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?

2. An attractive force of 5N is acting between two charges of +2.0 μC & -2.0 μC 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?

3. A charge of +3.0 x 10-6 C is 0.25 m away from a charge of -6.0 x 10-6C.
   a. What is the force on the 3.0 x 10-6 C charge?
   b. What is the force on the -6.0 x 10-6 C charge?

4. An electric dipole consist of a positive and a negative charge of 4μC each placed at a distance of 5mm. Calculate dipole moment.

5. Three capacitors of capacitances 2μF, 3μF and 4μF 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?

6. An electric dipole with dipole moment 4x10-9C-m is aligned at 300 with direction of electric field of magnitude 5x104N/C. Calculate the magnitude of the torque acting on the dipole.

7. A point charge of 2μC is at the centre of cubic Gaussian surface 9.0 cm in edge. What is the net electric flux through the surface?

8. What is the amount of work done in moving a 20nC charge between two points 5 cm apart on an equipotential surface?

9. How much work must be done to charge a 24 μF capacitor, when the potential difference between the plates is 500 V?

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