**PHYSICS 12**

ELECTRIC FIELD

- Electric Field is a vector quantity that describes the strength of the electric force per unit charge.
- Electric Field is measured in Newton per Coulomb **[N/C]**
- An electric field exists around any electrically charged (positive or negative) object.
- Direction of the electric field is given by what would a **positive** unit (=1.00 C) charge experience if placed in that field.
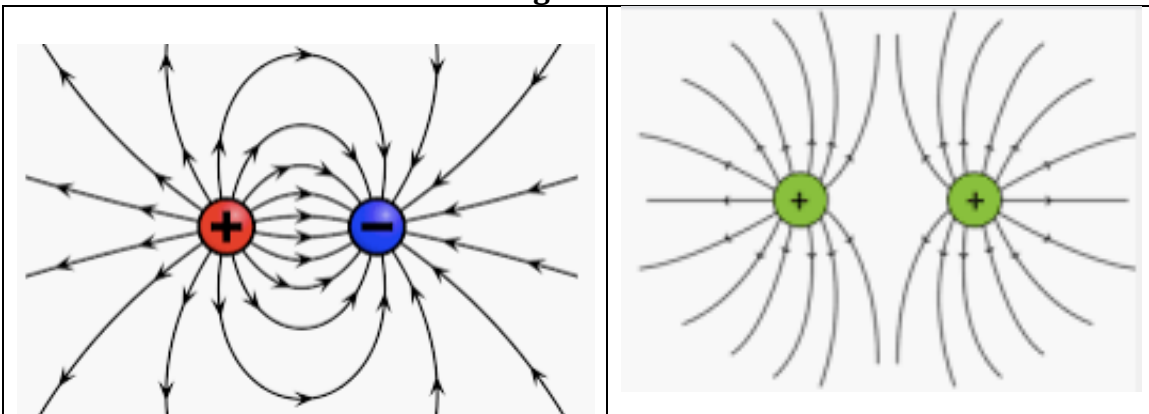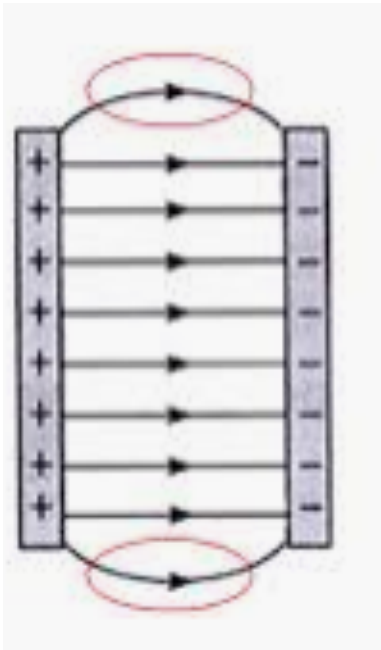
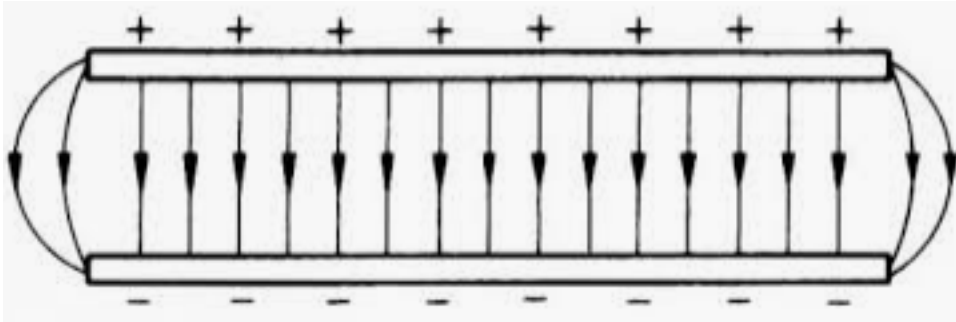$$E = \frac{F}{q}$$ OR $$E = \frac{k\,q}{r^2}$$

1. Electric Field around a point charge
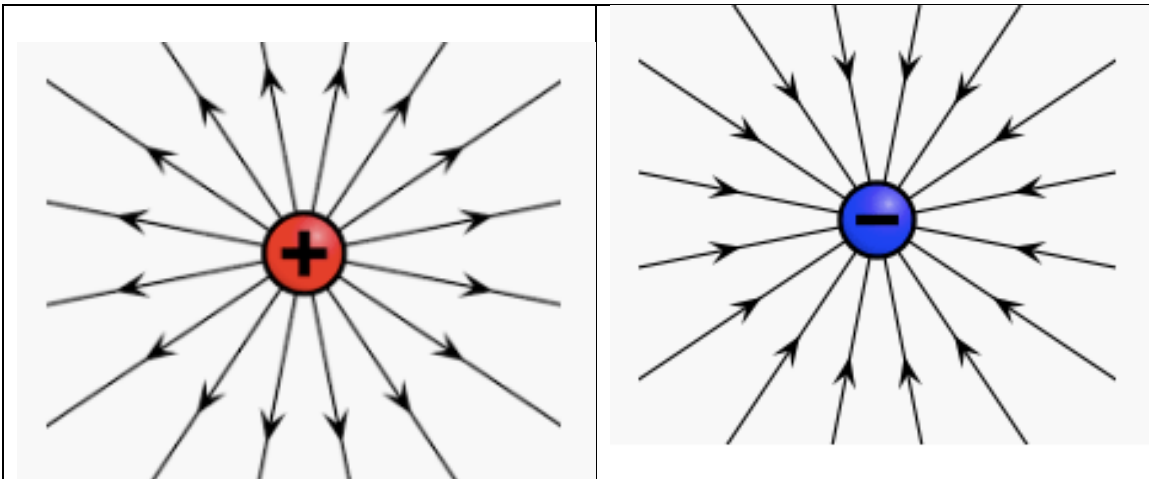
2. Electric field around two charges

3. Electric field between two oppositely charged parallel plates

$$E = \frac{\Delta V}{d}$$

Where ΔV is the potential difference between the two plates and d is the distance between the plates measured in meters.

Units:

V/m

- the lines and curves with arrows drawn around a charged object are called **field lines.** The more field lines and the greater the density of the field lines, the stronger the field.