

NEET ELECTROSTATIC POTENTIAL AND CAPACITANCE — ELECTROSTATICS OF CONDUCTORS — PYQS

Max. Marks: 32
Questions: 8

Section A (MCQ) — 8 questions

- Q.1** Which of the following statements are correct ?
- Inside a conductor, the electrostatic field is zero.
 - Electric field at the surface of a charged conductor does not depend on its surface charge density.
 - The interior of a charged conductor can have no excess charge in the static situation.
 - At the surface of a charged conductor, the electrostatic field must be normal to the surface at every point.
 - The electrostatic potential is zero everywhere inside a charged conductor.

Choose the correct answer from the options given below :

[NEET (UG) 2026]

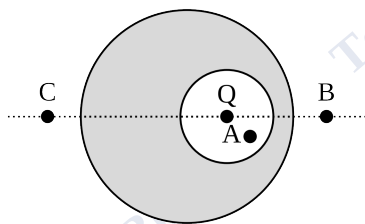
- (1) A, C and D only (2) A, C and E only
(3) C, D and E only (4) A, B and D only

Scan or tap for the full solution



- Q.2** A point charge Q is placed inside a cavity within a solid isolated conducting sphere. Consider points A, B and C as shown in the figure, where the magnitudes of the electric fields are E_A , E_B , E_C , respectively. The points B and C are at the same distance from the center of the solid sphere. The correct option is :

[RE-NEET (UG) 2026]



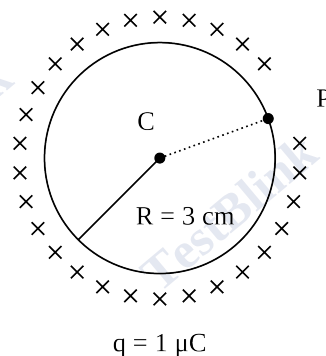
- (1) $E_A \neq 0$, $E_B < E_C$ (2) $E_A = 0$, $E_B = E_C$
(3) $E_A \neq 0$, $E_B = E_C$ (4) $E_A = 0$, $E_B > E_C$

Scan or tap for the full solution



- Q.3** A thin spherical shell is charged by some source. The potential difference between the two points C and P (in V) shown in the figure is:

(Take $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9$ SI units) [NEET (UG) 2024]



- (1) 3×10^5 (2) 1×10^5
(3) 0.5×10^5 (4) Zero

Scan or tap for the full solution



- Q.4** Two hollow conducting spheres of radii R_1 and R_2 ($R_1 > R_2$) have equal charges. The potential would be [NEET (UG) 2022]
- More on bigger sphere
 - More on smaller sphere
 - Equal on both the spheres
 - Dependent on the material property of the sphere

Scan or tap for the full solution



- Q.5** Two charged spherical conductors of radius R_1 and R_2 are connected by a wire. Then the ratio of surface charge densities of the spheres (σ_1/σ_2) is :

[NEET (UG) 2021]

- (1) $\frac{R_1^2}{R_2^2}$ (2) $\frac{R_1}{R_2}$
(3) $\frac{R_2}{R_1}$ (4) $\sqrt{\left(\frac{R_1}{R_2}\right)}$

Scan or tap for the full solution



- Q.6** A conducting sphere of radius R is given a charge Q . The electric potential and the electric field at the centre of the sphere respectively are [AIPMT 2014]

- (1) zero and $\frac{Q}{4\pi\epsilon_0 R^2}$ (2) $\frac{Q}{4\pi\epsilon_0 R}$ and zero
 (3) $\frac{Q}{4\pi\epsilon_0 R}$ and $\frac{Q}{4\pi\epsilon_0 R^2}$ (4) both are zero

Scan or tap for the
full solution



Q.7 Two metallic spheres of radii 1 cm and 3 cm are given charges of -1×10^{-2} C and 5×10^{-2} C, respectively. If these are connected by a conducting wire, the final charge on the bigger sphere is

[AIPMT 2012 (Mains)]

- (1) 2×10^{-2} C (2) 3×10^{-2} C
 (3) 4×10^{-2} C (4) 1×10^{-2} C

Scan or tap for the
full solution



Q.8 Some charge is being given to a conductor. Then its potential is

[AIPMT 2002]

- (1) maximum at surface
 (2) maximum at centre
 (3) remains same throughout the conductor
 (4) maximum somewhere between surface and centre.

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	1	3	4	2	3	2	2	3			