



PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

Electric Charges and Electrostatic Force



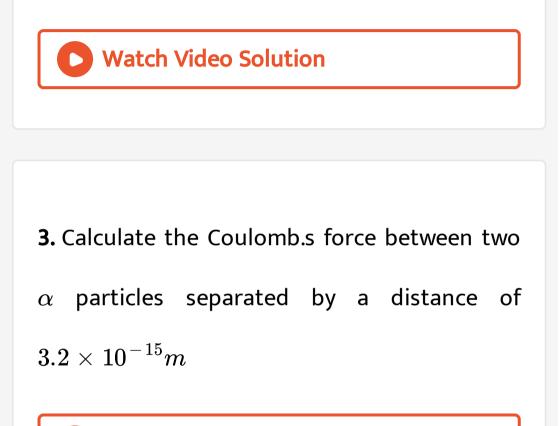
1. Force of attractio between two point electric charges placed at a distance .d. in a medium is F. What distance apart should these be kept in the same medium, so that between them beComes F/3

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2. If the distance between two equal points charges is doubled and their individual

charges are also doubled, what would happen

to the force between them?





4. Ten electrons have been removed from each atom to form ions. Find the electrostatic force between two such ions when separated by a distance of $4\overset{\circ}{A}$ in a medium of dielectric Constant 4.

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5. Five electrons have been removed from each atom to form ions. Find the electrostatic force between two such ions when separated by a

distance of $2 \stackrel{\,\,{}_\circ}{A}$ in a medium of dielectric

Constant4.



6. Twenty electrons have been removed from each atom to form ions. Find the electrostatic force between two such ions when separated by a distance of $8\overset{\circ}{A}$ in a medium of dielectric Constant4.



7. Two similar charges repel each other with a

force of 44.1 Newton when placed 2cm apart in

air. Calculate the strength of charge.



8. What is the Coulomb.s force between two small charged spheres having charges 2.0×10^{-7} C and 3.0×10^{-7} Coulomb placed 30 cm in air.

9. Find the electrostatic force between two protons placed in free space separated by distance 20 cm.



10. Calculate the Coulomb.s force between two

- lpha particles separated by a distance of
- $3.2 imes 10^{-15}m$

11. Calculate the Coulomb.s force between two lpha particles separated by a distance of $3.2 imes 10^{-15} m$

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12. calculate the Coulomb.s force between two

protons separated by $1.6 imes 10^{-15}m$

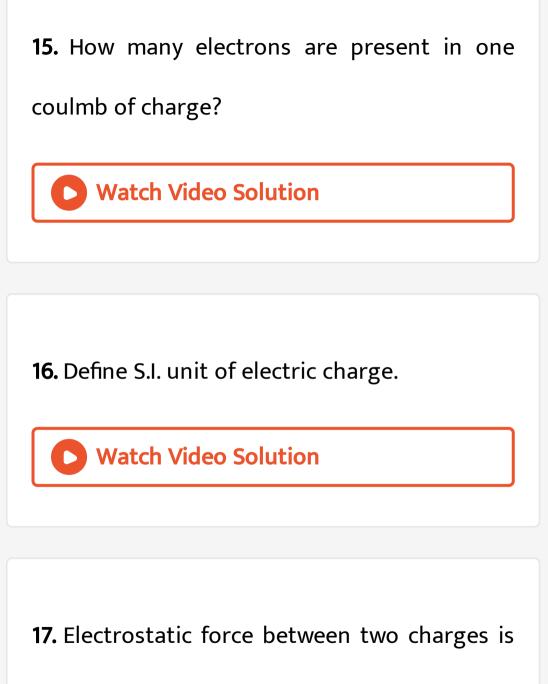
13. calculate the Coulomb.s force between a proton and electroon separated by $0.8 imes 10^{-15} m$

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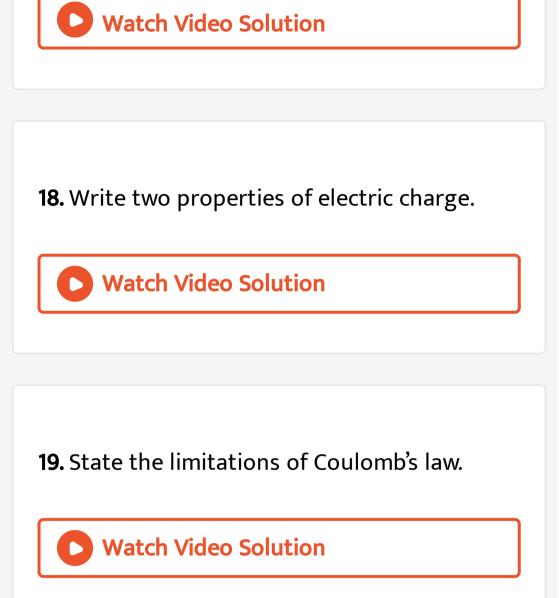
14. In Coulomb's law, on what factors the value

of electrostatic force Constant 'K' depends ?





called central force.Why?



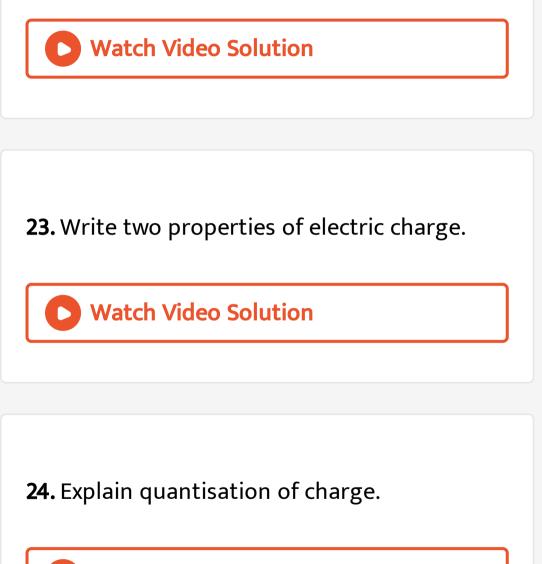
20. Write a relation between absolute and

relative electrical permittivity of a medium.

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21. Write a relation for the electrostatic force between two point charges placed in a dielectric medium.

22. Define dielectric Constant of a medium.



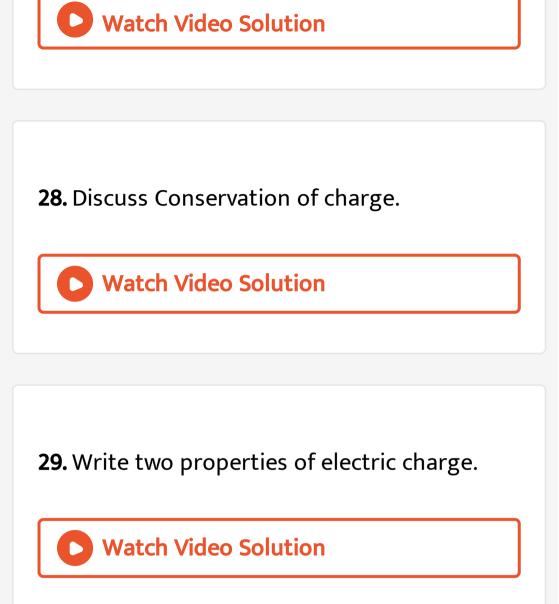
25. A charged rod P attracts rod R whereas P repels another charged rod Q.What type of force is developed between Q and R ?

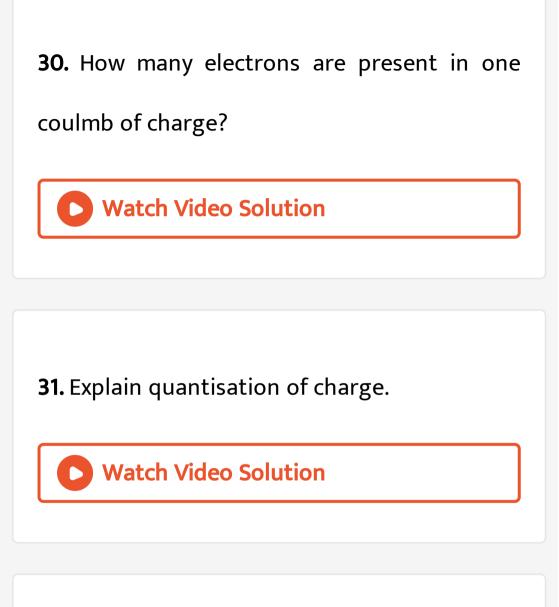


26. Define S.I. unit of electric charge.



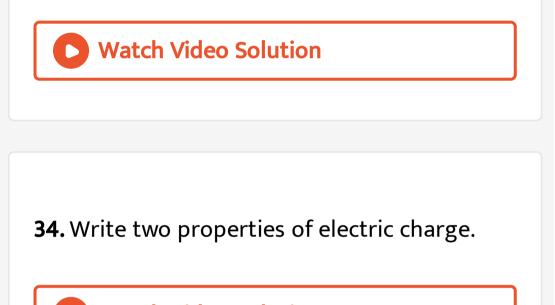
27. Explain quantisation of charge.





32. Explain quantisation of charge.

33. Give four properties of electric charge.



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35. State Coulomb's law in electrostatics.

36. What do you mean by quantisation and

Conservation of charge ?



37. Give two differences between gravitational

and electrostatic forces.



38. State principle-of superposition of charges and using it find an expression for force acting at a point charge due to assembly of 'n' point charges.

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39. State Coulomb's law, explain its vector form

and define SI unit of electric charge. State two

limitations of Coulomb's law.

