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Basic Elect Assignment Answers

1). Using the concept of Newtons second law of motion describe the magnitude and direction of the acceleration of an electron being shot horizontally into a closed space with a uniform field being upward.

Answer

The attractive or repulsive interactions between any charged object in an electric force its effects upon objects is described by Newtons laws of motion. The electric force joins the long list of other forces that can act upon objects. Newtons laws are applied to analyze the motion (or lack of motion) of objects under the influence of such a force or combination of forces. The analysis usually begins with the construction of a free body diagram in which the type and direction of the individual forces are represented by vector arrows and labelled according to type. The magnitude of the forces is then added as vectors in other to determine the resultant sum known as the net force. The net force can then be used to determine the acceleration of the object.

2). Describe the electric field, magnetic field and electric current with respect to charges.

Answer

a) Electric Field:

Electric Field is defined as the force per unit charge. The direction of the field is taken to be the direction of the force it would exert on a positive test charge. The Electric field is radially outward from a positive charge and radially in toward a negative charge.

b) Magnetic Field

A magnetic field is a vector field that describes the magnetic influence on moving electric charges, electric currents,and magnetized materials. A charge that is moving in a magnetic field experiences a force perpendicular to its own velocity and to the magnetic field. The effects of magnetic fields are commonly seen in permanent magnets, which pull on magnetic materials such as iron, and attract or repel other magnets.

c) Electric Current

Electric Current is defined as the rate of flow of negative charges of the conductor. In other words, the continuous flow of electrons in an electric circuit is called an Electric Current.