

Reg.No.:



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.



Question Paper Code: 3003

B.E. / B.Tech. DEGREE SUPPLEMENTARY EXAMINATIONS – FEB. / MAR. 2020

First Semester

Biotechnology

U19PH102 – PHYSICS FOR BIOTECHNOLOGY

(Regulation 2019)

Time : Three Hours

Maximum : 100 Marks

Answer ALL the questions

PART – A

(10 x 2 = 20 Marks)

1. Give few example of coherent and non-coherent sources.
2. State the working principle of optical fiber.
3. Define Resolving power of a grating.
4. Define Polarization of light.
5. Distinguish between the Crystalline and Amorphous solids.
6. Define Burger vector.
7. List out the properties of nano materials.
8. Give the advantages of physical vapour deposition method.
9. Mention the advantages of Raman spectroscopy over FTIR.
10. Distinguish between SEM and TEM.

PART – B

(5 x 16 = 80 Marks)

11. a) i. Explain how to minimize the loss in light due to reflection. (6)
ii. Describe construction of Michelson Interferometer and explain formation of fringes in it. (10)
(OR)
- b) i. Define Numerical Aperture. (2)
ii. Derive an Expression for Numerical Aperture and Angle of Acceptance of Fiber. (14)
12. a) Describe and explain the Fraunhofer Diffraction pattern with a double slit.
(OR)
- b) Theoretically explain the plane, circular and elliptical Polarized light.
13. a) Show that FCC and HCP possess same atomic packing factor value.
(OR)
- b) Explain in Details various types of Crystal defects with proper diagrams.
14. a) Explain in detail the properties of nano materials.
(OR)
- b) Describe the construction and working of laser ablation method to synthesise nano materials. Mention any four applications of nano materials.
15. a) Describe the principle, construction and working of Scanning Electron Microscope with necessary diagram.
(OR)
- b) Explain in detail the method of thermo gravimetric analysis to measure decomposition of a sample.