

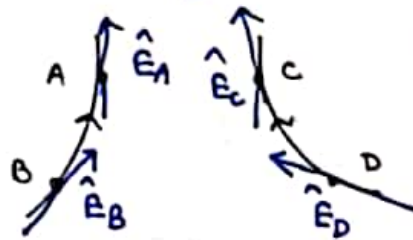
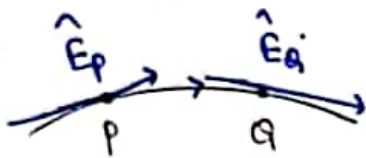
ELECTRIC FIELD LINES AND ITS PROPERTIES

①

- Electric field lines are smooth, continuous curves or lines that are used to visualize the pattern of electric field intensity due to charges distribution in 3-D space pictorially.
- Concept of field lines was introduced by Faraday. And this concept is based on Non-mathematical and Intuitive approach.

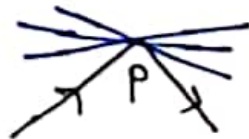
PROPERTIES OF ELECTRIC FIELD LINES :

- (1) To get the direction of field intensity at any point 'P' in the given pattern of field lines. We draw a tangent at that point 'P'.
"Direction of tangent give the direction of field intensity"



- (a) In the pattern of electric field "no sharp corner" is obtained.

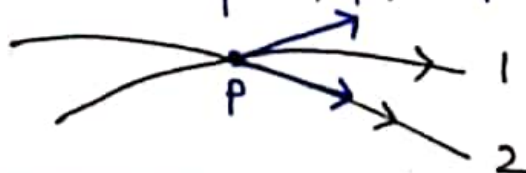
Reason: If sharp corner is obtained then: at that point we can draw multiple lines that represents multiple field intensity direction at that point and it is not possible.



(Not possible).

- (b) Two Electric field line curve never intersect each other.

Reason: If two curves intersect each other then: at intersection point we can draw two tangents that represents two field intensity direction at point 'P', and it is not possible.



(Not possible).