Q.P. Code: 125013 **Reg. No.:……**

First Year B.Sc Optometry Degree Supplementary Examinations
May 2022
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. Electromagnetic Spectrum
2. Huygens's Principal

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

3. Law of refraction and Law of reflection
4. Refraction through plane surfaces
5. An object 3 cm high is placed 20 cm from (a) a convex and (b) a concave spherical mirror, each of 10-cm focal length. Determine the position and nature of the image in each case.
6. Explain Spherical aberration
7. Define Constructive and destructive interference.

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

8. Newtonian equation for the thin lens
9. Image formation by Plano cylinder Lenses
10. Entrance and Exit Pupil
11. Sign Convention
12. Define 1 prism dioptre
13. A microscope has an objective of 3.8 cm focal length and an eyepiece of 5 cm focal length. If the distance between the lenses is 16.4 cm, find the magnification of the microscope.
14. Write the parameters of Gullstrand's schematic eye for all the structure
15. Define Accommodation and near point of accommodation
16. Types of Ametropia
17. Classification of Astigmatism on the basis of Ray diagram.

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

18. Color seen in soap films is due to the phenomenon of _____

19. Refractive index of aqueous given by Gullstrand is _____
20. Keplerian telescopes is often referred to as _____
21. Speed of light in vacuum _____
22. Spherical equivalent of -6.00 X 90 = _____

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