

ATOMIC ENERGY EDUCATION SOCIETY

DISTANCE TEACHING PROGRAMME

CLASS X SCIENCE

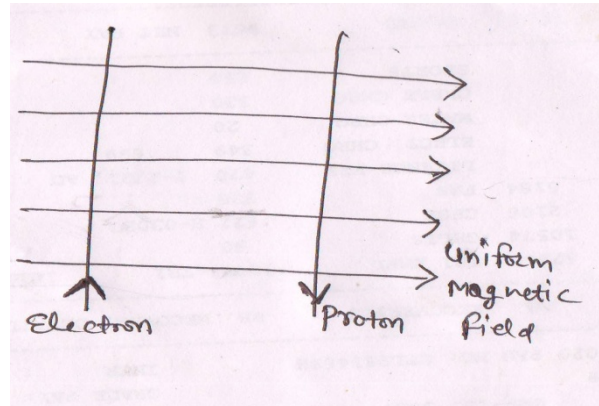
WORK SHEET-2

CHAPTER: MAGNETIC EFFECT OF CURRENT (MODULE 2)

1. Commercial electric motors do not use:

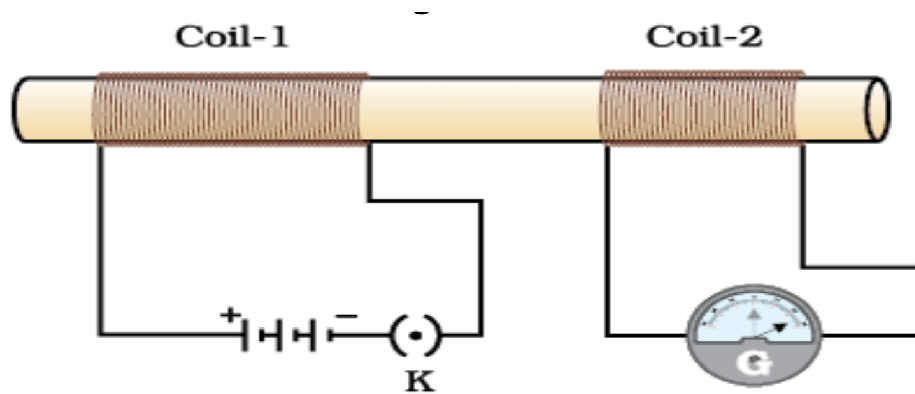
- (a) An electromagnet to rotate the armature
- (b) Effectively large number of turns of conducting wire in the current carrying coil
- (c) A permanent magnet to rotate the armature
- (d) a soft iron core on which the coil is wound

2. A uniform magnetic field exists in the plane of paper pointing from left to right as shown in Figure. In the field an electron and a proton move as shown. The electron and the proton experience



- (a) Forces both pointing into the plane of paper
- (b) Forces both pointing out of the plane of paper
- (c) Forces pointing into the plane of paper and out of the plane of paper, respectively
- (d) Force pointing opposite and along the direction of the uniform magnetic field respectively

3. In the arrangement shown in Figure there are two coils wound on a non-conducting cylindrical rod. Initially the key is not inserted. Then the key is inserted and later removed. Then



- (a) The deflection in the galvanometer remains zero throughout
  - (b) There is a momentary deflection in the galvanometer but it dies out shortly and there is no effect when the key is removed.
  - (c) There are momentary galvanometer deflections that die out shortly; the deflections are in the same direction
  - (d) There are momentary galvanometer deflections that die out shortly; the deflections are in opposite directions.
4. Name four appliances wherein an electric motor, a rotating device that converts electrical energy to mechanical energy, is used as an important component. In what respect motors are different from generators?
  5. What is the role of the two conducting stationary brushes in a simple electric motor?
  6. Describe the activity that shows that a current-carrying conductor experiences a force perpendicular to its length and the external magnetic field. How does Fleming's left-hand rule help us to find the direction of the force acting on the current carrying conductor?
  7. Draw a labeled circuit diagram of a simple electric motor and explain its working. In what way these simple electric motors are different from commercial motors?
  8. What do you mean by electromagnetic induction?
  9. If any proton is moving in + X direction then on applying magnetic field in -Y direction, in which direction it will experience magnetic force?
  10. Explain different ways to induce current in a coil.