

**NUMERICAL WORKSHEETS FOR CLASS XII**  
**SUBJECT: - PHYSICS**

**CH:ELECTROSTATICS**

**NUMERICALS**  
**LEVEL I**

1. What is the charge acquired by a body when 1 million electrons are transferred to it?

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2. An attractive force of 5N is acting between two charges of  $+2.0 \mu\text{C}$  &  $-2.0 \mu\text{C}$  placed at some distance. If the charges are mutually touched and placed again at the same distance, what will be the new force between them?

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3. A charge of  $+3.0 \times 10^{-6} \text{ C}$  is 0.25 m away from a charge of  $-6.0 \times 10^{-6} \text{ C}$ .  
a. What is the force on the  $3.0 \times 10^{-6} \text{ C}$  charge?  
b. What is the force on the  $-6.0 \times 10^{-6} \text{ C}$  charge?

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4. An electric dipole consist of a positive and a negative charge of  $4\mu\text{C}$  each placed at a distance of 5mm. Calculate dipole moment.

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5. Three capacitors of capacitances  $2\mu\text{F}$ ,  $3\mu\text{F}$  and  $4\mu\text{F}$  are connected in parallel. What is the equivalent capacitance of the combination? Determine charge on each capacitor, if the combination is connected to 100V supply?

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6. An electric dipole with dipole moment  $4 \times 10^{-9} \text{ C-m}$  is aligned at  $30^\circ$  with direction of electric field of magnitude  $5 \times 10^4 \text{ N/C}$ . Calculate the magnitude of the torque acting on the dipole.

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7. A point charge of  $2\mu\text{C}$  is at the centre of cubic Gaussian surface 9.0 cm in edge. What is the net electric flux through the surface?

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8. What is the amount of work done in moving a  $200 \text{ nC}$  charge between two points 5 cm apart on an equipotential surface?

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9. How much work must be done to charge a  $24 \mu\text{F}$  capacitor, when the potential difference between the plates is 500 V?

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10. What is the equivalent capacity of the network given below?

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