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Register Number:

Name of the Candidate:

B.Sc. DEGREE EXAMINATION December 2014

(CONSTRUCTION MANAGEMENT)

(FIRST SEMESTER)

130: PHYSICS

Time: Three hours

Maximum: 75 marks

Answer ONE FULL question from each UNIT

(5 × 15 = 75)

UNIT-I

1. a) What is magnetostriction effect? (3)
b) Explain with neat sketch the construction and working of ultrasonic waves using magnetostriction oscillator? (12)

(OR)

2. a) Define the term "Reverberation time". (3)
b) Write an essay about the acoustic of buildings. (12)

UNIT-II

3. a) Explain the principle, construction and working of He-Ne Laser with a suitable energy level diagram. (15)

(OR)

4. a) Write short notes on the following:
(i) Acceptance angle (5)
(ii) Numerical aperture (5)
(iii) Step-Index Fibers (5)

UNIT-III

5. a) Deduce an expression for thermal and electrical conductivity? (15)

(OR)

6. a) Derive an expression for Einstein specific heat of solids? (15)

UNIT-IV

7. a) Distinguish between dia, para, Ferro magnetic materials. (15)

(OR)

8. a) Give a qualitative study of three types of polarisation of a dielectric (15) subjected to electric field.

UNIT-V

9. a) Define Nanoscience, nano technology and nano materials. (9)
b) Explain the applications of nano technology. (6)

(OR)

10. a) Determine the atomic radius, co-ordination number and packing factor (15) for BCC and FCC structures.
