

Conductors, Dielectric and Capacitance - Practice Questions

Multiple Choice Questions:

1. A conductor allows flow of: (a) neutrons (b) electrons (c) protons (d) ions only - Answer: (b)
2. Electric field inside a conductor in electrostatic equilibrium is: (a) large (b) zero (c) infinite (d) small - Answer: (b)
3. A dielectric material is: (a) conductor (b) insulator (c) semiconductor (d) superconductor - Answer: (b)
4. Dielectric constant is also called: (a) permittivity ratio (b) resistance (c) conductivity (d) capacitance - Answer: (a)
5. Unit of capacitance is: (a) Ohm (b) Volt (c) Farad (d) Coulomb - Answer: (c)
6. Capacitance increases with: (a) distance (b) smaller area (c) larger area (d) lower permittivity - Answer: (c)
7. Introducing dielectric between plates: (a) decreases capacitance (b) increases capacitance (c) no change (d) makes zero - Answer: (b)
8. Energy stored in capacitor is: (a) CV (b) $\frac{1}{2} CV^2$ (c) V/C (d) C/V - Answer: (b)
9. In a charged conductor charge resides on: (a) surface (b) center (c) inside uniformly (d) edges only - Answer: (a)
10. Capacitance of parallel plate capacitor depends on: (a) area & separation (b) only charge (c) only voltage (d) only resistance - Answer: (a)

Fill in the Blanks:

1. A material that allows free flow of charge is called a _____. Answer: conductor
2. A material that does not conduct electricity is called a _____. Answer: dielectric
3. Electric field inside a conductor is _____. Answer: zero
4. Capacitance is defined as charge per unit _____. Answer: potential
5. SI unit of capacitance is _____. Answer: Farad
6. Capacitance increases when plate area _____. Answer: increases
7. Capacitance decreases when distance between plates _____. Answer: increases
8. Dielectric constant is greater than _____. Answer: 1
9. Energy stored in capacitor depends on _____ and voltage. Answer: capacitance
10. Charge accumulates on the _____ of a conductor. Answer: surface