Lakshya JEE (2025)

PHYSICS

DPP: 1

Electric Charges and Fields

Q1 A soap bubble is given a negative charge, then its radius
(A) Decreases
(B) Increases
(C) Remains unchanged
(D) Nothing can be predicted as information is insufficient

Q2 A body can be negatively charged by
(A) Giving excess of electrons to it
(B) Removing some electrons from it
(C) Giving some protons to it
(D) Removing some neutrons from it

Q3 The minimum possible charge on an object is
(A) 1 coulomb
(B) 1 stat coulomb
(C) 1.6×10^{-19} coulomb
(D) 3.2×10^{-19} coulomb

Q4 An attractive force between two neutrons is due to
(A) Electrostatic and gravitational
(B) Electrostatic and nuclear
(C) Gravitational and nuclear
(D) Some other forces like Vander Waals

Q5 Two particle of equal mass m and charge q are placed at a distance of $16\,\text{cm}$. They do not experience any force. The value of $\frac{q}{m}$ is
(A) l
(B) $\sqrt{\frac{\pi\varepsilon_0}{G}}$
(C) $\sqrt{\frac{G}{4\pi\varepsilon_0}}$
(D) $\sqrt{4\pi\varepsilon_0 G}$

Q6 When the distance between the charged particles is halved, the force between them becomes
(A) One-fourth
(B) Half
(C) Double
(D) Four times

Q7 Number of electrons in one coulomb of charge will be
(A) 5.46×10^{29}
(B) 6.25×10^{18}
(C) $1.6 \times 10^{+19}$
(D) 9×10^{11}

Q8 The electric charge in uniform motion produce
(A) An electric field only
(B) A magnetic field only
(C) Both electric and magnetic field
(D) Neither electric nor magnetic field

Q9 Identify the wrong statement.
(A) Charge is a vector quantity
(B) Current is a scalar quantity
(C) Charge can be quantised
(D) Charge is additive in nature.

Q10 If a charge on the body is $-1\,\text{nC}$, then how many number of excess electrons are present on the body?
(A) 1.6×10^{19}
(B) 6.25×10^{9}
(C) 6.25×10^{27}
(D) 6.25×10^{28}

Q11 A cylindrical conductor is placed near another positively charged conductor. The net charge acquired by the cylindrical conductor will be
(A) Positive only
(B) Negative only
(C) Zero
(D) Either positive or negative

Answer Key

Q1	(B)		Q7	(B)	
Q2	(A)		Q8	(C)	
Q3	(C)		Q9	(A)	
Q4	(C)		Q10	(B)	
Q5	(D)		Q11	(C)	
Q6	(D)				

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