and implement intervention strategies in cardiopulmonary conditions.

CONTENTS

Advanced Occupational Therapy Principles & intervention in Cardiopulmonary Sciences

UNIT I: Management strategies in different Medical & Surgical Conditions

1. Acute Care Management strategies (in ICU, CCU, NICU etc.) in Cardiopulmonary conditions
2. Cardiopulmonary Rehabilitation management in associated Medical & Surgical Conditions
3. Breathlessness (Dyspnoea) assessment and Endurance Training
4. Designing OT Intervention considering MET level based on Assessment,
5. Prescription, Monitoring & Progression in cardiopulmonary Rehabilitation

6. Ventilatory muscle retaining and application of facilitatory & inhibitory techniques & strategies in neonates, children, adult & elderly with cardiopulmonary conditions in OT Practice
7. OT management & Rehabilitation of lifestyle diseases such as obesity, systemic hypertension etc.
8. Strategies for managing Diabetes & Systemic hypertension & Lifestyle modification
9. Assessment & management strategies after thoraco-abdominal surgeries
10. Varicose veins, Lymphoedema & its management

UNIT II Management Strategies for Health Promotion, Rehabilitation & Improving quality of Life

1. Synchronizing thoraco-abdominal musculature via. Core muscle strengthening, resistance & endurance training methods in cardiopulmonary rehabilitation
2. Safety considerations, monitoring, progression, patient & family education and individually tailored Rehab Program in Cardiopulmonary Rehabilitation
3. Comprehensive rehabilitation strategies integrating physical activity, breathing exercises, energy conservation & work simplification techniques, and lifestyle modifications in Cardiopulmonary Rehabilitation
4. OT perspective for managing functional implications of aspiration and associated conditions *(such as aspiration pneumonia etc.)* & its cause
5. Application of MET level based activity configuration strategy into OT practice
6. Graded Multisensory stimulation & facilitation, Arousal and Cognitive training Strategies in both Acute Care (including ICU) & Chronic Care
7. Ventilatory muscles training and functional lung drainage Strategies (using specific positioning strategy and specialized techniques, procedures & OT approaches including activity and lifestyle modification) for managing respiratory conditions
8. Cognitive behavioural strategies, relaxation techniques, meditation etc. for psychosocial Rehabilitation in Cardiopulmonary conditions
9. Common complications of various cardiopulmonary conditions and their management using specialized neurophysiological techniques & procedures

10. Patient & Family education, counselling & guidance in various cardiopulmonary conditions
11. Health Promotion and Wellness programs in cardiopulmonary rehabilitation
12. Preventive cardiac rehabilitation-Risk factors and life-style modification, stress management and coping strategies
13. Critical analysis of the various approaches used (e.g. Specific techniques, evaluations etc.)
14. OT perspectives in cardiac rehabilitation-An integrated approach, clinical implications and improvement of 'Quality Of Life'
15. structured exercise, patient education, psychosocial counsell
16. Application of Basic ergonomics principles based on MET level

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MOT 203: Current & Future Trends in Occupational Therapy Practice in Cardiopulmonary Sciences

Examination: At the end of First year of MOT

Theory Exam: 100 Marks IA: 50 Marks

Instruction hours: 100

(Lecture / Tutorials Hours – 75 and Practical Hours- 25, Clinical hours: 290

Paper Description: It involves the training in the use of Frames of existing references & approaches, current trends & latest technology advancements applicable to cardiopulmonary conditions to improve / enhance function and quality of life.

Objectives (competency statements) –
The objectives of this paper are:

1. To Understand, demonstrate, apply and document the Frames of reference for cardio-pulmonary conditions.
2. Develops proficiency in applying current trends
3. Develop & enhance clinical skill
4. Develop new innovative techniques & strategy for assessment, intervention as well as for establishing diagnosis.

Expected Outcomes:

1. Understand & apply current trends & innovative ideas for managing disease process
2. Develop skill to apply various frames of references, theories, assessment strategies and treatment approaches in view of current trends & latest advancements in cardiopulmonary conditions

Paper Contents:

UNIT I: Current trends of rehabilitation & practice in cardiopulmonary rehabilitation

UNIT II Current practice Models & tools in cardiopulmonary care (such as person Centered Model, Technology enhanced practice (TEP) model,

UNIT III Assistive technology, aids & appliances (sensors & tracking technology like smart watches), Optical photoplethysmography, Holter monitor, Environmental controlled units and Universal Design in Cardiopulmonary conditions

UNIT IV Latest Advancements in Rehabilitation Technology

1. Application of Artificial Intelligence into OT Practice (AI algorithms etc.)
2. Robotic technology & its application
3. Advances in computer applications in O.T
4. Adjuncts to OT Practice (For preparing the patient for occupational therapy) such as Physical agent modalities (PAMOT), Pilates, Yoga & meditation etc.
5. Stress management and relaxation techniques
6. Concept of & technology

UNIT V Emerging Trends in OT

1. Incorporation of telemedicine/tele-health/tele-rehabilitation and information technology for managing cardiopulmonary diseases and disorders
2. Innovative treatment approaches in cardiopulmonary rehabilitation
3. Diet & Nutrition consideration for managing & preventing cardiopulmonary conditions including lifestyle diseases
4. Recent advances and evidence based practice in Respiratory OT training techniques and respiratory devices
5. Aqua therapy in Cardiopulmonary rehabilitation
6. Optimizing recovery and reducing recurrence
7. Fitness training and cardiopulmonary adaptation strategies among the children, adult & elderly population

UNIT VI Latest Rehab Equipment's

(such as Virtual Reality, EMG Biofeedback, FES etc.)

UNIT VII Future of technology & O.T. Practice

Suggested Books and Journals for Reading

Textbooks

1. Cardiac rehabilitation manual by Josef Niebauer (Editor). Call Number: RC682 .C37 2017. ISBN: 9783319477374. Publication Date: 2017.
2. Cardiovascular Prevention and Rehabilitation in Practice by Jennifer Jones (Editor); John Buckley (Editor); Gill Furze (Editor), ISBN: 1118458680, Publication Date: 2020
3. Cardiac rehabilitation : a workbook for use with group programmes by Julian Bath ISBN:9780470518724
4. Exercise Leadership in Cardiac Rehabilitation for High Risk Groups by Morag Thow, ISBN: 9780470744437, Publication Date: 2009
5. Cardiac rehabilitation manual by Josef Niebauer (Editor), 2017, ISBN: 9783319477374
6. The rehabilitation specialist's handbook by Serge H. Roy, 2013, ISBN: 9780803639065
7. “Orthopedic Physical Assessment" by David J. Magee
8. Pain Management in Rehabilitation" by Kimberly M. Spence, et al. Therapeutic Exercise: Foundations and Techniques" by Carolyn Kisner and Lynn Allen Colby
9. "Regenerative Medicine and Biomaterials for the Repair of Connective Tissues" edited by Charles Archer and James Ralphs
10. "Mindfulness for Health: A Practical Guide to Relieving Pain, Reducing Stress and Restoring Wellbeing" by Vidyamala Burch and Danny Penman
11. Clinical Exercise Physiology 5th Edition With HKPropel Access **Exercise Management for Chronic Diseases and Special Populations by** Jonathan K Ehrman, Paul M. Gordon, Paul S. Visich, Steven J. Keteyian
12. Joint structure and function: A Comprehensive analysis, / Pamela K. Levangie, Cynthia C. Norkin
13. **Basic Biomechanics** by Susan J. Hall, 2016,
14. Cardiovascular and pulmonary physical therapy,Third Edition by William DeTurk, ISBN:9781259837951 Publication Date: 2018, ISBN: 9780702047312

15. **Clinical Biomechanics of the Spine** by Augustus A. White III and Manohar M. Panjabi
16. **Biomechanics: Principles and Applications** by Daniel J. Schneck and Joseph D. Bronzino
17. Occupational Therapy for Physical Dysfunction" by Mary Vining Radomski and Catherine A. Trombly Latham
18. Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction
19. Willard and Spackman's Occupational Therapy, Author(s): Glen Gillen Ed.D, OTR, FAOTA, Catana Brown PhD, OTR, FAOTA, ISBN/ISSN:9781975174880

Journals:

1. Archives of Physical Medicine and Rehabilitation
2. Journal of Cardiopulmonary Rehabilitation and Prevention
3. American Journal of Cardiology
4. Medical Journal of Australia
5. Indian Journal of Occupational Therapy
6. British Medical Journal

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Master of Occupational Therapy in Hand MOT (Hand)

MOT 104: Basic Medical Sciences & Theoretical foundation in Occupational Therapy for Hand

Course Description: This course involves training in the use of various theories, frames of references, and approaches used in Occupational Therapy intervention for individual having upper extrimity dysfunction including hand.

Course Objectives:

- To understand Functional anatomy of the Upper extrimity.
- To learn about Evolution & Development of Hand Function
- To review medical aspects of Upper extremity dysfunction.
- To understand about various Govt. Initiatives and Ethical guidelines pertaining to practice in the specified domain.

Course Outcomes:

- Explain Functional Anatomy of Upper limb
- Explain the development of Hand function.
- Review medical aspects and conditions relevant to upper extremity dysfunction

Able to practice within the domain with understanding of Ethical principles and basic knowledge base for Client Centred Practice.

Course Content

UNIT I Functional Anatomy of Upper limb

- Describe anatomy & kinesiology of hand
- Describe anatomy & kinesiology of the wrist
- Describe anatomy & kinesiology of the elbow and forearm
- Describe anatomy & kinesiology of the Shoulder

UNIT II Evolution & Development of Hand Function

- Describe evolution of Hand
- Describe the development of hand function

UNIT III Disability evaluation, return to job & workmen's compensation

- Disability evaluation of upper limb
- Disability evaluation of hand
- Functional capacity evaluation, Physical capacity evaluation, job evaluation, work site evaluation.
- Work hardening & work conditioning programs and work simulators.
- Functional analysis indices & workmen's compensation act as per prevalent legislation

UNIT IV Evidence based practice

- Evidence based practice in hand rehabilitation
- Integrating clinical expertise and Systematic Research

UNIT V Special Techniques of Therapist's intervention:

- Use of physical agents in hand rehabilitation
- Nerve mobilization & nerve gliding
- Elastic Taping (Kinesiotaping & Dynamic taping)
- Manual Therapy in the management of upper extremity Musculoskeletal Disorders
- The use of Yoga Therapy in hand rehabilitation
- Biofeedback in Hand rehabilitation
- Recent advances in hand rehabilitation: VR and robotic device

UNIT V Orthotic interventions

- Foundations of orthotic interventions
- The forces of Dynamic Orthotic positioning
- Orthoses for mobilization of joints
- Tissue remodeling & contracture correction using serial plaster casting & orthotic positioning
- Soft orthoses: Indication & techniques
- Functional fracture bracing
- Upper extremity prostheses
- Assistive and Adaptive devices for upper limb

UNIT VI Models and Frame of reference

- Biomechanical frame of reference
- Rehabilitative Frame of Reference
- Kinesiotherepeutic and Physiological appoaches
- Sensorymotor approach

UNIT VII Ethical Considerations in in Occupational Therapy Practice in Upper extremity Dysfunction

- Considerations for Socio-Cultural norms and spirituality.
- Ethical Guidelines to be followed while handling upper extremity dysfunction subject to the reason of dysfunction

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MOT 201: Advanced Occupational Therapy Diagnostic & Prognostic skills in Hand

Course Description:

This course deals with methods of assessment and screening, evaluating components of function in Upper extremity dysfunction including hand.

Course Objectives

- The candidate will have a better understanding of the Functional anatomy of Hand, the Biomechanical principle and its application, the investigative procedures involved in various upper extremity and hand disorder and application of recent trends.
- The candidate will be able to identify deficits in performance components, context, and areas, select, administer, score, and interpret the upper extremity impairments and deficits using standardized / non standardized assessments or evaluation tools.
- The candidate will be able to delineate appropriate approaches; conventional and contemporary depending on the desired outcomes and the Evidence-Based interventions for the clients with functional deficits and impairments.

Course outcome:

- The candidate will be master in Functional anatomy of Hand and Biomechanical analysis of upper extremity dysfunction.
- The candidate will develop the ability to identify deficits in performance components, context, and areas, select, administer, score, and interpret the upper extremity impairments and deficits using standardized / non standardized assessments or evaluation tools.
- The candidate will be able to clinically reason out appropriate approaches; conventional and contemporary depending on the desired outcomes and the Evidence-Based interventions for the clients with functional deficits and impairments.

Course Content:

UNIT I Medical-diagnostic evaluation

- Investigation procedures used in musculoskeletal,, neurological and congenital disorder of upper extrimity
- Biopsy, Densitometry, Arthroscopy, etc.,
- Biomarkers specific to upper extrimity disorders
- Principles, Techniques and interpretation of biochemical and Pathological investigations
- Recent advances in Medical/diagnostic assessment and evaluation

UNIT II Radiological evaluation

- X ray
- MRI
- CT scan
- Ultra sound

UNIT III Neurophysiological evaluation

- EMG (Qualitative and Quantitative EMG)
- NCV (Conventional Methods)

UNIT IV OT evaluation

- Clinical examination of each joint of Upper extrimity.
- Upper quarter screen
- Sensibility testing
  - Semmes-Weinstein monofilaments test
  - Two-point discrimination test
  - Moberg's pickup test
  - Other useful tests for sensibility testing
- Functional tests
  - Hand dynamometer, Pinch meter
  - Box and block test
  - Nine-hole peg test

- Outcome measurement in Upper extremity practice
  - Standardized Test:

    Jebsen Taylor hand function test, Minnesota manual dexterity test (MMDT), Purdue pegboard test, Baltimore therapeutic equipment (BTE), Minnesota handwriting assessment (MHA) etc.
  - Other outcome measure:

    Disability of arm, shoulder and hand (DASH) and Quick-DASH,Upper extremity functional scale (UEFS),

    Michigan hand questionnaire (MHQ), Patient-related wrist evaluation (PRWE)
  - Disease specific measures:

    Brachial plexus outcome measure (BPOM), The brachial assessment tool (BrAT) ,Active movement scale (AMS) for OBPI,

    Arthritis impact measurement scale, Boston questionnaire etc

UNIT V Occupational Therapy Practice Framework (OTPF)

- Application of Domain and Process components to formulate Client Centred Occupational Therapy Program

UNIT VI ICF

- Understanding ICF
- Application of ICF in Upper extremity dysfunction including Hand

UNIT VII Documentation in Occupational Therapy Hand dysfunction

- SOAP

MOT 202: Advanced Occupational Therapy Process and Practice in Hand

Course Description:

The Course aims to train Occupational Therapy Students in understanding Evidence based practice and application of best practices in Occupational Therapy in Hand

Course Objectives

- The objectives of this course are to provide the candidate with expertise in advanced knowledge with respect to the investigations and intervention strategies for Upper extremity and hand disorder based on physiological, biomechanical and functional anatomical foundation.
- The candidate will be able to acquire in depth knowledge about various neurological, musculoskeletal and congenital, cumulative upper extremity and hand conditions, and will be able to plan and implement occupational therapy intervention for the same

Course Outcomes

- The candidate will be expert in advanced knowledge with respect to the investigations and intervention strategies for Upper extremity and hand disorder based on physiological, biomechanical and functional anatomical foundation.
- The candidate will acquire in depth knowledge about various neurological, musculoskeletal and congenital, cumulative upper extremity and hand conditions, and will be able to plan and implement occupational therapy intervention for the same

Course Content

UNIT I skin & soft tissue conditions

- Wound classification & management
- Management of skin grafts & flaps
- Fingertip injuries
- Soft tissue tumors of the forearm & hand
- Management of Dupuytren's disease
- Management of upper extremity burns
- Rehabilitation of hand after cold injuries

UNIT II Fractures of hand

- Extra articular fractures of the hand and it's management
- Intra articular fractures of the hand and it's management

UNIT III Tendon injuries & Tendinopathies

- Flexor tendon injuries
- Extensor tendon injuries
- Management of common upper extremity tendinopathies
  - Lateral and Medial epicodylitis
  - Flexor and Extensor tendinopathies
  - De Quervain tenosynovitis
  - Trigger finger
- Rehabilitation for Tendon transfers of upper limb

UNIT IV Nerve injuries

- Nerve response to injury and repair
- Rehabilitation of peripheral nerve injury
- Sensory re-education
- Carpal tunnel syndrome
- Cubital tunnel syndrome
- Brachial plexus injury
- Thoracic outlet syndrome
- Surgical reconstruction of nerve injuries & its rehabilitative management

UNIT V Vascular & Lymphatic Disorders

- Vascular disorders of the upper extremity
- Edema management
- Management of upper extremity Lymphadema

UNIT VI Common injuries of upper extremity

- Common wrist injuries
- Common elbow injuries
- Common shoulder injuries
- Common deformities of Hand

- Stiff hand
- Volkmann's ischemic contracture
- Skier Thumb

UNIT VII Complex traumatic conditions

- Complex injuries of hand
- Re-vascularization and replantation of hand and it's management
- Amputation & prosthesis of upper extremity
- Electrical injuries to the upper extremity
- Psychological effects of upper extremity disorders

UNIT VIII Arthritis

- Rheumatoid Arthritis
- Osteoarthritis
- Psoriatic Arthritis
- Joint replacements in wrist and hand & it's rehabilitation

UNIT IX Pain

- Understanding pain mechanisms
- Pain management
- Complex regional pain syndrome

UNIT X Other special population

- Management of congenital hand anomalies
- Tendon injuries in children
- Upper extremity musculoskeletal surgery in the child with Cerebral Palsy
- Hemiplegia
- Tetraplegia
- The geriatric hand rehabilitation
- Treatment of injured athlete
- Focal hand dystonia
- Psychosocial aspects of arm illness

UNIT XI The injured worker

- Pathophysiology of work-Related Musculoskeletal disorders
- Approaches to management of work related musculoskeletal disorders
- Analysis & design of jobs for upper limb musculoskeletal disorders
- Upper limb functional capacity evaluations
- Work oriented programs
- Therapeutic management of Musicians' hand
- Principles and application of ergonomics in hand rehabilitation and work related musculoskeletal disorders of upper extremity

UNIT XII Adjunct to Special Techniques of Occupational Therapist's intervention

- Use of physical agents in hand rehabilitation
- Nerve mobilization & nerve gliding
- Manual Therapy in the management of upper extremity Musculoskeletal Disorders
- The use of Yoga Therapy in hand rehabilitation

UNIT XIII Recent advances in OT practice in Hand Rehabilitation

- Biofeedback in Hand rehabilitation
- Use VR and robotic device and FES in hand rehabilitation:
- Use of Upperlimb functional Occupational Training system
- Use of 3D printer in fabricating the orthoses and adoptive devices.

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MOT 203: Current & Future Trends in Occupational Therapy Practice in Hand

Course Description:

The Course aims to train Occupational Therapy Students in developing awareness related to the latest Research, Innovations and Technology in Occupational Therapy in Hand.

Course Objectives

- To train students with the latest developments in field of Hand Therapy.
- To train Occupational Therapy Post Graduates in blending conventional Occupational Therapy interventions and newer technologies for formulating Client centred Occupational Therapy.

Course Outcomes

- Illustrate the use of recent advances in routine Occupational therapy interventions
- To adopt best practices in Occupational therapy using latest Technology and adjuncts. University Examination at the end of Second year

Course Content.

1. **Neuroplasticity and Rehabilitation**

   Understanding how neuroplasticity can be harnessed in rehabilitation to improve motor recovery in Hand with neurological impairments such as stroke

2. **Wearable Technology and Sensors**

   The role of wearable devices in monitoring and enhancing rehabilitation outcomes. This includes smart gloves, motion sensors, and wearable electromyography (EMG) devices

3. **Robotic Rehabilitation Devices**

   Advances in robotic exoskeletons and assistive devices that aid in repetitive motion exercises and precise motor training.

4. **Virtual and Augmented Reality**

   The application of VR and AR in creating immersive rehabilitation environments that engage patients and improve adherence to therapy protocols

5. **Bionic Hands and Prosthetics**

   Developments in myoelectric prosthetics and bionic hands that provide improved dexterity and control for amputees.

6. **Cortical Implants and Brain-Machine Interfaces**

   Exploring how cortical implants can restore hand function by translating brain signals into movements, including systems like BrainGate and research from Neuralink

7. **Functional Electrical Stimulation (FES)**

   The use of FES to stimulate paralyzed muscles, helping restore movement and improve motor control in individuals with spinal cord injuries or stroke

8. **Hand Therapy Apps and Tele-rehabilitation**

   The rise of digital health solutions and mobile applications that support remote hand therapy and continuous patient engagement

9. **Light and Laser Therapies**

   Innovations in photobiomodulation (light therapy) for reducing inflammation and promoting tissue healing in hand rehabilitation

10. **Advances in Diagnostic Technologies**

    The integration of advanced diagnostic tools such as musculoskeletal ultrasound and nerve conduction studies in hand rehabilitation practice

Books recommended-

1. Skirven Osterman, Fedorczyk, Amandio, Feldscher- Rehabilitation of the hand and upper extremities -VII Editio
2. Hunter, Macklin , Callahan - Rehabilitation of the hand and upper extremity - V Edition
3. Charles E. Giangarra, Robeert C. Manske, S. Brent Brotzman - Clinic orthopedic rehabilitation - IV Edition
4. Raout Tubiana, Jean- Michel Thomine, Evelyn Mackin - Examination of the hand and wrist
5. Rebecca J. Saunders - Hand and Upper extremity rehabilitation - IV Edition

6. Mary Vining Radomski,Catherine A Trombly- Occupational therapy for physical dysfunction
7. Pedretti's practice skills for physical dysfunction - VII Edition
8. Cynthia Cooper - Fundamentals of hand therapy - II Edition
9. MaryLnn Jacobs, Noelle Austin- Splinting the hand and upper extremity
10. Fess Philips - Fundamental concepts --Hand splinting in principles and method - II Edition
11. Jacob M. Abzug, Scott H Kozini, Rebecca Neiduski - Paediatric Hand therapy
10 Mehmet Tuncay Duruoz - Hand Function - A practical guid

Journals for reference:

1. Indian Journal of Occupational Therapy
2. American Journal of Occupational Therapy
3. British Journal of Occupational Therapy
4. Canadian Journal of Occupational Therapy
5. Archives of Physical Medicine and Rehabilitation
6. Journal of Hand Rehabilitation
7. Other OT related Journals

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Masters in Occupational Therapy (Rehabilitation Sciences) MOT (REHAB)

Course Description

This course focuses on the role of occupational therapy for establishing diagnosis and Independent Clinical decision making, for rehabilitation of in patients in both Acute & Chronic care clinical settings (in-patient, out-patient and home care), for both short & long-term wellness, safety and management including community-based programs (socialization, day treatment, adult day care programs), and alternative housing environments etc. In order to understand the needs of patients with cardiopulmonary conditions (diseases & injuries), the course addresses the disease process and its anatomical, physiological, sociological, and psychological effects, with attention to heterogeneity and person's strengths, limitations and capabilities for Rehabilitation.

Students also learn about common illnesses, impairments, disabilities and rehabilitation needs of patients. They will develop and demonstrate skills in evaluation, treatment planning & its implementation and therapeutic adaptations, documentation, and discharge planning (in collaboration with patient and their family member). They will also demonstrate knowledge of assistive technology devices, equipment, and work & environmental modifications strategy as

per functional status & clinical conditions to improve / enhance the quality of life of patient population. It also trains the students on various theories, Frames of references & approaches applicable to Occupational Therapy treatment & intervention processes for rehabilitation

Course Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT with other rehabilitation team professionals and also understand the relationships between policy, legislation and practice. This course enhances the skills of Occupational Therapy professionals for Assessment and Intervention of illness, impairment, disability or handicap as well as

associated Psychosocial Issues for restoring function to enhance /improve quality of life by providing quality service delivery, care & follow up.

Program Goals:

a. Develop Clinical Competency: To equip students with advanced clinical skills in occupational therapy
b. Promote Evidence-Based Practice: To cultivate the ability to integrate current research and evidence into clinical decision-making.
c. Foster Leadership and Advocacy: To prepare students to assume leadership roles and advocate for the advancement of occupational therapy in health sciences & rehabilitation settings.

Competency Domains and Learning Outcomes:

Domain 1: Clinical Assessment and Evaluation

- ***Learning Outcomes***:
  - Conduct comprehensive interview, history taking and evaluations in multiple settings
  - Conduct comprehensive assessments of clinical & functional status
  - Apply specialized evaluation techniques relevant to rehabilitation
  - Apply specialized standardized evaluation tools relevant to clinical features
  - Analyze assessment findings to formulate client / patient-centered treatment plans
  - Explain the importance of quality of life issues within their context and their relationship to cultural, religious and Ethnic issues

Domain 2: Intervention Planning and Implementation

- ***Learning Outcomes:***
  - Design evidence-based & individually tailored intervention plans tailored to patient's needs and goals.
  - Implement therapeutic techniques, procedures and modalities for rehbilitation
  - Modify treatment plans based on ongoing assessment and client progress.
  - Ability to implement treatment plans & intervention in multiple settings.
  - Formulate treatment plans (including discharge planning) in consultation with patient / families members as applicable
  - Demonstrate knowledge of community programs
  - Formulate treatment plans to address quality of life issues of concern

Domain 3: Inter professional Collaboration

- ***Learning Outcomes:***
  - Collaborate effectively with other professionals of healthcare service providers.
  - Participate in multidisciplinary teams to optimize intervention outcomes.
  - Communicate occupational therapy perspectives and contributions in rehabilitation settings
  - Understand the high-risk group with regard to medication interactions, including how physiologic changes influence medication effects
  - Communicate occupational therapy perspectives and contributions in variety of clinical setting

Domain 4: Professionalism and Ethical Practice

- ***Learning Outcomes:***
  - Demonstrate ethical decision-making and adherence to professional standards in rehabilitation.
  - Articulate how ethical considerations in musculoskeletal practice relate to the Code of Ethics regulations by NCAHP
  - Engage in reflective practice to continuously improve clinical skills and professional conduct.
  - Advocate for the rights and well-being of patients through ethical practice and advocacy efforts.
  - Knowledge of how demographics and policy influences healthcare

Domain 5: Research and Evidence-Based Practice

- ***Learning Outcomes:***
  - Critically appraise research literature relevant to occupational therapy practice
  - Integrate research findings into clinical practice to enhance treatment outcomes.
  - Contribute to the advancement of knowledge in rehabilitation sciences through scholarly activities.

MOT First Year

MOT 104: Basic Medical Sciences & Theoretical foundation in Occupational Therapy in Rehabilitation sciences

Course Description

The overall goal of the course is to provide a conceptual framework for the study of rehabilitation sciences as it relates to occupational therapy and to assist occupational therapy students to develop the skills and knowledge needed to understand major issues in theory, research, and practice. It involves the training in the use of various theories Frames of references & approaches applicable to Occupational Therapy intervention processes applicable.

Objectives (competency statements) –

The objectives of this course are:

1) Integrate prior knowledge of anatomical, physiological, sensory and motor changes for purposes of occupational therapy intervention
2) To understand the disease process
3) Understand the cultural diversity and heterogeneity and its impact upon assessment, treatment planning, implementation and discharge planning
4) To identify, implement & document the appropriate frames of reference used
5) Use the latest technology for assessment , intervention and documentation
6) Explain the role of occupational therapy for promoting health & well-being and the prevention of disease and disability

Expected Outcomes:

1) Illustrate the diagnostic tools to identify health problems in rehabilitation
2) State various frames of references, theories & approaches used in rehabilitation
3) Able to understand the disease process, its implication on functional performance areas

Contents

- Trauma & Associated medical condition (Cardiopulmonary, Neurological & Psychosocial complications)
- Lifestyle Diseases (Obesity, Hypertension, Diabetes etc.)
- Occupational diseases & OT management
- Impairment, Disability & Handicap
- ICD 10
- International classification of functioning (ICF) coding
- Types of Institutional based service setting serving people with disability
- Rehabilitation types, settings, Institutions, team
- Rehabilitation processes (Preventive, curative/ restorative or adaptive /compensatory)
- Wellness Programme
- Principles of exercise physiology and measurers. Monitoring physiological responses to exercise.
- Physical & Functional Capacity Evaluation
- Occupational therapy strategies for documentation & management in rehabilitation
- Socio-Cultural aspects in OT practice
- Understanding of primary, secondary and tertiary stages of disability prevention
- Disability types and legislative framework for benchmark disabilities (RPwD Act, Mental health Act etc.)
- Special provisions for PwD (National Trust & other welfare schemes)
- Accessibility & architectural barriers
- Liaison & Communication among healthcare professionals
- Clinical reasoning skill development and its application
- Disability evaluation
- Critical analysis of the various approaches used (e.g. Specific techniques, evaluations etc.)

- Rehabilitation across the life span: Paediatric, adult onset & geriatric conditions
- Disaster Management
- Regulatory Agencies and Legal Issues of concern.
- Industrial health & rehabilitation in OT practice
- Physical agent modalities as an adjunct to OT practice

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Paper MOT 201 Advanced Occupational Therapy Diagnostic & Prognostic skills in Rehabilitation Sciences

University Examination: At the end of Second year of MOT

Theory Exam: 100 Marks IA: 50 Marks

(Will not be added to University Examination)

Instruction hours: 100

(Lecture / Tutorials Hours – 75 and Practical Hours- 25)

Clinical hours: 290

Course Description:

1) A better understanding & process of the various diagnostic procedures used in Occupational Therapy
2) Will enable for clinical & functional diagnosis & critical decision on planning Occupational Therapy intervention

Objectives: (Competency Statements)

- Elicit and interpret clinical signs and symptoms & interpret clinical investigations, stress tests and special investigations commonly used in establishing diagnosis
- Illustrate the diagnostic tools
- Understand the appropriate use of assessment tools for rehabilitation
- Able to administer the specific tool for screening the other associated issues
- Describe, administer & interpret and develop Specialized tools of OT assessment
- Administer the tools for assessing progress in patients.
- Establish clinical diagnosis
- Make Critical decision and selection of outcome measures

Contents

- History Taking, observational assessment, examination supplementing medical notes and investigation for establishing provisional clinical diagnosis
- Understanding diagnostic & prognostic indicators of various disability conditions
- Assessment & treatment techniques applicable to Occupational therapy practice
- Disability Evaluation, functional analysis indices and workmen's compensation act as per legislation
- Work assessments
- Driving Evaluations
- Job analysis based on ergonomics principles
- Balance Dysfunction examination, assessment scales, their application
- Hand, Posture & Gait Assessment
- Various Standardized Assessment Tools in clinical setups/settings
- Hand function Assessment
- Functional & ADL Assessment Tools
- Pain assessment & management strategies in various medical conditions
- Knowledge & Practice skill for using various standardized evaluation scales & investigative procedures used in neurological, degenerative & congenital conditions
- Assessment & evaluation of Home, school, work place
- General fitness strategies

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MOT 202: Advanced Occupational Therapy Process & Practice in Rehabilitation Sciences

Corse Description

This course focuses on the role of occupational therapy for rehabilitation in various practice settings from Acute to chronic care, long-term care programs, including wellness & safety programs. Students learn about common impairments and disabilities and rehabilitation needs. They will develop and demonstrate skills in evaluation, treatment planning and implementation, documentation, and discharge planning (including collaborative client and family education), to enhance / improve the quality of life

Objectives:

The course also addresses the importance of evidence-based practice, including occupational therapy, life- long learning and professional development, the benefits of collaborative OT- OTA partnerships and the relationships between policy, legislation and practice.

Expected Outcomes:

The overall goal of the course is to provide a conceptual framework and to assist occupational therapy post graduate students to develop the skills and knowledge to understand the disease process, assess and implement intervention strategies for rehabilitation.

Contents

- Functional approaches & critical analysis of various approaches used (e.g. Specific techniques, evaluations etc.) in Occupational Therapy
- Trauma Care & Resource Matrix
- Rehabilitation in Geriatric conditions
- Rehabilitation of Plastic Surgery conditions including tendon transfer & grafts, amputation & reconstructive surgeries
- Balance training & Fall Prevention
- Hand Rehabilitation & Surgeries
- Practice skills using Biomechanical and Rehabilitative Frames of References
- Wellness Programme
- Palliative care and Hospice Care

- Prescription, designing, fabrication, Fitting, functional training and check out of prosthetic & orthotic devices & assistive devices
- Mobility aids & appliances:- Prescription & training
- Wheel chair Prescription & training (advanced manoeuvres)
- Work simulations and work hardening
- Psychological aspects of adaption and adjustment during rehabilitation of the disabled
- OT Practice Issues in community including adults with developmental disabilities, Community based services & CBR
- Identifying barriers & facilitators for implementing Evidence Based occupational therapy Practice
- Management of work related musculoskeletal disorders
- Psychosocial aspects of disability
- Universal accessibility design
- Environmental modifications
- Obesity and life style diseases
- Rehabilitation surgeries & OT Management
- Burns assessment & management
- Rehabilitation of Adult Cerebral palsy
- Rehabilitation of patients with Medical & surgical conditions such as SCI, Burns, Rheumatologic conditions, Arthoplasty, Acute & Chronic Respiratory conditions, Parkinsonism, Stroke, Polytrauma etc.
- Application of biomechanics & bioengineering in Rehabilitation
- Falls and Fractures
- Vocational Fitness Programs

MOT 203: Current & Future Trends in Occupational Therapy Practice for Rehabilitation Sciences

Examination: At the end of First year of

Course Description:

It involves the training in the use of Frames of existing references & approaches, current trends & latest technology advancements applicable to improve / enhance function and quality of life.

Objectives (competency statements) –
The objectives of this paper are:

1. Understand, demonstrate & apply and document the Frames of reference
2. Develops proficiency in applying current trends
3. Develop & enhance clinical skill
4. Develop new innovative techniques & strategy for assessment, intervention as well as for establishing diagnosis

Expected Outcomes:

1. Understand & apply current trends & innovative ideas for managing disease process
2. Develop skill to apply various frames of references, theories, assessment strategies and treatment approaches in view of current trends & latest advancements in rehabilitation

Course Contents:

- Advanced & current trends in rehabilitation
- Assistive technology, aids & appliances in musculoskeletal conditions
- Environmental controlled units and Universal Design
- Latest Advancements in Rehabilitation Technology
- Application of Artificial Intelligence into OT Practice
- Robotic technology & its application
- Advances in computer applications in O.T.
- Concept of telemedicine /rehabilitation & information technology
- Ergonomics, its types & Application to OT Practice
- Environmental control units & their application to OT Practice
- Modalities Adjunct to OT Practice

- Latest Rehab Equipment's including Virtual Reality, EMG Biofeedback, FES etc.
- Liaising with stake holders for fund generation under corporate social responsibility in community welfare schemes like PMJAY, RBSK etc. for equipment's & research for community based rehabilitation
- Work station designs for maximizing performance within the environment
- Work Assessment and Work surface adaptations & accommodation
- Chronic conditions, Job analysis, Workplace accommodations, conditioning & Safety, Injury Prevention & management and return to work Programs
- Community & Institutional based outreach rehabilitation programs & schemes
- Vocational Rehabilitation; evaluation & management

Recommended Text Books & Journals

International:

1. "Occupational Therapy: Principles and Practice" by Mary Ann McColl
2. "Willard and Spackman's Occupational Therapy" by Barbara Schell and Glen Gillen
3. "Occupational Therapy in Community-Based Practice Settings" by Marjorie E. Scaffa
4. "Case-Smith's Occupational Therapy for Children and Adolescents" by Jane Clifford O'Brien and Heather Kuhaneck
5. "Occupational Therapy with Elders: Strategies for the COTA" by Rene Padilla, Sue Byers-Connon, and Helene Lohman

Indian:

1. "Essentials of Occupational Therapy" by Kamala R. Gupta
2. "Rehabilitation Techniques in Occupational Therapy" by Neelam R. Bhardwaj
3. "Occupational Therapy in India" by Vinod Kumar Sinha
4. "Handbook of Occupational Therapy" by Nirupama Aggarwal
5. "Community Rehabilitation: Concepts and Strategies" by Neeta Kumar

Journals

International:

1. American Journal of Occupational Therapy (AJOT)
2. British Journal of Occupational Therapy (BJOT)
3. Australian Occupational Therapy Journal
4. Scandinavian Journal of Occupational Therapy
5. Journal of Occupational Rehabilitation

Indian:

1. Indian Journal of Occupational Therapy (IJOT)
2. Journal of Rehabilitation Council of India
3. Indian Journal of Physical Medicine and Rehabilitation
4. Journal of Disability Management and Rehabilitation
5. Indian Journal of Physiotherapy and Occupational Therapy - An International Journal

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4.26 PhD in Occupational Therapy

Guidelines / Regulations

Minimum Standards and Procedure for Award of Ph.D. Degree:

- Every University established or incorporated by or under a Central Act, a Provincial Act,or a State Act, and every Institution Deemed to be a University under Section 3 of UGC Act, 1956 and every degree- granting autonomous College and every affiliated college, allowed to offer Ph.D. programmes.

1. Eligibility criteria for admission to the Ph.D. Programme

Candidates for admission to the Ph.D. programme shall have successfully completed:

a) A 2-year regular on campus Master's degree program in occupational therapy after regular Bachelor's degree in Occupational Therapy.

b) The candidate must attain at least 55% marks in aggregate or its equivalent grade in a point scale wherever grading system is followed in the Master's degree or equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or NCAHP or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution

c) A relaxation of 5% marks or its equivalent grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-Abled, Economically Weaker Section (EWS) and other categories of candidates as per the decision of the Commission from time to time.

Note: The eligibility marks of 55% (or an equivalent grade in a point scale wherever grading system is followed and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures, if any.

d) A relaxation of 0.5 score in CGPA or an equivalent relaxation of grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-Abled, Economically Weaker Section (EWS) and other categories of candidates as per the decision of the Commission from time to time.

All Universities shall admit Ph.D. Scholars through a National Eligibility Test (NET) or National Entrance Test or an Entrance test conducted by NCAHP or University/HEI or any other Entrance test as per the norms of University offering PhD admissions.

2. Duration of the Programme

- **Full time Ph.D.** Programme shall be for a minimum duration of three (3) years, including course work, and a maximum duration of six (6) years from the date of admission to the Ph.D. programme. Extension beyond the above limits will be governed by the relevant clauses as stipulated in the Statute/Ordinance of the individual Institution concerned, but not beyond more than two or three years as mentioned above.
- Female Ph.D. Scholars may be provided Maternity Leave/Child Care Leave for up to 240 days If required, he/she will be relieved from the duty to complete the course work.
- **Part time Ph.D.** programme shall be for a minimum duration of four (4) years including course work, and a maximum of six (6) years.
- Part –time candidate should complete research work and submit the thesis to the University within four years from the date of provisional registration.
- Maximum period for submission of thesis will be six years from the date of provisional registration subject to the permission from the Ph.D. Research Advisory Committee on the recommendations of the guide and with the approval of the concerned University. There will be no provision for further extension of the period.
- Under extraordinary circumstances, affecting a student warranting extension of period after submission of thesis, the student should submit an application Research Advisory Committee on the recommendations of the guide for its opinion, which will be submitted to the High Power Committee. The decision of the Vice-Chancellor of the concerned University in the matter shall be final.
- Notwithstanding anything contained in these Regulations or any other law, for the time being in force, no Higher Educational Institution or research institution of the Central government or a State Government shall conduct Ph.D. programmes through distance and/or online mode.

3. Procedure for admission

The admission shall be based on the criteria notified by the institution, keeping in view the guidelines/norms in this regard issued by the NCAHP, and taking into account the reservation policy of the Central/State Government from time to time.

Admission to the Ph.D. programme shall be made using the following methods:

- The Entrance Test syllabus shall consist of 50% of Research methodology and Biostatistics, and 50% shall be Occupational therapy.
- Students who have secured 50 % marks in the entrance test are eligible to be called for the interview.
- A relaxation of 5 % marks will be allowed in the entrance examination for the candidates belonging to SC/ST/OBC/ Economically Weaker Section (EWS), and other categories of candidates as per the decision of the Commission from time to time.
- HEIs/ universitiy may decide the number of eligible students to be called for an interview based on the number of Ph.D. seats available.
- Provided that for the selection of candidates based on the entrance test conducted by the HEI/ universities , a weightage of 70 % for the entrance test and 30 % for the performance in the interview/viva- voce (interview shall be based on the selection of research study) shall be given.
- Universities and Colleges which are eligible to conduct Ph.D. programmes, shall:
    - Notify a prospectus well in advance on the institution's website specifying the number of seats for admission, criteria for admission, the procedure for admission, and all other relevant information for the candidates;
    - Adhere to the National/State-level reservation policy, as applicable.
- The HEIs shall maintain a list of Ph.D. supervisors (specifying the name of the supervisor, his or her designation, and the department/school/centre), along with the details of Ph.D. scholars (specifying the name of the registered Ph.D. scholar, the topic of his/her research and the date of admission) admitted under them on the website of the institution and update this list every academic year.

4 Eligibility criteria for Guide/ Research Supervisor & Co-guide/ Co- Research Supervisor

- Regular faculty members working at Occupational Therapy Higher Educational Institution (place of study) having Ph.D. degree & minimum10 years of teaching experience in NCAHP accredited Occupational Therapy institution, and at least five research publications as a first Author of Peer reviewed & Refereed indexed journal (UGC CARE list)
- Only a full-time regular teacher of the University/ College concerned can act as a Guide/Research Supervisor. Adjunct faculties are not permitted to be Guide/Research Supervisors except being Co-guideguide/ Co-supervisor. However, Co-Supervisors from within the same department or other departments of the same institution or sister institutions may be permitted with the approval of the Research Advisory Committee.
- In specific cases of a formal institutional collaboration based on the MoUs, the Universities/Colleges concerned may approve a faculty member with similar eligibility criteria as point no 4 above as Co-guide/Co-Supervisor for a Ph.D. candidate from the collaborating institution.
- In the case of topics which are inter-disciplinary and where the Department concerned feels that the expertise in the Department has to be supplemented from outside, the Department may appoint a Research Supervisor from the Department itself, who shall be known as the Research Supervisor, and a Co-Supervisor from outside the Department/ Faculty/College/University on such terms and conditions as may be specified and agreed upon by the consenting Institutions
- In case of non-availability of PhD co-research supervisor as per above guidelines , a nonteaching occupational therapist from other institution having PhD degree with minimum 15 years of clinical experience and having at least five research publications as first author in peer reviewed & refereed indexed journal(Scopus/PubMed list) may be considered as a PhD co-guide/ **co-research supervisor**

(Should be valid only for the next 5 years from the effective date of such notification)

- The allocation of Research Supervisor for a selected research scholar shall be decided by the Department concerned depending on the number of scholars per Research Supervisor, the available specialization among the Supervisors, and research interests of the scholars as indicated by them at the time of interview/viva voce.
- Ph.D. awarded by a university under the supervision of a faculty member who is not an employee of the university or its affiliated Post- graduate Colleges/institutes would be in violation of these Regulations.

5. Number of Ph.D. scholars permissible per supervisor -

- A Research Supervisor/Co-Supervisor who is a Professor cannot guide more than Eight (08) Ph.D. scholars at any given point of time which includes 2 international PhD scholars.
- An Associate Professor as Research Supervisor can guide up to a maximum of six (6) Ph.D. scholars (including co- supervision) and an Assistant Professor /Lecturer as Research Supervisor can guide up to a maximum of four (4) Ph.D. scholars. One additional research scholar can be allotted to each supervisor over and above the allotted number provided the Research Supervisor is implementing a major sponsored research project. Further, each Research Supervisor/Co-Supervisor can guide maximum two international students on a supernumerary basis. At any point of time the total number of candidates under a research supervisor shall not exceed the number as prescribed above including the candidates under co- supervision.

  Note: The Research Supervisor should declare the number of Ph.D. scholars registered with him/her periodically to the University/College. He/she cannot increase the number by using recognition from multiple universities/colleges.
- University teachers after superannuation, if they are re-appointed in the parent University as contract or honorary or distinguished or emeritus professor, may continue as Research Supervisors till the age of 70. The university/college, after considering the research track record and fitness of such superannuated teachers to supervise scholars, may decide on his/her continuation as Research Supervisor with or without financial commitment.

- In case of relocation of a female Ph.D. scholar due to marriage or otherwise, the research data shall be allowed to be transferred to the Higher Educational Institution to which the scholar intends to relocate, provided all the other conditions in these Regulations are followed, and the research work does not pertain to a project sanctioned to the parent Institution/Supervisor by any funding agency. Such scholar shall, however, give due credit to the parent institution and the supervisor for the part of research already undertaken.
- Faculty members with less than three years of service before superannuation shall not be allowed to take new research scholars under their supervision. However, such faculty members can continue to supervise Ph.D. scholars who are already registered until superannuation and as a co-supervisor after superannuation, but not after attaining the age of 70 years.
- Change of Supervisor/ Co-Supervisor: Change of the supervisor/co-supervisor may be allowed within a period of less than two years. In extraordinary circumstances warranting change of supervisor/co-supervisor, the supervisor/co-supervisor and/or the student should place the facts before the Research Advisory Committee for its opinion.

  The decision and the recommendations of the Research Advisory Committee shall be final.
- The concerned university/HEI having PhD programs must register the Research supervisor/co-supervisor on the basis of minimum standards of PhD guide lines issued by NCAHP.

6. **Admission of International students in Ph.D. programme**

- **The international candidate applying for PhD program in India must be qualified with 2 year master's degree in occupational therapy from India / international university. In case of Master's degree/equivalent qualification from international university, it should be** accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or NCAHP or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution, **before permitting the international candidate to appear in the entrance test for PhD**

- Each supervisor can guide up to two international research scholars on a supernumerary basis over and above the permitted number of Ph.D. scholars as specified in above.
- The HEIs may decide their own selection procedure for Ph.D. admission of international students keeping in view the guidelines/norms in this regard issued by statutory/regulatory bodies concerned from time to time.

7. **Course Work.- Credit requirements, number, duration, syllabus, minimum standards for completion**

   a. The Credit requirement for the Ph.D. coursework is a minimum of 12 credits, including a "Research and Publication Ethics" course as notified by UGC vide D.O. No. F.1- 1/2018 (Journal/CARE) in 2019 and a research methodology course. The Research Advisory Committee can also recommend courses as part of the credit requirements for the Ph.D. programme.

      The following subjects shall be considered for the course work –

      i. Research Methodology & Biostatistics – 4 credits
      ii. Research & Publication Ethics– 4 credits
      iii. Advances in Occupational therapy process & practice – 4 credits

   b. A Ph.D. scholar must obtain a minimum of 55% marks or its equivalent grade in the UGC 10-point scale in the course work to be eligible to continue in the programme and submit his or her thesis

   c. All Ph.D. scholars, irrespective of discipline, shall be required to train in teaching /education /pedagogy/writing related to their chosen Ph.D. subject during their doctoral period. Ph.D. scholars may also be assigned 4-6 hours per week of teaching/research assistantship for conducting tutorial or laboratory work and evaluations

8. **Research Advisory Committee and its Functions**

There shall be a Research Advisory Committee or an equivalent body as defined in the Statutes/Ordinances of the Higher Educational Institution concerned for each Ph.D. scholar. The Research Supervisor of the Ph.D. scholar concerned shall be the Convener of this committee. The other members shall have the qualification, experience and publications as specified for the research supervisor in the point no 4. The committee shall have the following responsibilities:

- To review the research proposal and finalize the topic of research.
- To guide the Ph.D. scholar in developing the study design and methodology of research and identify the course(s) that he/she may have to do.
- To periodically review and assist in the progress of the research work of the Ph.D. scholar.
- Every six month, a Ph.D. scholar shall appear before the Research Advisory Committee to make a presentation and submit a brief report on the progress of his/her work for evaluation and further guidance. The Research Advisory Committee shall submit its recommendations along with a copy of Ph.D. scholar's progress report to the Higher Educational Institution concerned. A copy of such recommendations shall also be provided to the Ph.D. scholar.

  The half yearly progress report shall cover the following aspects:

  a) Progress in the review of literature
  b) New data acquired or theoretical background/techniques developed
  c) Progress/Standardization in research methodology
  d) Discussion of the work done

  If the candidate fails to submit two consecutive half yearly progress reports in time, his/her provisional registration shall stand cancelled
- In case the progress of the Ph.D. scholar is unsatisfactory, the Research Advisory Committee shall record the reasons for the same and suggest corrective measures. If the Ph.D. scholar fails to implement these corrective measures, the Research Advisory Committee may recommend, with specific reasons, the cancellation of the registration of the Ph.D. scholar from the Ph.D. programme.

9. **Evaluation and Assessment Methods, minimum standards/credits for award of the degree-**

- Upon satisfactory completion of course work and obtaining the marks/grade prescribed in the above clause, the Ph.D. scholar shall be required to undertake research work and produce a draft dissertation/thesis.
- There should be at least two presentation at national / international level conference and at least two research publications of original work from his/her PhD research work as a first author in peer reviewed & Index Journals (Scopus/PubMed). The presentations and publication is mandatory prior to the submission of the thesis.
- Before submitting the dissertation/thesis, the Ph.D. scholar shall make a presentation before the Research Advisory Committee of the Higher Educational Institution concerned, which shall also be open to all faculty members and other research scholars/students.
- The Higher Educational Institution concerned shall have a mechanism using well-developed software applications to detect Plagiarism in research work and the research integrity shall be an integral part of all the research activities leading to the award of a Ph.D. degree.
- A Ph.D. scholar shall submit the thesis for evaluation, along with (a) an undertaking from the Ph.D. scholar that there is no plagiarism and (b) a certificate from the Research Supervisor attesting to the originality of the thesis and that the thesis has not been submitted for the award of any other degree/diploma to any other Higher Educational Institution.

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- The Ph.D. thesis submitted by a Ph.D. scholar shall be evaluated by his/her Research Supervisor and at least two external examiners who are experts in the field and not in employment of the Higher Educational Institution concerned. Such examiner(s) should be academics with a good record of scholarly publications of original work as a first author in the field (5 publications as per University). Wherever possible, one of the external examiners should be chosen from outside India. The viva-voce board shall consist of the Research Supervisor and at least one of the two external examiners and may be conducted online. The viva-voce shall be open to the members of the Research Advisory Committee/faculty members/research scholars, and students. Higher Educational Institutions may formulate appropriate rules/ordinances to effect the provisions of this regulation.
- The viva-voce of the Ph.D. scholar to defend the thesis shall be conducted if both the external examiners recommend acceptance of the thesis after incorporating any corrections suggested by them. If one of the external examiners recommends rejection, the Higher Educational Institution concerned shall send the thesis to an alternate external examiner from the approved panel of examiners, and the viva-voce examination shall be held only if the alternate examiner recommends acceptance of the thesis. If the alternate examiner does not recommend acceptance of the thesis, the thesis shall be rejected, and the Ph.D. scholar shall be declared ineligible for the award of a Ph.D.
- The Higher Educational Institution concerned shall complete the entire process of evaluating a Ph. D. thesis, including the declaration of the viva-voce result, within a period of six (6) months from the date of submission of the thesis.

10. **Academic, research, administrative, and infrastructure requirements to be fulfilled by Colleges for getting recognition for offering Ph.D. programmes.**

- NCAHP accredited Post-graduate Colleges offering 5 year Undergraduate Programmes and/or 2 year regular in campus master in occupational therapy programmes, may offer Ph.D. programmes, provided they satisfy the availability of eligible Research Supervisors,
  required infrastructure, and supporting administrative and research facilities as per these Regulations.
- Colleges and research institutions established by the central government or a State government whose degrees are awarded by Higher Educational Institutions shall offer Ph.D. programmes provided they have:
  - At least two faculty members in a college or two Ph.D.-qualified scientists in the research institution.
  - Adequate infrastructure, administrative support, research facilities and library resources as specified by the HEI.
  - Institutional Ethics Committee: Registered under National Ethics Committee Registry for Biomedical & Health Research (NECRBHR) and/or Central Drugs Standard Control Organization (CDSCO), Ministry of Health & family Welfare, Govt. of India.

11. **Issuing a Provisional certificate**

Prior to the actual award of the Ph.D. degree, the degree- awarding Higher Educational Institution shall issue a provisional certificate to the effect that the Ph.D. is being awarded in accordance with the provisions of these Regulations.

12. **Depository with INFLIBNET**

Following the successful completion of the evaluation process and before the announcement of the award of the Ph.D. degree(s), the Higher Educational Institution concerned shall submit an electronic copy of the Ph.D. thesis to INFLIBNET, for hosting the same so as to make it accessible to all the Higher Educational Institutions and research institutions.

13. **Research Fellowship and Funding**

- The PhD Scholars may be considered for appropriate research fellowship during the PhD program
- PhD scholars are expected to be associated with a funded project in order to bear the cost of all the requirement of the PhD study.
- The PhD scholar must be given research fellowship in case of funded project of the Supervisor/institute with appropriate approval of the funding agency.
- The scholars who are already employed and on study leave, do not require any fellowship.

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Chapter 5:

Job Description for all levels

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Job Description for all levels

1. **Level 6**

- **Responsibilities:**
  - Assess patients' physical, emotional, and social needs.
  - Develop individualized treatment plans to improve patients' ability to perform daily activities.
  - Implement therapeutic interventions, including exercises, adaptive equipment, and techniques.
  - Educate patients and families on home programs and adaptive strategies.
  - Maintain accurate patient records and document progress.
  - Collaborate with other healthcare professionals to ensure comprehensive patient care.
  - Stay updated with the latest practices and developments in occupational therapy.
- **Qualities Expected:**
  - Strong hold on subject knowledge and clinical skills
  - Strong communication and interpersonal skills.
  - Ability to work independently and as part of a team.

2. **Level 7**

- **Responsibilities:**
  - Oversee and mentor junior occupational therapists.
  - Handle more complex patient cases.
  - Develop and implement advanced therapeutic programs.
  - Conduct training sessions for staff on new techniques and equipment.
  - Lead research projects to improve treatment methods and outcomes.
  - Participate in departmental planning and development.
  - Advanced certification in specialized areas (e.g., hand therapy, pediatrics).
  - Leadership and supervisory skills.
  - Strong clinical and research skills.

3. Level 8

- **Responsibilities:**
  - Manage the daily operations of the occupational therapy department.
  - Develop and implement departmental policies and procedures.
  - Ensure compliance with regulatory standards and accreditation requirements.
  - Coordinate with other department heads for integrated patient care.
  - Monitor departmental budgets and resources.
  - Oversee the recruitment, training, and evaluation of staff.
  - Facilitate professional development and continuing education for staff.
- **Qualities Expected:**
  - Extensive clinical and supervisory experience.
  - Strong organizational and management skills.
  - Knowledge of healthcare regulations and accreditation processes.
  - Excellent communication and leadership abilities.

4. Level 9

- **Responsibilities:**
  - Provide strategic leadership and vision for the occupational therapy department.
  - Develop long-term goals and objectives for the department.
  - Oversee the implementation of innovative treatment programs and services.
  - Foster a collaborative and inclusive work environment.
  - Represent the department in organizational meetings and external forums.
  - Drive quality improvement initiatives and best practices.
  - Monitor departmental performance and outcomes.
  - Proven track record of leadership and innovation.
  - Ability to drive change and implement new strategies.
  - Strong analytical and problem-solving skills.
  - Excellent public speaking and advocacy skills.

5. Level 10

- **Responsibilities:**
  - Lead the overall strategic direction and administration of occupational therapy services.
  - Develop and implement organizational policies and procedures.
  - Ensure the highest standards of patient care and service delivery.
  - Manage departmental budgets, staffing, and resources.
  - Establish partnerships with other healthcare providers and organizations.
  - Advocate for the profession and promote occupational therapy within the community.
  - Oversee research initiatives and academic collaborations.
  - Report to the executive leadership on departmental performance and strategic goals.
- **Qualities expected:**
  - Significant experience in senior management roles.
  - Expertise in healthcare administration and policy.
  - Strong leadership and strategic planning skills.
  - Excellent communication, negotiation, and networking abilities.
  - Commitment to advancing the field of occupational therapy.

These descriptions can vary depending on the specific healthcare setting and organization. The roles typically build upon each other, with increasing levels of responsibility, expertise, and leadership as one moves up the hierarchy.

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Annexures

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Annexure 1

Allied and Healthcare Professions

Allied and healthcare professionals includes individuals involved with the delivery of health or healthcare related services, with qualification and competence in therapeutic, diagnostic, curative, preventive and/or rehabilitative interventions. They work in multidisciplinary health teams in varied healthcare settings including doctors (physicians and specialist), nurses and public health officials to promote, protect, treat and/or manage a person ('s) physical, mental, social, emotional, environmental health and holistic well-being.

The wide variation in the understanding of the concept of allied and healthcare professional, better known as 'paramedic', the nomenclature, and functions has led to the poor image of allied and healthcare sciences in India. The use of the word paramedic itself limits the activities of AHPs in the system. Hence, it is imperative to adequately compensate these professionals based on their qualifications and specialties. Despite a huge demand for services from this sector, allied and healthcare sciences is highly fragmented. As per the report 'From Paramedics to Allied Health Sciences', in total 138 courses of varied levels were identified during the process. Although it is estimated that there may be many more courses which are yet to be identified.

Considering the lack of regulatory mechanism following 15 core professional groups (accounting for around 44 professions) has been enlisted below **(The list is illustrative of the allied and healthcare professions. In future there may be addition or removal of certain professions based on the state of their regulation and standardization). It also needs a mention that most of these professions are not restricted to the professional groups under which they have been categorized, their role may extend to other professional services too. Similarly, the categorization is an indicative categorization, however this may evolve over time based on deeper understanding of the roles and responsibilities of each professional group**:

Healthcare Professions

1. Optometry
2. Physiotherapy
3. Occupational Therapy
4. Nutrition Sciences
5. Physician Associate and Assistants
6. Allied Health Professions
7. Cardiology, Vascular and Pulmonary Technology
8. Medical Laboratory Sciences

9. Medical Radiology and Imaging Technology
10. Neurosciences Technology
11. Non- direct and Administrative services
12. Primary Care and Community services
13. Radiation Therapy
14. Renal Technology
15. Surgical and Anesthesia related Technology
16. Trauma Care Services

The above mentioned groups account for over 44 job profiles in the allied and healthcare space, which are as follows-

A Healthcare Professions

1. Optometry
   a. Optometrist
2. Physiotherapy
   a. Physiotherapist
3. Occupational Therapy
   a. Occupational Therapist
4. Nutrition Sciences
   a. Nutritionist
   b. Dietitian
5. Physician Associate and Assistants
   a. Physician Associates and Assistants

B Allied Health Professions

1. Surgical and anesthesia related technology
   a. Anesthesia Assistants and Technologist
   b. OT Technologist
   c. Endoscopy Technologist

2. Medical Laboratory Sciences
    a. Cyto-Technologist
    b. Dermatology/STD /Leprosy Lab Technologist
    c. Forensic Technologist
    d. Hemato-Technologist
    e. Histopath-Technologist
    f. Phlebotomist
    g. Medical and Clinical Lab Technologist
3. Medical Radiology and Imaging Technology
    a. Radiographer
    b. Radiologic /Imaging Technologist
    c. Diagnostic Medical Sonographer
4. Renal Technology
    a. Urology Technologist
    b. Dialysis Therapy Technologist
5. Radiation Therapy
    a. Radiotherapy Technologist
    b. Medical Dosimetrist
    c. Nuclear Medicine Technologist
6. Trauma Care Services
    a. Emergency Medical Technologist (paramedic)
    b. Critical Care/ICU Technologist
7. Neurosciences Technology
    a. EEG/END Technologist
    b. EMG Technologist
    c. Neuro Lab Technologist
    d. Sleep Lab Technologist

8. Cardiology, Vascular and Pulmonary Technology
    a. Cardiovascular Technologist
    b. ECG Technologist
    c. ECHO Technologist
    d. Perfusionist
    e. Pulmonary Function (PFT) Technologist
    f. Respiratory Therapist
9. Non- direct and Administrative Services
    a. Biomedical Engineers and Technologist
    b. Medical Assistant
    c. Medical Secretaries
    d. Medical Transcriptionist
    e. Health Information Management Technologist
10. Primary Care and community services
    a. Blood Bank Technologist
    b. Counselor- Integrated Behavioral Health Counselors, Palliative counselors etc.
    c. Sanitary Health Inspectors

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Annexure 2

Occupational Therapy Clinical Assignment Card

Name of the student: _____ Semester no: _____

Sr. No.	Place of the assignment	Period of Assignment	Signature Staff	Grade	Remarks

This is to certify that Mr./Ms…….student of semester…....……. of Occupational Therapy has successfully completed all the clinical assignments during the academic year

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BOT CLINICAL FIELDWORK EVALUATION FORM

Demographic Data

Name of the student	
Semester	
Placement period	
Placement Area	
Date of Initial Evaluation	
Date of Mid Evaluation	
Date of Final Evaluation	

Evaluation

Topic	Initial	Mid	Final	Remarks
Professional Attitude				
	Punctuality			
	Uses initiative			
	Personal appearance			
	Relationship with staff (subordinates, peers and seniors)			
	Response to criticism			
Communication Skills				
	Establishes relevant rapport with patient and family			
	Ask Relevant questions			
	Communicates effectively with patients and relatives at appropriate levels			
Evaluation and treatment planning				
	Obtain relevant data			
	Identifies problems areas to be treated			
	Formulates appropriate treatment procedure – a) Immediate b) Long term			

Topic	Initial	Mid	Final	Remarks
Treatment Implementation:				
	Uses treatment techniques appropriately			
	Re-evaluates and upgrades appropriately			
Records and Report				
	Maintains regular Relevant records: (Assessments)			
	Oral communication on: (Evaluation)			
Organization & Admin. Ability:				
	Accepts responsibility			
	Care of materials			
Assignments				
	Clinical Practice Files:			
	a) Time of Submission			
	b) Relevant information			
	c) Quality of presentation			
	d) Extra assignments			
	Case presentation			
	a) Time of Submission			
	b) Use of initiative			
Grading: 5 - Excellent 4 - Good 3 - Average 2 - Below average 1 – Poor				

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Clinical Hours

Max. Clinical Hours	Hours Absent	Hours Made Up	Total Clinical Hours

Overall Assessment Rating

Percentage	Recommendation (√ appropriately)
	Passes with 50% & above
	Fails- less than 50%. Posting to be repeated

Date & Signature of Student	
Date & Signature of Staff	
Date & Signature of Principal	

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Annexure 3

Occupational Therapy Clinical Module

(Adult with Physical Dysfunctions/ Disabilities)

Level 1 (First year)

Area: OPD, Orthopaedic, Surgical & Medical wards

Competency:

At the end of their clinical posting in the first year, students should be able to demonstrate skills to identify Occupational profile of patients with physical conditions & learn the gross muscle testing & goniometry on normal individuals

Objective:

To learn the skills of identifying patient's occupational profile before and after their physical conditions.

The placement of Goniometers & positions of limbs for measurement of ROM & Muscle testing.

Learning needs:

- To learn the skills of developing rapport with the patients
- To understand the components of demographic details and history taking
- To differentiate activity and occupation
- To understand the concept of "Occupation" in person's life
- To understand the OTPF – Domain and Process relevant to physical conditions
- To identify the Occupational profile of patient's with physical conditions
- To learn the placement of Goniometers & positions of limbs for measurement of ROM & Muscle strength

(Second year) Level 2.1

Area: OPD : Orthopaedic, Surgical, Medical & Neurological cases Competences:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with orthopaedical conditions such as amputation, RA, OA, back pain and other neurological conditions.

Learning Objective:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with orthopaedical conditions such as amputation, RA, OA, back pain and other neurological conditions reporting to Occupational Therapy outpatient set up.

Client factors:

1. Range of Motion including factors that limits the movement (such as TCDs, Pain)
2. Muscle Power including Voluntary motor control (General)
3. Reflexes
4. Muscle tone
5. Sensation (General)
6. Perception

Performance skills:

1. Functional abilities
2. Hand functions

Weekly goals:

Week 1:

To learn and demonstrate assessing the ROM (TCDs), individual muscle testing and voluntary motor control

Week 2:

To learn and demonstrate assessing the reflexes and muscle tone

Week 3:

To learn and demonstrate assessing the sensation & perception

Week 4:

To learn and demonstrate assessing the functional abilities including balance and hand functions

Assignments:

- Levels of amputation in upper and lower extremity; types of amputation
- Assessment methods of muscle strength; muscle tone; voluntary control; reflexes and coordination
- Regulation of muscle tone
- Individual MMT of any one patient

(Second year) Level 2.2

Area: OPD, Orthopaedic, Surgical, Medical & Neurological cases

Competency:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with SCI, TBI, Stroke and other chronic neurological conditions.

Learning Objective:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in participation in patients with SCI, TBI, Stroke and other chronic neurological conditions.

Client factor:

- Muscle power (Myotome) and sensory evaluation (Dermatome), ASIA scale
- Level of consciousness (including the scales GCS; RLA; CRS – R and WHIM)
- Voluntary motor control (Brunstrom stages)

Performance skills:

- Functional outcomes (ADL, Functional abilities and transfers) in SCI
- Hand functions in tetraplegia (including tenodesis grasp)

Weekly goals:

Week 1:

To learn and demonstrate skills in assessing the myotome and dermatome in patients with SCI and to determine the level and severity using ASIA scale.

Week 2:

To learn and demonstrate skills in assessing the ADL, functional abilities and hand functions in patients with SCI

Week 3:

To learn and demonstrate skills in assessing the level of consciousness (coma, unresponsive wakefulness syndrome, minimal conscious state and emergence from MCS) in patients with TBI.

Week 4:

To learn and demonstrate skills in assessing the voluntary control in patients with stroke

Assignments:

- Goal setting in SCI (including functional outcomes)
- Secondary complications in SCI
- Coma and related conditions and Theories and principles of coma stimulation

(Second year) Level 2.3

Area: OPD : Orthopaedic, Surgical, Medical & Neurological cases Competency:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with SCI, TBI, Stroke and other neurological conditions.

Learning objectives:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with SCI, TBI, Stroke and other neurological conditions.

Client factors:

- Revise module 2.1 & 2.2
- Cognitive - perceptual skills

Performance skills:

- Functional abilities and transfers in patients with brain injury
- Evaluation of Basic and instrumental ADL

Weekly Goals:

Week 1: Revise module 2.1

Week 2: To learn and demonstrate skills in assessing the cognitive and perceptual skills in patients with brain injury

Week 3: To learn and demonstrate skills in assessing the functional abilities and transfers in patients with brain injury

Week 4: To learn and demonstrate skills in assessing the basic and instrumental ADL (including MBI, SCIM)

Assignments:

- Goal setting in TBI (based on RLA stages)
- Cognitive perceptual skills and evaluation
- Secondary complications in Stroke and TBI

(Second year) Level 2.4

Area: Neurology Competency:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with Parkinson's disease, MND, MS, GBS , and other neurological conditions.

Learning objectives:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with Parkinson's disease, MND, MS, GBS and other neurological conditions.

Client Factors

- Cranial nerves testing
- Tonal abnormalities (Spasticity, Flaccidity, Rigidity, Dystonia)

Performance skills:

1. Co-ordination (Equilibrium & non equilibrium test)
2. Functional abilities

Weekly goals:

Week 1: To learn and demonstrate skills in performing cranial nerve testing

Week 2: To learn and demonstrate skills in assessing co-ordination

Week 3: To learn and demonstrate skills in assessing tonal abnormalities and the signs and symptoms of Parkinson's diseases, MND, MS and GBS.

Week 4: To learn and demonstrate skills in assessing milestones, functional abilities and balance in neurological conditions.

Assignment:

- Cranial nerve testing
- Cerebellar signs and co-ordination assessment
- Condition specific assignments

Level 3 (Third year) Area: (acute care management)

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patient with brain injury, SCI and other acute neurological conditions

Learning Objective:

To learn the skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patient with brain injury, SCI and other acute neurological conditions

Weekly goals:

Week 1: To learn and demonstrate skills in administering OT intervention strategies in patients with SCI during their acute stage.

- prevention of secondary complications;
- educating the significant caregivers about the condition, safety precautions;
- to train in basic skills such as functional abilities and ADL

Week 2: To learn and demonstrate skills in administering OT intervention strategies in patients with TBI during their acute stage

- OT interventions for patients in RLA stage 1-4
- Prevention of secondary complications
- Positioning to ensure safety and functions
- Techniques and strategies to use for cognitive training

Week 3: To learn to demonstrate skill in administering OT intervention strategies in patients with stroke during their acute care

- Evaluation, prevention and management of shoulder subluxation
- Management of shoulder hand syndrome
- Approaches, techniques and strategies to improve voluntary control

Week 4: To train and demonstrate skills in writing Occupational specific goals in SCI, TBI and stroke

- SMART goals to be incorporated in Long term and short term goals

Assignment:

Develop a protocol for sensory stimulation program / managing agitation for a patient with TBI

Level 3 (Third year)

Area: Rehab (Long term care management) Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patient with brain injury and SCI

Learning Objectives:

To learn the skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patient with brain injury, SCI

Weekly goals:

Week 1: To learn and demonstrate skills in administering OT intervention strategies in patients with SCI (Paraplegia)

- Strategies to work with achieving functional outcomes (ADL, mobility and transfers) in paraplegia according to their level and severity

Week 2: To learn and demonstrate skills in administering OT intervention strategies in patients with SCI (Tetraplegia)

- Strategies to work with achieving functional outcomes (ADL, mobility and transfers) in patients with tetraplegia

Week 3: To learn and demonstrate skills in administering OT intervention strategies in patients with brain injury

- Interventions to work on positioning, functional abilities and balance in patients with brain injury
- Approaches and techniques to work on cognitive retraining
- Strategies to facilitate voluntary control and ADL independence

Week 4: To train and demonstrate skills in writing Occupational specific goals in SCI, TBI and stroke

- SMART goals to be incorporated in Long term and short term goals

Assignments:

1. Types, indication, selection and measurement of mobility aids including wheelchair
2. Cognitive retraining strategies for a specific patient with brain injury / stroke

Level 3 (Third year)

Area: All OPDs Except Psychiatry

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patients with amputation, RA, OA, Back/neck pain.

Learning Objective:

To learn the skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patients with amputation, RA, OA, Back/neck pain.

Weekly Goals:

Week 1: To learn and demonstrate skills in administering OT intervention strategies for patients with RA

- Deformities and its pathophysiology
- OT intervention for patients with RA including orthotic management
- OT in other types of arthritis

Week 2: To learn and demonstrate skills in administering OT intervention strategies for patients with upper and lower limb amputation

- Pre prosthetic, prosthetic training and prosthetic checkouts.

Week 3: To learn and demonstrate skills in administering OT intervention strategies in patients with chronic back/neck pain

- OT intervention for pain management
- Proper positioning and body mechanics to be followed
- Techniques to facilitate independence in the clients roles and occupations

Week 4: To train and demonstrate skills in writing Occupational specific goals in amputation, RA, OA, back and neck pain.

- SMART goals to be incorporated in Long term and short term goals
- Reviewing OT management for Orthopaedical conditions such as burns, THR, TKR, Brachial plexus injury, fracture management and CRPS

Assignments:

- Design any Two splints commonly used in RA
- Checkout for upper and lower limb prostheses

Level 3 (Third year) Area: Neurology

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patients with PD, GBS, MND, MS and other neurological conditions.

Learning Objective:

To learn the skills to implement interventions and procedures to promote or enhance safety and performance in ADL, IADL, Education, Work, Leisure and Social participation in patients with PD, GBS, MND, MS and other neurological conditions.

Weekly Goals:

Week 1: To learn and demonstrate skills in administering OT intervention strategies for patients with Parkinson's Disease (PD) including fall prevention protocols

Week 2: To learn and demonstrate skills in administering OT intervention strategies for patients with Multiple sclerosis (MS)

Week 3: To learn and demonstrate skills in administering OT intervention strategies for patients with Guillaine Barre Syndrome (GBS) and Motor neuron disease (MND).

Week 4: To train and demonstrate skills in writing Occupational specific goals in PD, GBS, MND, MS and other neurological conditions.

- SMART goals to be incorporated in Long term and short term goals
- Reviewing OT management for peripheral neuropathies and Muscular dystrophy
- Plan a fall prevention protocol for a patient with Parkinson's disease
- Management of Spasticity, flaccidity, rigidity and dystonia
- Strategies to improve co-ordination

Level 4 (Fourth year) Area: OPD

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement rehabilitation strategies for patients with RA, OA, haemophilia, amputation, burns, cancer and cardiac conditions.

Learning objective:

To learn the skills to implement rehabilitative strategies such as

i) Training in self care, home management, and community reintegration

ii) Education and training of individuals and family members

iii) Modification of environments and adaptation of processes

iv) Application of physical agent modalities to enhance performance skills

To carry out specialized assessment including standardized tools and scales specific to ADL, hand function, cognitive – perceptual skills, home evaluation and leisure.

Weekly Goals:

Week 1: To provide appropriate rehabilitation strategies for patients with amputation/ Arthritis/Ankylosing spondylitis/other conditions

Case assessment: Hand functions and ADL for a patient with RA/AS; ADL for a patient using upper or lower extremity prostheses

Week 2: To provide appropriate rehabilitation strategies for patients with Haemophilia,

Case assessment: ADL (FISH) for a patient with hemophilia

Week 3: To provide appropriate rehabilitation strategies for patients with intra cranial/ intra spinal tumors

Case assessment: Cognitive – perceptual skills and ADL for a patient with a Tumour

Week 4: To learn and understand the application of physical agent modalities

1. Disability evaluation for a person with disability (RA and amputation)
2. Adjuvant therapies used in OT
3. Occupational Therapy and physical agent modalities
4. Design a home program for a patient with RA

Level 4 (Fourth year) Area: OPD, Neurology & community rehab

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement rehabilitation strategies for patients with TBI, stroke and SCI.

Learning objective:

To learn the skills to implement rehabilitative strategies such as

i) training in self care, home management, and community reintegration
ii) education and training of individuals and family members
iii) modification of environments and adaptation of processes
iv) training in assistive technology
v) assessment, recommendation, and training in techniques to enhance functional mobility including wheelchair and community mobility

To carry out specialized assessment including standardized tools and scales specific to ADL, hand function, cognitive – perceptual skills, home evaluation and leisure.

Weekly Goals:

Week 1: To provide appropriate rehabilitation strategies for patients with SCI

- Different aids for self care and communication for patients with tetraplegia

Case assessment: Hand functions and ADL for a patient with tetraplegia

Week 2: To provide appropriate rehabilitation strategies for patients with SCI

- Strategies and training for IADL task for a patient with paraplegia
- Strategies and training for community ambulation and participation
- Functional mobility using wheelchair and other aids

Case assessment: Plan any one practical session to perform an IADL task for a patient with paraplegia

Week 3: To provide appropriate rehabilitation strategies for patients with TBI / Stroke

- Occupational Therapy and Assistive technology
- Adjuvant therapy for managing stroke

Case assessment: Assessment of Cognitive – perceptual skills and ADL

Week 4: To provide appropriate rehabilitation strategies for patients with TBI / Stroke / SCI

Case assessment: Vocational or pre – vocational assessment

Assignment:

1. Occupational therapy and assistive technology

Level 4 (Fourth year) Area: Peripheral posting (One week each in Neurology IP, Orthopaedics, Cardiology, Geriatrics)

Competency:

At the end of their one month posting, students should be able to demonstrate skills to implement rehabilitation strategies for patients with neurological, orthopaedical (burns, THR, TKR), cardiological and geriatric conditions.

Learning objective:

To learn the skills to implement rehabilitative strategies such as

i) Training in self care, home management, and community reintegration
ii) Education and training of individuals and family members
iii) Modification of environments and adaptation of processes
iv) Assessment, recommendation, and training in techniques to enhance functional mobility including wheelchair and community mobility

To carry out specialized assessment including standardized tools and scales specific to ADL, hand function, cognitive – perceptual skills, home evaluation and leisure.

Weekly Goals:

Week 1: To provide appropriate rehabilitation strategies for patients with neurological conditions

Case assessment: Hand functions and ADL for a patient with PD/ GBS/ MND/ Others

Week 2: To provide appropriate rehabilitation strategies for patients with burns/ hip or knee replacement

Case assessment: ADL assessment for a patient with burns

Week 3: To provide appropriate rehabilitation strategies for any one Geriatric condition

Case assessment: Assessment of Cognitive – perceptual skills and ADL

Week 4: To provide appropriate rehabilitation strategies for a patient with myocardial infarction or post op management

Case assessment: ADL assessment for a patient with myocardial infarction

Assignment:

Role of OT in cardiology

(Second year) Level 2.1 Occupational Therapy unit Clinical Module

Area: OPD : Orthopaedic, surgical, Medical & neurological cases

Competences:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with orthopaedical conditions such as amputation, RA, OA, back pain and other neurological conditions.

Learning Objective:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with orthopaedical conditions such as amputation, RA, OA, back pain and other neurological conditions reporting to Occupational Therapy outpatient set up.

Client factors:

1. Range of Motion including factors that limits the movement (such as TCDs, Pain)
2. Muscle Power including Voluntary motor control (General)
3. Reflexes
4. Muscle tone
5. Sensation (General)
6. Perception

Performance skills:

1. Functional abilities
2. Hand functions

Weekly goals:

Week 1: To learn and demonstrate assessing the ROM (TCDs), individual muscle testing and voluntary motor control

Week 2: To learn and demonstrate assessing the reflexes and muscle tone

Week 3: To learn and demonstrate assessing the sensation & perception

Week 4: To learn and demonstrate assessing the functional abilities including balance and hand function

Assignments:

- Levels of amputation in upper and lower extremity; types of amputation
- Assessment methods of muscle strength; muscle tone; voluntary control; reflexes and coordination
- Regulation of muscle tone
- Individual MMT of any one patient

(Second year) Level 2.2 Occupational Therapy Clinical Module

Area: OPD, Orthopaedic, surgical, Medical & neurological cases Competency:

At the end of their one month posting, students should be able to demonstrate skills to evaluate factors affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with SCI, TBI, Stroke and other chronic neurological conditions.

Learning Objective:

To learn the skills to evaluate client factors, performance skills and contexts affecting ADL, IADL, Education, Work, Leisure and Social participation in patients with SCI, TBI, Stroke and other chronic neurological conditions.

Client factor:

1. Muscle power (Myotome) and sensory evaluation (Dermatome), ASIA scale
2. Level of consciousness (including the scales GCS; RLA; CRS – R and WHIM)
3. Voluntary motor control (Brunstrom stages)

Performance skills:

1. Functional outcomes (ADL, Functional abilities and transfers) in SCI
2. Hand functions in tetraplegia (including tenodesis grasp)

Weekly goals:

Week 1:

To learn and demonstrate skills in assessing the myotome and dermatome in patients with SCI and to determine the level and severity using ASIA scale

Week 2:

To learn and demonstrate skills in assessing the ADL, functional abilities and hand functions in patients with SCI

Week 3:

To learn and demonstrate skills in assessing the level of consciousness (coma, unresponsive wakefulness syndrome, minimal conscious state and emergence from MCS) in patients with TBI.

Week 4:

To learn and demonstrate skills in assessing the voluntary control in patients with stroke

Assignments:

1. Goal setting in SCI (including functional outcomes)
2. Secondary complications in SCI
3. Coma and related conditions and theories and principles of coma stimulation

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Annexure 4

1. **Example of a learning experience in Elective 1**

Elective 1 / 2	**1**
Name of Elective	Haemophilia Management
Location of hospital Lab or research facilities	Haemophilia clinic & Occupational Therapy OPD
Name of internal preceptor(s)	XYZ
Name of external preceptor if applicable	NA
Learning objectives of elective	1. Observation of evaluation of haemophilic patients in acute phase 2. Planning of Occupational Therapy Intervention 3. Design and Fabrication of protective devices and orthoses according to patients needs 4. Counselling patients regarding joint protection and precautions for prevention of injuries.
Number of students that can be accommodated in this elective	4
Prerequisites for elective	Basic knowledge of the type and progression of the disease process
List of activities of student participation	1. Attend Haemophillia clinic and observe clinical evaluation 2. Select patients for O T Intervention 3. Educate patient for home care management 4. Implement exercise program in O T OPD 5. Decide material and fabricate orthoses and devices according to patients needs 6. Present at least 2 of the worked up cases
Learning Resources	1. Davidson's Principles and Practice of Medicine 2. Occupational Therapy for Physical Dysfunction by Radomski M, Trombly Latham C
Log book entry required	1. Documentation of worked up cases 2. Documentation of presentation done 3. Completion of posting signed by preceptor with a "meets expectation '(M)' grade"

Elective 1 / 2	**1**
Assessment	**Formative:** Attendance; day-to-day participation in departmental activity; performance of assigned tasks and presentation of worked up case in department
Other comment	

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2. **Example of a learning experience in Elective 2**

Elective 1 / 2	**2**
Name of Elective	Gericare
Location of hospital Lab or research facilities	Geriartric clinic and Occupational Therapy OPD
Name of internal preceptor(s)	ABC
Name of external preceptor if applicable	NA
Learning objectives of elective	1. Observation of evaluation of Geriartric patients in the clinic 2. Identifying patients for Occupational Therapy Services 3. Planning Restorative Therapy for specific physical condition 4. Plan O T Management for cognitive deficits 5. Identify required environmental modifications using Preventive and Accommodative approach 6. Counselling patients regarding fall prevention and energy conservation
Number of students that can be accommodated in this elective	4
Prerequisites for elective	Handling skills and Communication with the Elderly
List of activities of student participation	1. Attend the geriartric clinic, observe and identify the case for O T management 2. Implement exercise protocol for physical conditions 3. Teach cognitive management techniques 4. Administer standardised tests to identify psychological problems 5. Evaluate environmental barriers and provide support

Elective 1 / 2	2
	6. Teach patient safety methods and fall prevention techniques 7. Counsel the caregiver regarding management of medication, exercise protocol, fall prevention and engage in activity. 8. Present at least 2 of the worked up cases
Learning Resources	Willard and Spackman 's Occupational Therapy
Log book entry require	1. Documentation of worked up cases 2. Documentation of presentation done 3. Completion of posting signed by preceptor with a "meets expectation '(M)' grade"
Assessment	**Formative:** Attendance; day-to-day participation in departmental activity; performance of assigned tasks and presentation of worked up case in department
Other comment	

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Annexure 5

Log book Format for UG Students including Interns Bachelor in Occupational Therapy (BOT)

Details of the student

Name of the Student		
Roll No		
University Registration No		
Address Mob No		
Mob No		
Mob no of the parent		
Email id of the parent		

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CERTIFICATE

This is to certify that Mr./Ms has undergone rotatory clinical postings in the below mentioned areas during the……. year of the BOT program, (academic year/Internship).

The performance after assessment of various competencies and other criteria are found to be ……

Clinical Posting :

1. ……..
2. ……..
3. ……..
4. ……..
5. ……..
6. …….
7. …….

Head of the Department (Sign and Seal)

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Record of Clinical Posting (Separate sheet for each academic year)

Area of Posting	Date	Time in	Time out	Signature of Clinical Supervisor

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Course: Code…….…. / Name :…….……. /A Year-…….

Formative		Date	Marks Per Term				Faculty feedback & signature	Student signature
			T1	T2	T3	Average		
CIA	Theory							
	Practicals							
	Oral/Viva							
Model Exam	Theory							
	Practicals							
	Oral/Viva							

Class Coordinator / Academic Coordinator Head of the Department

Course: Code…….…. / Name :…….……..…. /A Year: ……

Sl. No	Date	Topic	Signature of Faculty	Marks (if applicable)

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Area of Posting :…..……Academic Year-…….

Date	Clinical Posting Objectives	Clinical Activity/ Discussion	End of Posting score	Feedback of Clinical Supervisor	Signature of Clinical Supervisor

Class Coordinator / Academic Coordinator

Head of the Department

Date	Brief detail of Case	Clinical Activity/ Discussion	Feedback of Clinical Supervisor	Signature of Clinical Supervisor

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CONCLUSION AND FEEDBACK

1. Student's feedback

2. Faculty feedback

3. Parent's Note

Head of the Department

Case Load Details (For only Interns)

Area of Posting: …….

Date	Brief detail of Case	Clinical Activity/ Discussion	Feedback of Clinical Supervisor	Signature of Clinical Supervisor

Logbook (MOT)

Sr. No	Particular	Points of assessment (Total points =50)	Minimal Standards
1	Clinical Work Posting	Punctuality, Regularity, Maintenance of Case Record or Documentation, Presentation of cases, assessment, Management, Rapport with Patient and team members, and follow-up of patient	Compulsory Rotational Clinical fieldwork of 6weeks to 8 weeks in all Two years
Gradation: 1= Below Average, 2= Average, 3= Good, 4= Very Good, 5= Excellent			
2	Title synopsis/ Dissertation (TOPIC)	Interest shown in selecting the topic, Appropriate review, Discussion with Guide and other faculty, Quality of protocol, Preparation of Proforma, Periodic Consultation with guide/ co-guide, Regular collection of case material, Depth Analysis/ Discussion, Quality of Write-up	Selection of Title in first three months of admission and submission to Institutional Ethics Committee Submission of approved synopsis Collection of Data for 12 months from the date of approval Compiling of Data Submission of the dissertation three months prior to the examination
Gradation: 1= Below Average, 2= Average, 3= Good, 4= Very Good, 5= Excellent			
3	Case Presentation/ Seminar/Group Discussion	Completeness of history, Physical findings, Investigations, Differential diagnosis, Management, Demonstration of skills, Theoretical Background, Appropriate answers to the questions asked	2 Cases/ Discussion/ Seminar in each clinical posting
Gradation: 1= Below Average, 2= Average, 3= Good, 4= Very Good, 5= Excellent			

Sr. No	Particular	Points of assessment (Total points =50)	Minimal Standards
4	Participation in Teaching Activities	Communication of the purpose of the talk, evokes audience interest in the subject, sequences of ideas, the use of practical example and/or illustration, Speaking style, Attempts audience participation, Answers question asked by the audience, Rapport of speaker with his audience, Use of audio visual aids, Summary of the main points at the end	Minimum 5 demonstration/ classroom teaching each year
Gradation: 1= Below Average, 2= Average, 3= Good, 4= Very Good, 5= Excellent			
5	Journal Articles Presented		Minimum 1 per posting
6	CME/COTE/ Workshops attended Institute, National, International		Minimum 2 in Allied subjects & 2 in speciality subjects
7	Conferences attended-		Minimum 2
8	Paper Presented	Desirable	
9	Published research articles	Desirable	

Fellowship Module in Occupational Therapy on Elective subjects as described in "Elective Modules" in chapter 4

The Institutions running BOT/MOT Courses approved by State Council / NCAHP & affiliated by their respective recognized universities can start this fellowship Module.

The details of proposals as per the elective subjects may be formulated as & when required by the concerned universities with the permission of NCAPH.