Code No.2504/CBCS/BL

FACULTY OF ENGINEERING

B. E. I – Semester (CBCS) (Backlog) Examination, October 2020

Subject: Engineering Physics

Time: 2 hours

Max. Marks: 70

Note: *Answer any five questions from Part-A. Answer any four questions from Part-B.*

PART – A (5X2 = 10 Marks)

1. What are coherent and non-coherent sources of light?
2. What is the difference between Interference and diffraction?
3. Explain about optical activity.
4. Define Holography and what are its applications?
5. What are different types of optical fibers?
6. Explain the piezoelectric effect.
7. Explain Boltzmannn's theorem on entropy and probability.
8. Discuss about Ensembles in thermo dynamics.
9. Explain de-Broglie's concept of matter waves.
10. State the Poynting theorem.

PART – B (4X15 = 60 Marks)

11. Explain the phenomenon of double slit diffraction and Explain about Nicol's Prism.
12. (a) Explain the Quarter and half wave plate.
    (b) Discuss the production Mechanism of He-Ne Laser.
13. (a) Explain about Numerical aperture. (NA)
    (b) How can you find wave length of Ultrasonics by Debye-Sears Method?
14. (a) Explain about Maxwell's Boltzmann's Statistics.
    (b) Derive Rayleigh Jeans and Wein's Law from Planck's Law.
15. Find wave length of O_2 molecule in your exam hall if Room temperature is 27°C. [1 amu = 1.6×10^{-27} kg. K = 1.38×10^{-23} J/K] [h=6.625×10^{-34} J.S.].
16. (a) Find the energy 1 A° Photon.
    (b) Explain about B.E. Statistics.
17. (a) Write the Maxwell's equation in differential form.
    (b) Solve particle in a box problem with Schrodinger equation.

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