

THE APOLLO UNIVERSITY
Saketa, Chittoor, AP
AHS- IV Semester End Examination, June, 2024
PAPER -III – OPTT 2506 – VISUAL OPTICS

Time: 3 hours

Max. Marks: 60

Section –A (10x2=20 marks)
Answer all Questions with Short Answers

1. Define image space and image distance.
2. Define magnification.
3. List the optical ocular structure of eye.
4. What do you mean by astigmatism?
5. List the triad for near vision
6. Define convergence insufficiency
7. Define objective refraction in optometry.
8. Why is patient feedback crucial during subjective refraction?
9. Define retinal image blur and briefly explain its significance in visual optics.
10. List three common refractive errors and describe the optical characteristics associated with each.

Section –B (5X8=40 marks)
Answer all Questions either A or B in 400 words each

11. A) Describe the image formation by Plano cylinder lens and by plus Sphero cylindrical lens

OR

- B) Explain the terms
- i. Conjugacy
 - ii. Image distance and image space
 - iii. Object distance and object space
 - iv. Magnification

12. A) Elaborate the optical limit of visual acuity.

OR

- B) Describe in detail about etiology, sign, symptoms, and management of myopia and hypermetropia.

Cont.....

13. A) Explain the procedure and interpretation of NPA.

OR

B) Write in detail about etiology, signs, symptoms, and management of accommodative excess and accommodative infacility.

14. A) Discuss in detail the clock dial test and write their clinical significance.

OR

B) Transpose the following:

- i. $+6.00 \text{ Ds}/-3.50 \text{ DC} \times 120$ into alternate spherocylindrical form.
- ii. $-5.50 \text{ DC} \times 180, -4.50 \text{ DC} \times 90$ into spherocylindrical form.
- iii. $-3.75 \text{ DS}/-2.00 \text{ DC} \times 150$ into cross cylindrical form.
- iv. $-6.50 \text{Ds}/-1.50 \text{ DC} \times 90$ into alternate spherocylindrical form.

15. A) How does the aging process affect the eye's optics, and what visual challenges are commonly associated with age-related retinal image blur?

OR

B) Discuss the importance of spectacle magnification in the context of low vision and visually impaired individuals.
