**Electric Fields**

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1. **Calculate the magnitude and direction of the electric force if a charge of −3.510−7 C is placed in a field of 12 N/C [right]. (5 marks)**

Thus, the answer would be that moves to the left.

1. **An electron at rest of mass is accelerated through a potential difference of 350 V. It then enters some deflecting plates of 50 V with dimensions as shown. Calculate the distance, , or of the deflection of the electron. The charge on an electron is ).**

* Electron is accelerated from rest () to a particular velocity in a potential difference of 350V.

* Now when electrons with velocity v enter in the 50V region. Initially, when it enters the electron, it only has horizontal velocity . But, due to some electric force in the vertical fashion, it gains some velocity in the direction
* Force in vertical direction

* Thus, time required to cover distance 25cm in horizontal direction is the following.
* Now, use the equation in horizontal direction.

Thus, the answer would be .