PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

Electric Field

Exercise

1. Two point charges of - $16\mu C$ and + $9\mu C$ are placed 8 cm apart in air. Determine the point

at which resultant electric field is zero.

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2. Two point charges of $+20\mu C$ and $-80\mu C$ are placed 18 cm apart. Find the position of the point where electric field is zero

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3. Two point charges of - $16\mu C$ and + $9\mu C$ are placed 8 cm apart in air. Determine the point

at which resultant electric field is zero.

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4. Find the time taken by a particle of mass 10^{-18}kg and carrying a charge $3.2 \times 10^{-19} C$ to fall through a distance of 8.0 m a uniform electric field of intensity $8 \times 10^{2} NC^{-1}$.

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5. Find the time takenby a particle of mass 2×10^{-18} andcarrying a charge $1.6 \times 10^{-19} C$ to fall through adistance of 4.0m in a uniform electric field of intensity $1.6 x 10^{3} N C^{-1}$.

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6. Find the time taken by a particle of mass 4×10^{-18}kg and carrying a charge $6.4 \times 10^{-19} C$ to fall through a distance of 2m

in a uniform electric field of intensity $4 \times 10^2 NC^{-1}$.

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7. Two point charges q_1 and q_2 of magnitude $+10^{-8}C$ and $-10^{-8}C$, respectively, are placed 0.1 m apart.Calculate the electric field at points A and B as shown in the figure.

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8. Name the physical quantity, whose SI unit is Newton per meter coulomb.

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9. When is the torque acting on an electric dipole maximum when placed in uniform electric field ?

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10. Define dipole moment.

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11. Is there any electric field inside a charged Conductor ?

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12. Why two electric lines of force/field cannot intersect each other ?

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13. Define dipole moment.

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14. What is an electric dipole? What is its direction ?

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15. Define the physical quantity whose unit is N/c.

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16. Why two electric lines of force/field cannot intersect each other ?

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17. What are electric lines of force ?

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18. Are the field lines a reality ?

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19. Is there any electric field inside a charged Conductor ?

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20. Give important properties of electric lines of force.

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21. Derive an expression for torque experiencedby electric dipole in a uniform electric field

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22. Give important properties of electric lines of force.

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23. Define electric field intensity at a point. Give its S.I. units. Derive an expression for the electric field intensity at any point on the axial line of an electric dipole.

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24. When is the torque acting on an electric dipole maximum when placed in uniform electric field ?

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25. Define electric field intensity at a point. Give its S.I. units. Derive an expression for the electric field intensity at any point on the axial line of an electric dipole.

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26. Define electric field intensity at a point. Give its S.I. units. Derive an expression for the electric field intensity at any point on the axial line of an electric dipole.

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27. Derive an expression for electric field intensity at a distance r from a point charge q.

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28. When is the torque acting on an electric dipole maximum when placed in uniform electric field ?

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29. Derive a relation for electric field of an electric dipole at a point on its equatorial line.

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30. Derive a relation for electric field of an electric dipole at a point on its equatorial line.

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31. Which physical quantity has its SI unit(1) Cm (2) N/C.

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32. Two point charges q and -q is placed at a distance 2a apart.Calculate the electric field at a point P situated at a distance r along the perpendicular bisector of the line joining the charges. What is the electric field when $r > > a$? Also, give the direction of electric field W.r.t. electric dipole moment? .

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33. Two point charges q and-q are placed at a distance 2a part. Calculate the electric field at a point P situated at a distance r along the axial line of an electric dipole. What is the electric field when $r \rangle a$? Also, give the direction of elctric field w.r.t. electric dipole.

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34. Name the physical quantity whose unit is Volt $metre^{-1}$.

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35. Define electric field intensity at a point. Give its S.I. units. Derive an expression for the electric field intensity at any point on the axial line of an electric dipole.

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