PYQSide PYQSide.com — free PYQs with solutions Powered by TestBlink

# 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 $3.2 \times 10^{-7}$ C distributed uniformly. What is the magnitude of electric field at a point 15 cm from the centre of the sphere?

$\left(\frac{1}{4\pi\varepsilon_0} = 9 \times 10^9 \text{ N m}^2/\text{C}^2\right)$ [NEET (UG) 2020]

(1) $1.28 \times 10^5$ N/C (2) $1.28 \times 10^6$ N/C

(3) $1.28 \times 10^7$ N/C (4) $1.28 \times 10^4$ 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 +λ C/m and −λ 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) $\frac{2\lambda}{\pi\varepsilon_0 R}$ N/C (2) zero

(3) $\frac{\lambda}{\pi\varepsilon_0 R}$ N/C (4) $\frac{\lambda}{2\pi\varepsilon_0 R}$ 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 | | | | | | | |