

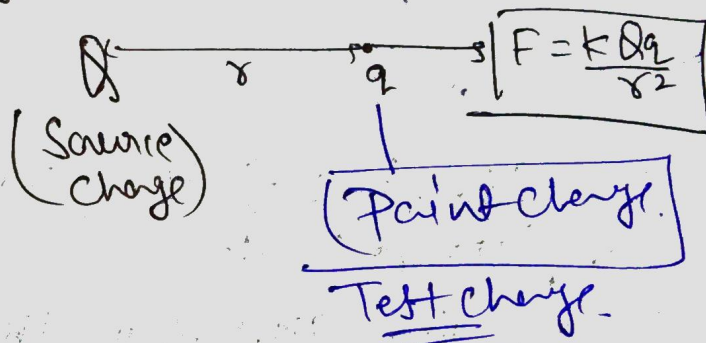
Numerical + Conceptual Que.

Electric field.

Any charge at rest produces a field called Electric field. When another charge is brought in this field it experiences a force.

So, Electric field is defined as force experienced by a unit charge (q).

$$E = \frac{F}{q}$$



$$E = \frac{kQq}{r^2} \cdot \frac{1}{q}$$

$$E = \frac{kQ}{r^2} \quad \text{or} \quad \frac{1}{4\pi\epsilon_0} \frac{Q}{r^2}$$

$$* \quad F = qE$$

E :- A vector Quantity
S.I. unit N/C

* Electric field is a characteristic of the system of charges and is independent of the test charge.