



SMART TEST SERIES

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Name:		Subject:	Physics-12
Roll # :		Unit(s):	12,
Class:	Inter Part-II	Test:	Type 3 - MCQs + SQs Test - Marks=30
Date:		Time:	

Q.1 Four possible answers A, B, C & D to each question are given. Circle the correct one. (10x1=10)

- The electrostatic force between two charges is 42 N. If we place a dielectric of $\epsilon_r = 2.1$ between the charges then the force become equal to:
(A) 42 N (B) 88.2 N (C) 20 N (D) 2 N
- If the distance between the two charged bodies is halved, the force between them becomes:
(A) Double (B) Half (C) four times (D) one fourth
- A rubber ball of radius 2 cm has a charge of 5 μC on its surface, which is uniformly distributed, the value of $\rightarrow E$ at its centre is:
(A) 10 NC^{-1} (B) Zero (C) 2.5 NC^{-1} (D) $5 \times 10^{-6} \text{NC}^{-1}$
- An ECG records the between points on human skin generated by electric process in the heart:
(A) Heart beat (B) Pulse rate (C) Pressure (D) Voltage
- Electroretinography is used for the diagnosis of abnormality in the:
(A) Eyes (B) Ears (C) Throat (D) Heart
- If electric and magnetic forces on an electron balance each other, the electric intensity be:
(A) $E = \frac{mg}{q}$ (B) $E = \frac{q}{mg}$ (C) $E = \frac{F_e}{q}$ (D) $E = \frac{1}{4\pi\epsilon_0} \frac{q}{r^2}$
- It is required to suspend a proton of a charge 'q' and mass 'm' in an electric field the strength of the field must be:
(A) $E = \frac{mg}{qv}$ (B) $E = \frac{mg}{q}$ (C) $E = \frac{q}{mg}$ (D) $E = \frac{qv}{B}$
- If the separation between the plates of a capacitor is doubled then its capacitance become:
(A) Double (B) Half (C) One fourth (D) Three times
- When some dielectric is inserted between the plates of a capacitor, then capacitance:
(A) Decreases (B) Increases (C) Becomes zero (D) Becomes infinity
- Sec/Ohm is equal to:
(A) Farad (B) Coulomb (C) Joule (D) Ampere

Q.2 Write short answers of the following questions.

(10x2=20)

- Define Electric force and Electrostatics.
- What will be the effect on coulombs force, if the distance between two point charges is increased two times?
- What is Coulomb's law and effect of dielectric on Coulomb's force?
- What is the electric intensity at a distance 100 cm due to charge 10 μC ?
- Mention two situations of vector area in electric flux.
- State and write formula of Gauss's Law.
- What is difference between electric potential energy and electric potential difference?
- Define potential gradient. Give its unit.
- A particle carrying a charge of 5e falls through a potential difference of 10.0 V. What will be the energy acquired by it.
- Define dielectric constant give its mathematical form.