1. An electric dipole of length 4 cm, when placed with its axis making an angle of 60° with a uniform electric field experiences a torque of $4\sqrt{3}$ Nm. Calculate the (i) magnitude of the electric field, (ii) potential energy of the dipole, if the dipole has charges of ±8 nC.

2. Three point charges + q, + 2q and Q are placed at the three vertices of an equilateral triangle. Find the value of charge Q (in terms of q), so that electric potential energy of the system is zero

3. When 1.0×10^{12} electrons are transferred from one conductor to another of a capacitor, a potential difference of 10 V develops between the two conductors. Calculate the capacitance of the capacitor.

4. A capacitor of 20 µF is charged to a potential of 10 kV. Find the charge accumulated on each plate of the capacitor.

5. Distinguish between electric potential and potential energy and write the relation between them.