# ATOMIC ENERGY EDUCATION SOCIETY

## DISTANCE TEACHING PROGRAMME

#### CLASS X SCIENCE

### WORK SHEET-1

#### CHAPTER: MAGNETIC EFFECT OF CURRENT (MODULE 1)

- Sample problem 1: Which of the following correctly describes the magnetic field near a long straight wire?
  - (a) The field consists of straight lines perpendicular to the wire.
  - (b) The field consists of straight lines parallel to the wire.
  - (c) The field consists of radial lines originating from the wire.
  - (d) The field consists of concentric circles centered on the wire.
  - Sol. Correct option is d
- Sample problem 2: A current through a horizontal power line flows in east to west direction. What is the direction of magnetic field at a point directly below it and at a point directly above it?

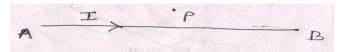
Sol. The current is in the east-west direction. Applying the right-hand thumb rule, we get that the direction of magnetic field at a point below the wire is from north to south. The direction of magnetic field at a point directly above the wire is from south to north.

1. Any three properties of magnetic field lines.

2. Give statement of Right hand thumb rule.

3. Write any two factors on which magnetic field intensity at the center of current carrying circular loop depends?

4. The direction of the magnetic field at a point P above the wire carrying current as shown in the figure is:



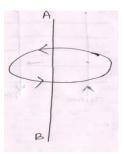
(a) Down the page

(b) up the page

(c) Into the page

(d) out of the page

5. Concentric circles with arrows centered at the wire AB are shown in figure. Choose the correct option:



(a) No current in AB

(b) current flows from B to A

(c) Current – flows from A to B

(d) none of these

- 6. Choose the correct option:
- (a) The magnetic field inside a long straight current carrying solenoid- Is zero.
- (b)Decrease as we move towards its end.
- (c) Increase as we move towards it end.
- (d)Is the same all points?
- 7. Experiments related to magnetic effect of current first explained by scientist:

(a) Oerested (b) Faraday (c) Volta (d) Maxwell

- 8. Write any two properties of magnetic field produced due to current carrying conductor wire?
- 9. Define uniform magnetic field and draw magnetic field lines of uniform magnetic field.
- 10. Explain how a current carrying solenoid behaves as bar magnet.