

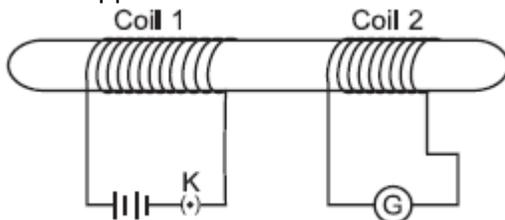
# O P JINDAL SCHOOL, SAVITRINAGAR

## CLASS TEST & PRACTICE

CLASS X PHYSICS

TOPIC : MAGNETIC EFFECT  
OF CURRENT AND  
MAGNETISM

- 1 State the various advantages and disadvantages of AC over DC. 5
- 2 Why is pure iron not used for making permanent magnets? Name one material used for making permanent magnets. Describe how permanent magnets are made electrically. State two examples of electrical instruments made by using permanent magnets. 5
- 3 State the various advantage and applications of electromagnet. 5
- 4 Two coils of insulated copper wire are wound over a non-conducting cylinder as shown. Coil 1 has larger

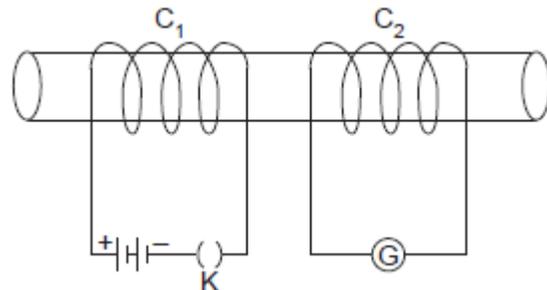


number of turns.

- (a) Write your observations when,  
(i) key K is closed; (ii) key K is opened;  
(b) When the current is passed continuously through coil 1.  
Give reason for your observations.  
(c) Name and state the phenomenon responsible for the above observation.  
(d) Write the name of the rule that is used to determine the direction of current produced in the phenomena.  
(e) Name the two coils used in this experiment.

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Or Two coils  $C_1$  and  $C_2$  are wrapped around a non conducting cylinder. Coil  $C_1$  is connected to a battery and key and  $C_2$  with galvanometer G. On pressing the key (K), current starts flowing in the



coil  $C_1$ . State your observation in the galvanometer: (a) (i)

When key K is pressed on.

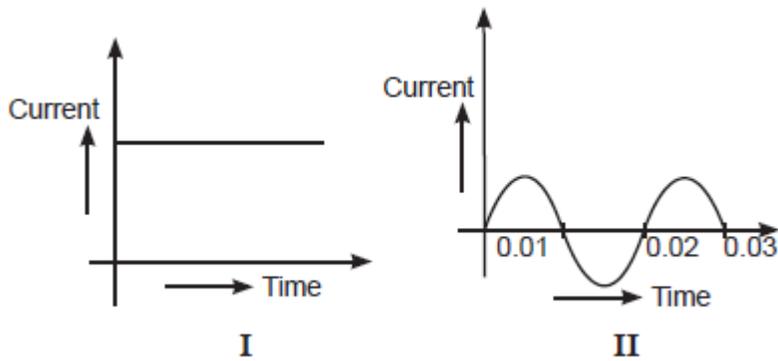
(ii) When current in the coil  $C_1$  is switched off.

(b) When the current is passed continuously through coil  $C_1$ .

(c) Name and state the phenomenon responsible for the above observation.

(d) Write the name of the rule that is used to determine the direction of current produced in the phenomena.

5 You are given following current-time graphs from two different sources:



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(a) Name the type of current in two cases.

- (b) Identify any one source for each type of these currents.
- (c) What is the frequency of current in case II in India?
- (d) Use above graphs to write two differences between the current in two cases.
- (e) After what interval of time current in the case II changes its direction?
- 6 (a) Explain why there are two separate circuits one for high power rating appliances and other for low power rating appliances.
- (b) A domestic circuit has 5A fuse. How many bulbs of rating 100W, 220V can be safely used in this circuit? Justify your answer.
- 7 (a) Mention effect of electric current on which the working of an electrical fuse is based.
- (b) Draw a schematic labelled diagram of a domestic circuit which has a provision of a main fuse, meter, one light bulb and a socket.
- (c) Explain the term overloading of an electric circuit.
- 8 (a) Design an activity with the help of two nails, very thin aluminium strip, a 12 V battery and a key to illustrates how electric fuse works.
- (b) Cable of a microwave oven has three wires inside it which have insulation of different colours black, green and red. Mention the significance of the three colours and potential difference between red and black one.

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