

APOLLO

Electrostatics

FBISE Physics Class 11 (HSSC-I)

Domain E: Electricity and Magnetism

16 questions | questions

Original FBISE question crops. National Curriculum 2022-23 topic.

29.	Unit for the constant of proportionality k in Coulomb's law is:	Nm^2C^2	$Nm^{-2}C^{-2}$	Nm^2C^{-2}	$Nm^{-2}C^2$	☐ ☐ ☐ ☐
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30.	The magnitude of electric field intensity 50 cm away from a 3μC charge is:	1.08×10^7 N/C	1.08×10^{-7} N/C	1.08×10^{-5} N/C	1.08×10^5 N/C	☐ ☐ ☐ ☐
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31.	Which one of the following properties must be kept in mind while drawing electric field lines?	Field lines must always be drawn in circles.	Field lines can cross each other if the charges are large.	Field lines must never cross each other.	Field lines always point toward a positive charge.	☐ ☐ ☐ ☐
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32.	A positive charge enters horizontally in a uniform electric field, directed vertically downward, due to oppositely charged parallel plates. In which direction will the charge be deflected?	Upward, towards the positive plate.	Downward, towards the negative plate.	In a straight line with no deflection.	In a circular path	☐ ☐ ☐ ☐
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35.	If the distance between two charged parallel plates is doubled while keeping the potential difference constant, the electric field strength will become:	Double of its original value	Half of its original value	Four times of its original value	unchanged	☐ ☐ ☐ ☐
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6	A metal mesh enclosure blocks external electric charges from affecting a person inside. What physical principle explains this effect and how?	1+3
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(x)	What is Faraday's cage? Briefly explain its working.	03
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(xii)	How will the radius of a flexible ring change if it is given negative charge?	03
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OR	What is meant by electric field strength? Show that: $E = \frac{-\Delta V}{\Delta r}$	07
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OR	Calculate the electric field intensity at a distance of 0.5 m from a point charge of 2×10^{-6} C in a vacuum.	03
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OR	The electric field at a point due to a point charge is 26 N/C and the electric potential at that point is 13 J/C. Calculate the distance of the point from the charge.	03
OR	Differentiate between conservative and non-	

	projectile.			conservative forces.	
(xii)	An object having a net charge of $24\mu\text{C}$ is placed in a uniform electric field of 610 N/C directed vertically. What is the mass of this object if it floats in the field?	03	OR	A proton is moving in a circular orbit of radius 12 mm in a uniform 0.30 T magnetic field perpendicular to the velocity of the proton. Find the speed of the proton.	03
	Find the momentum of a positron moving with				

03	OR	The electric field at a point due to a point charge is 20 N/C and the electric potential at that point is 13 J/C. Calculate the distance of the point from the charge.	03
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xv.	The region around a charge in which a test charge can feel an electric force is called	Electric intensity	Electric Potential	Electric Field	Electric Energy	☐	☐	☐	☐
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OR	Show that electric field intensity is equal to negative of potential gradient. Prove that Volt/meter = Newton / Coulomb	04+02
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increased?			
An electric field has a strength of 5 N/C. What force is exerted on a charge of 2 C placed in this field?	03	OR	
What is meant by the electric potential energy of a			