

Department of Physics
J. C Bose University of Science and Technology, YMCA Faridabad
Sessional -II
B.Tech. (EEIOT/ENC) Semester-I
Waves and Optics (BSC101C)

Time: 1hr 30 min

Note: All questions are compulsory.

M. Marks: 15

- Q1. What is Impedance Matching? Derive the expression for impedance matching. 5
- Q2. What is phase and group velocity? 2
- Q3. Derive the expression for law of refraction using Fermat's Principle. 3
- Q4. A concave mirror of focal length 10 cm is placed at a distance of 35 cm from a wall. How far from the wall should an object be placed to get its image on the wall? Also discuss the nature and magnification of the image. 3
- Q5. What is Brewster's angle? An unpolarized light beam travelling in air is incident on a medium of refractive index 1.73. Determine the Brewster's angle for polarization of the incident light. 2