

No. of Printed Pages : 8
Roll No. 151891700569

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2nd Sem. / Common
Subject : Applied Physics II

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any
15 parts. (15x2=30)

- Q.1
- a) Define simple harmonic motion
 - b) Define time period
 - c) Define reverberation
 - d) Define power of lense. What are its units
 - e) Define microscope
 - f) Define Di Electric
 - g) Define electric power and its units.
 - h) Define resistance and give its units
 - i) Define rectifier
 - j) What is the full form of SONAR

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- k) Define noise
- l) Define electric field intensity
- m) Define capacitance and give its units
- n) Define optical fibre
- o) Define super conductivity
- p) Give the lense formula
- q) Define acoustics of building
- r) Define Dielectric constant

SECTION-B

Note: Short answer type questions. Attempt any ten
10x4=40

- Q.2 i) What are the methods to control reverberation time.
- ii) What are longitudinal and transverse waves. Give examples
- iii) What is refraction? What are the laws of refraction.

- iv) Define total internal reflection. What are the conditions for total internal reflections?
- v) Derive relationship between velocity of wave, frequency and wave length.
- vi) What are the coulomb's laws of electrostatic?
- vii) Define Gauss law. Derive an expression for it.
- viii) Define and explain Ohm's law.
- ix) What are the two Kirchoff's laws of electricity? Give example
- x) What is heating effect of current?
- xi) What are p-type and n-type semiconductors?
- xii) Define spontaneous emission, stimulated emission and population inversion.
- xiii) What are the application of optical fiber?
- xiv) Explain the two types of super conductors?
- xv) What are the applications of lasers?

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SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 What are free, forced and resonant vibrations? Explain with examples.
- Q.4 Explain magnetostriction method for the production of ultrasonics.
- Q.5 Explain insulators, semiconductors and conductors on the basis of energy levels.
- Q.6 Derive an expression for total equivalent resistance in series combination and parallel combination of resistances.
- Q.7 Explain diode as a full wave rectifier.