

## B.Sc. Sem-II

### Generic Elective-2

#### Short type Questions

1. Define electric dipole. Find field at a point due to dipole.
2. What is displacement current? Give its physical meaning.
3. Derive energy per unit volume in electrostatic field.
4. Find magnetic induction (B) at a point due to straight long electric conductor carrying current.
5. What is Ampere's circuital law? Prove Coloumb's Law using Ampere's circuital law.

#### Long type Questions

1. What is solenoid? Find magnetic induction at a point due to solenoid at a point inside it.
2. Derive Maxwell's equation of electromagnetic field.
3. State and prove Gauss-Divergence Theorem.
4. What are the magnetic properties of materials, hence give relation between Magnetic Induction (B), Magnetic Intensity (I), and Magnetic field(H).
5. What is Lenz's law? How it is inconsistent with law of conservation of energy?