



Shree H.N. Shukla group of colleges

PHYSICS

S.Y.B.Sc. (Sem. III) (CBCS)

Unit Test examination

PAPER- 301

UNIT - 2, 3 : ELECTROSTATICS & MAGNETOSTATICS

DATE :

TOTAL MARKS : 30

Instructions: All questions are compulsory.

The right side figure indicates total marks of the question.

Draw the figure wherever necessary.

Write answers of all the questions in main answer sheets.

SECTION-A

Q.1: One marks questions:

[5 MARKS]

- 1 The dielectric serves as a _____.
- 2 Dipole induced dipole forces occur in molecules, it is having a mixture of _____.
- 3 _____ molecules experiences a torque when they are subjected to an electric field.
- 4 Electric susceptibility serves as _____.
- 5 Permittivity of free space serves as _____.

SECTION – B

Q.2 (A): Short Questions: Write all three : [2 Marks each]

[6 MARKS]

- 1 Explain electric field.
- 2 Explain : gauss theorem in integral form.
- 3 What is the basic equation for steady currents ?

Q.2 (B) : Short questions: Write all three: [3 Marks each]

[9 MARKS]

- 1 Discuss the properties of field lines.
- 2 Derive the poisson's equation and laplace equation.
- 3 Derive vector potential.

Q.2 (C): Write Detail Note on [Any two]: [5 Marks each]

[10 MARKS]

- 1 Derive the Gauss theorem in integral form.
- 2 Derive the equation of potential due to localized charge.
- 3 Explain magnetic field of a steady current.
- 4 Explain : current with reference to charge flows over a surface.