

U.G. 6th Semester Examination - 2021

PHYSICS

[HONOURS]

Course Code : PHY-H-CC-P-13

(Electro-magnetic Theory)

[PRACTICAL]

Full Marks : 20

Time : 2 Hours

The figures in the right-hand margin indicate marks.

Answer any **four** questions: 5×4=20

1. State Stefan's law of radiation. Derive this law from Planck's law of radiation. 1+4
2. What is polarimeter? Explain briefly how you will determine specific rotation of sugar solution using this. 1+4
3. What is Boltzmann constant? How will you determine this constant using IV characteristics of a p-n diode? Explain theoretically. 1+4
4. What do you mean by elliptically polarized light? Explain how this type of polarized light is analyzed by Babinet's compensator. 1+4

5. What is Brewster's law of polarization? Write down Fresnel's formulae of e.m. waves. Justify Brewster's law from Fresnel's formulae. 1+2+2
6. What is ultrasonic waves? Write down the method of production of this wave. What is ultrasonic grating? How this grating is generated? 1+1+1+2

[Turn over]