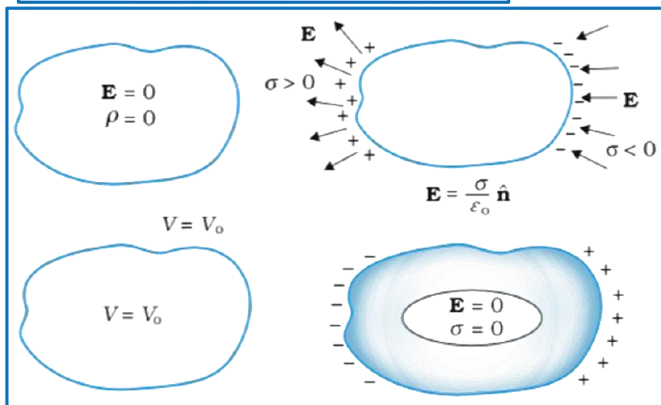
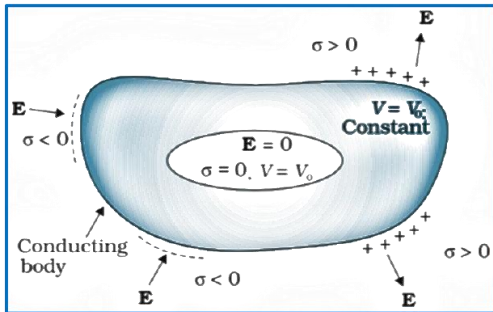


## CONDUCTORS

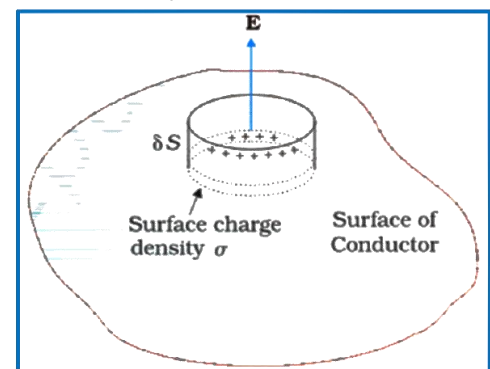
### Conductors

#### Electrostatic shielding

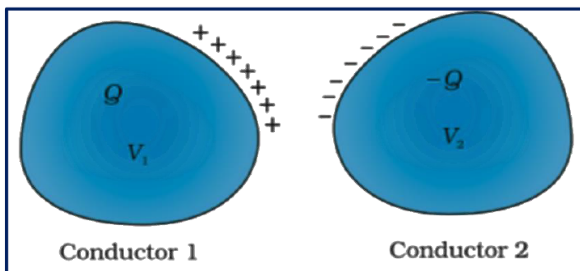


1. Inside a conductor, electrostatic field is zero.
2. At the surface of a charged conductor, electrostatic field must be normal to the surface at every point.
3. The interior of a conductor can have no excess charge in the static situation.
4. Electrostatic potential is constant throughout the volume of the conductor and has the same value (as inside) on its surface
5. Electric field at the surface of a charged conductor  $E = \frac{\sigma}{\epsilon_0} \hat{n}$

$$E = \frac{\sigma}{\epsilon_0} \hat{n}$$



### Capacitance



$$Q = CV$$

$$U = \frac{1}{2} CV^2$$

$$U = \frac{Q^2}{2C}$$

$$U = \frac{QV}{2}$$

- ❖ Scalar
- ❖ Property of its size and shape
- ❖ Farad