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Register Number:

Name of the Candidate:

5524

B.Sc. DEGREE EXAMINATION, 2013

(CONSTRUCTION MANAGEMENT)

(FIRST SEMESTER)

130 : PHYSICS

December]

[Time : 3 Hours

Maximum : 75 Marks

Answer ONE question from each unit

(5 × 15 = 75)

UNIT- I

1. a) What is Magnetostriction effect? (2)
- b) Describe the construction and working of Magnetostriction oscillator? (10)
- c) Mention the merits and demerits of Magnetostriction effect. (3)

(OR)

2. a) Describe in detail the factors affecting the architectural acoustics and remedy. (12)
- b) What do you mean by absorption coefficient? (3)

UNIT- II

3. a) Give with necessary theory Newton's rings method for the determination of the wavelength of monochromatic light. (12)
- b) Define double refraction. (3)

(OR)

4. a) Derive Einstein's relation for Stimulated emission. (8)
- b) Explain the principle of laser. (4)
- c) What is Holography? (3)

UNIT- III

5. a) Define specific heat capacity. (2)
- b) State the Dulong-Petit's law. (2)
- c) Discuss the Debye's theory of heat capacity of solids. (11)

(OR)

6. a) Deduce an expression for electrical conductivity. (8)
- b) State and prove Widemann-Franz's law. (7)

UNIT- IV

7. a) Explain Hysteresis curve. (6)
b) Explain the different soft and hard magnetic material with examples. (6)
c) What is Meissner effect? (3)

(OR)

8. a) Define dielectric constant. (2)
b) Derive an expression for Clausius - Mossotti equation. (10)
c) What is Piezo electricity? (3)

UNIT- V

9. a) What is Carbon nano tubes? (3)
b) Explain how carbon nano tubes are fabricated. (12)

(OR)

10. a) Explain with neat sketch of Laue method. (8)
b) What is miller-indices? (2)
c) Derive an expression for packing factor FCC crystal. (5)

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