

# O P JINDAL SCHOOL, SAVITRINAGAR

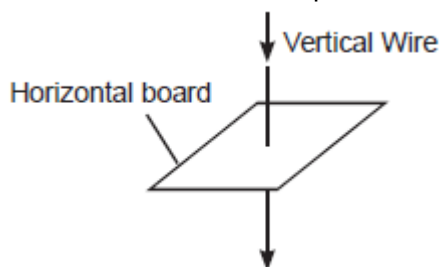
## CLASS TEST & PRACTICE

CLASS X PHYSICS

TOPIC : MAGNETIC EFFECT  
OF CURRENT AND  
MAGNETISM

- 1 What are magnetic field lines? Justify the following statements 3
- (a) Two magnetic field lines never intersect each other.
- (b) Magnetic field lines are closed curves.

- 2 The direction of electric current passed through a vertical wire and through a horizontal card is shown



below: 3

Sketch the pattern of the magnetic field on the card around the wire. Indicate the direction of the magnetic field at any one point. How would you check this direction experimentally?

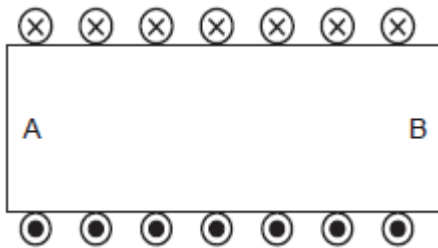
- 3 How will the magnetic field produced at a point due to a current carrying circular coil change if we: 3
- (a) increase the current flowing through the coil?
- (b) reverse direction of current through the coil?
- (c) increase the number of turns in the coil?

- 4 Two circular coils A and B of insulated wires are kept close to each other. Coil A is connected to a galvanometer while coil B is connected to a battery through a key. What will you observe in coil A, if 3
- (a) current is passed through coil B by plugging the key,
- (b) the current is stopped by removing the plug from the key?
- (c) both the coils are moved in the same direction with the same speed?
- Explain your answer mentioning the name of the phenomena involved.

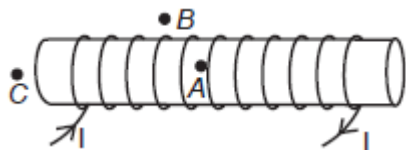
- 5 What is meant by solenoid? How does a current carrying solenoid behave? Give its main use. 3

- 6 How does the strength of the magnetic field produced by a current carrying solenoid increased? 3

- 7 Diagram shows the lengthwise section of a current carrying solenoid.  $\otimes$  indicates current entering into the page,  $\odot$  indicates current emerging out of the page. Decide which end of the solenoid A or B, will behave as north pole. Give reason for your answer. Also draw field lines inside the solenoid. 3



8 For the current carrying solenoid as shown below, draw magnetic field lines and giving reason explain that out of the three points A, B and C at which point the field strength is maximum and at which point it is



minimum.