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Question Paper Code: 51003

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2024

First Semester

Civil Engineering

15UPH103- ENGINEERING PHYSICS

(Common to ALL branches)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

1. The atoms or molecules are arranged in a irregular fashion is called as CO1-R
(a) Single crystal (b) Solid (c) Amorphous (d) Poly crystal
2. _____ crystal system has maximum number of Bravai's lattices. CO1-R
(a) Cubic (b) monoclinic (c) triclinic (d) Orthorhombic
3. What is the unit of loudness? CO2-R
(a) decibel (b) Wm^{-2} (c) sone (d) phon
4. Choose the appropriate material for magnetostriction oscillator. CO2-R
(a) Iron (b) Glass (c) copper (d) Quartz crystal
5. _____ confirms the transverse nature of light. CO3-R
(a) Interference (b) Polarization (c) Compton effect (d) Diffraction
6. Which of the following properties is not true in the characteristics of a CO3-R
laser
(a) Monochromatic (b) high intensity (c) Incoherent (d) high directionality
7. Compton effect can be explained by _____ CO4-R
(a) Quantum theory (b) Classical theory (c) Classical mechanics (d) Diffraction
8. The successful interpretation of blackbody radiation was given by CO4-R
(a) Max Planck (b) Einstein (c) Louis De Broglie (d) Scrodinger

19. (a) Derive the Schrodinger's time-dependent wave equation. CO4-U (16)
- Or
- (b) What is Compton effect? Explain the Compton effect based on quantum theory and also derive the expression for Compton effect. CO4-U (16)
20. (a) What is meant by Cantilever? Derive an expression for the depression produced due to load hanging at the end of the Cantilever beam. CO5-U (16)
- Or
- (b) State Newton's law of cooling. Explain the Lee's disc method of determining thermal conductivity of a bad conductor. CO5-U (16)

