

NEET ELECTRIC CHARGES AND FIELDS — APPLICATIONS OF GAUSS'S LAW (LINE, SHEET, SHELL) — PYQS

Max. Marks: 16
Questions: 4

Section A (MCQ) — 4 questions

- Q.1** A spherical conductor of radius 10 cm has a charge of 3.2×10^{-7} C distributed uniformly. What is the magnitude of electric field at a point 15 cm from the centre of the sphere?

$$\left(\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ Nm}^2/\text{C}^2 \right) \quad [\text{NEET (UG) 2020}]$$

- (1) 1.28×10^5 N/C (2) 1.28×10^6 N/C
 (3) 1.28×10^7 N/C (4) 1.28×10^4 N/C

Scan or tap for the full solution



- Q.2** A hollow metal sphere of radius R is uniformly charged. The electric field due to the sphere at a distance r from the centre :

[NEET (UG) 2019]

- (1) zero as r increases for $r < R$, decreases as r increases for $r > R$
 (2) zero as r increases for $r < R$, increases as r increases for $r > R$.
 (3) decreases as r increases for $r < R$ and for $r > R$.
 (4) increases as r increases for $r < R$ and for $r > R$.

Scan or tap for the full solution



- Q.3** Two parallel infinite line charges with linear charge densities $+\lambda$ C/m and $-\lambda$ C/m are placed at a distance of 2R in free space. What is the electric field mid-way between the two line charges?

[NEET (UG) 2019]

- (1) $\frac{2\lambda}{\pi\epsilon_0 R}$ N/C (2) zero
 (3) $\frac{\lambda}{\pi\epsilon_0 R}$ N/C (4) $\frac{\lambda}{2\pi\epsilon_0 R}$ N/C

Scan or tap for the full solution



- Q.4** The electric field at a distance $\frac{3R}{2}$ from the centre of a charged conducting spherical shell of radius R is E. The electric field at a distance $\frac{R}{2}$ from the centre of the sphere is

[AIPMT 2010 (Mains)]

- (1) zero (2) E (3) $\frac{E}{2}$ (4) $\frac{E}{3}$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4										
Ans.	1	1	3	1										