

**First Year B.Sc Optometry Degree Supplementary Examinations****April 2024****Paper III – Physical & Geometrical Optics****(2016 Scheme)****Time: 3 hrs****Max marks: 80**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers • Draw table/diagrams/flow charts wherever necessary*

**Essay:****(2x15=30)**

1. Explain phenomenon of birefringence in detail.
2. For system of two thin lenses discuss cardinal points and obtain power and magnification.

**Short notes****(5x5=25)**

3. Newton's formula for magnification by lens.
4. Deviation by thin prism and prism diopter.
5. Entrance and exit pupil.
6. Types of diffraction.
7. Rayleigh's criterion for resolution of any optical instrument.

**Answer briefly****(10x2=20)**

8. How wavelength of light and refractive index are related.
9. State Huygen's principle.
10. Different types of lens shape.
11. Depth of field.
12. Absolute and relative refractive index.
13. Simple harmonic motion.
14. Gullstrand's schematic eye.
15. Tyndall effect.
16. Monochromatic aberrations.
17. Angular dispersion.

**Fill in the blanks****(5x1=5)**

18. Linear distance between any two consecutive nodes or antinodes is called\_\_\_\_\_
19. Luminous flux is measured in \_\_\_\_\_
20. Vision in high intensity of light is called\_\_\_\_\_ vision.
21. Inverse of focal length of lens is called\_\_\_\_\_
22. Polarization of light waves proves that light waves are \_\_\_\_\_ in nature.