26 Lecture - PHY101

Important Mcqs

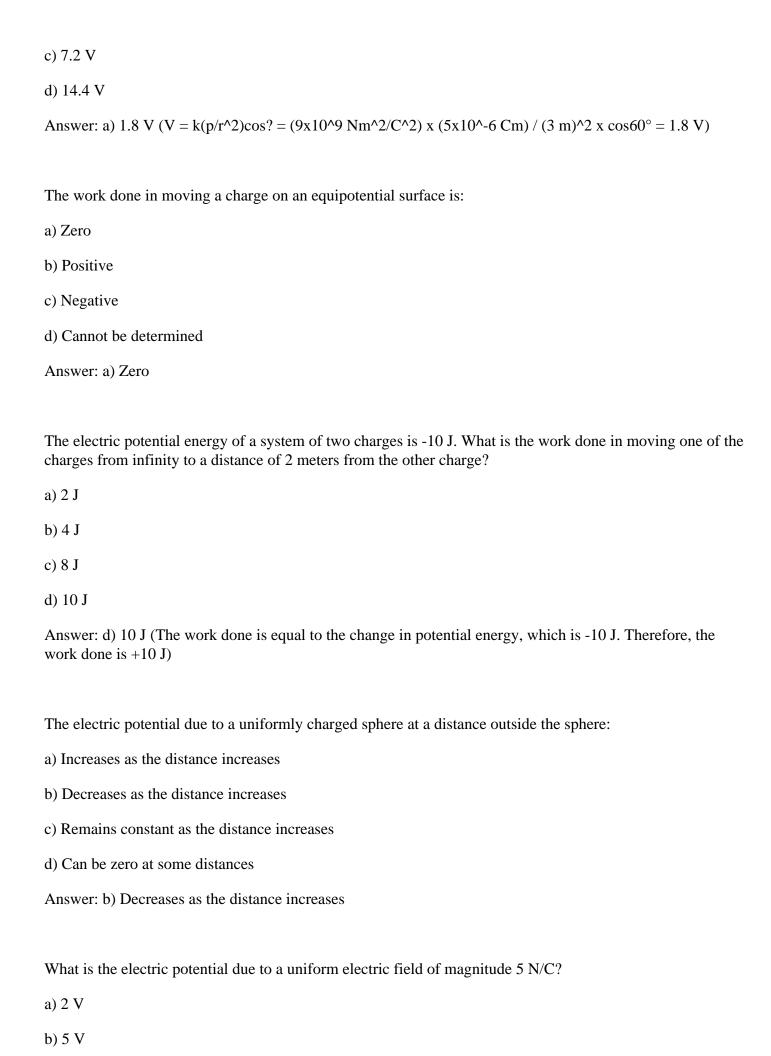
What is the unit of electric potential?
a) Coulomb (C)
b) Ampere (A)
c) Volt (V)
d) Tesla (T)
Answer: c) Volt (V)
Which of the following is true for an equipotential surface?
a) The electric field is zero at all points on the surface
b) The electric field is perpendicular to the surface at all points
c) The electric field is parallel to the surface at all points
d) The electric field is maximum at all points on the surface
Answer: a) The electric field is zero at all points on the surface
What is the electric potential due to a point charge at a distance of 2 meters, if the charge is 4 Coulombs?
a) 2 V
b) 4 V
c) 8 V
d) 16 V
Answer: c) 8 V (V = $kq/r = (9x10^9 Nm^2/C^2) x (4 C) / (2 m) = 8 V$)

What is the electric potential due to a dipole at a distance of 3 meters, if the dipole moment is 5 Cm and the

angle between the dipole moment and the line joining the dipole to the point is 60 degrees?

a) 1.8 V

b) 3.6 V



c) 10 V

d) 25 V

Answer: b)
$$5 \text{ V} (V = \text{Ed} = 5 \text{ N/C x } 1 \text{ m} = 5 \text{ V})$$

Which of the following statements is true for a charged conductor in electrostatic equilibrium?

- a) The electric potential is zero inside the conductor
- b) The electric field is zero inside the conductor
- c) The electric potential is maximum at the surface of the conductor
- d) The electric field is maximum at the surface of the conductor

Answer: b) The electric field is zero inside the conductor

The electric potential due to a system of charges is the:

- a) Vector sum of the electric potentials due to each charge
- b) Scalar sum of the electric potentials