B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
II Year III Semester
Optics

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. What do you understand by coherent sources?
2. What are constructive and destructive interferences?
3. What is zone plate?
4. State Rayleigh's criterion for resolution.
5. Define optical activity.
6. State Brewster's law.
7. Define refraction.
8. What types of lenses are used in camera?
9. What is optical fiber?
10. Define Acceptance angle.
11. Give the uses of Nicol prism.
12. What is the limit of resolution of an eye?

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Explain how to determine the thickness of a thin wire using air wedge method.
14. Discuss the overlapping of spectral lines in grating diffraction pattern.
15. Give the Huygens explanation of double refraction in uniaxial crystal.
16. Discuss refracting astronomical telescope.
17. Deduce critical angle of propagation.
18. Explain the Principle and construction of Nicol Prism.
19. Explain the working of prism binocular.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Discuss the Michelson's interferometer experiment to determine the wavelength of light.
21. Explain the wavelength determination of light using transmission grating by normal incidence method.
22. Explain the construction and working of Laurent's half shade polarimeter.
23. Discuss the working of Ramsden's eyepiece. Give its merits and demerits.
24. Discuss in detail the principle and structure of optical fiber cable.

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