Code No. 15166/AICTE

FACULTY OF ENGINEERING

B.E. I-Semester (AICTE) (New) (Main) Examination, July 2021

Subject: Engineering Physics

ne: 2 hours

Max. Marks: 70

te: (i) First question is compulsory and answer any three questions from the remaining six questions.
(ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.
(iii) Missing data, if any, may suitably assumed.

1 **Answer any four questions from the following:** (4x4=16 Marks)

(a) Define the term of 'Space lattice' and Unit cell.
(b) What are the applications of Hall effect?
(c) Define ionic polarization of a dielectric material.
(d) State the relationship between D, E, P
(e) Give few applications of Super conductors.
(f) What are the applications of Lasers?
(g) Define Numerical Aperture.

(3x18=54 Marks)

2 (a) Classify Crystal Imperfections.
(b) Obtain an expression for concentration of Schottky defects in the case of ionic crystals.

3 (a) What are salient features of Kronig – Penney model?
(b) Explain the formation of allowed and forbidden energy bands based on Kronig-Penney model.

4 (a) Deduce an expression for Electronic Polarizability.
(b) Describe the experimental determination of dielectric constant of dielectric material by Schering Bridge method.

5 (a) Give the basic laws of Electricity and Magnetism.
(b) Deduce Maxwell's Equations in differential form.

6 (a) Give an account of Weiss Molecular field theory of Ferro Magnetism.
(b) Explain Type-I and Type-II super conductors.

7 (a) Explain construction and working of Ruby Laser.
(b) Discuss the Fibre drawing process (double crucible method).

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