

**Visual Optics**

**Time : 3 hrs**

**Max marks : 80**

- **Answer all questions**
- **Draw diagram wherever necessary**

**Essays**

**(2x15=30)**

1. Define astigmatism and enumerate the various types of astigmatism. Mention the principles of correction of astigmatism with spectacle lens.
2. Explain the various stages of retinoscopy and the difficulties encountered during retinoscopy.

**Short notes**

**(5x5=25)**

3. Fresnel prism
4. Optical aberration of human eye
5. Astigmatic fan
6. Presbyopia
7. Types of retinoscopes

**Answer briefly**

**(10x2 = 20)**

8. Duochrome test
9. Near point of convergence
10. Badal principle
11. Angle kappa
12. Define anisometropia
13. Do the simple transposition of +2.5Dsph/+1.0 X 90 (degree or axis)
14. Calculate the amplitude of accommodation required to see an object at 10 cm for +4.0 D hyperopia.
15. Phoropter
16. What do you mean by spherical equivalent of a sphero cylindrical lens.
17. Vertex distance

**One word answer**

**(5x1 = 5)**

18. The refractive status of most new born babies is \_\_\_\_\_
19. Refractive error in patients with very high blood sugar levels is \_\_\_\_\_
20. Schiener principle is used in \_\_\_\_\_
21. Cycloplegic effect of atropine lasts for \_\_\_\_\_ days.
22. The overall corneal refractive power is + \_\_\_\_\_ D.