

CLASS X
Magnetic Effects of Electric current
WORKSHEET 2

SECTION A
CONCEPTUAL QUESTIONS

S.No	Questions	marks
1	Why do two magnetic field lines never intersect each other?	2012SA1(1)
2	Draw a diagram to show magnetic field lines around a bar magnet.	2
3	List the factors on which the magnetic field produced by a current carrying straight conductor depends.	2
4	What is the frequency of AC current used in India?	1
5	The magnetic field in a given region is uniform. Draw a diagram to represent it	1
6	Mention two ways to increase the strength field of a solenoid.	2012SA1(2)
7	What is meant by a magnetic field? Mention two parameters that are necessary to describe it completely.	2013SA1(3)
8	Name and state the rule which determine the direction of magnetic field around a straight current carrying conductor.	2012SA1(2)
9	Mention the provision of two different current ratings in our domestic circuits.	2013, 2015 SA1
10	State the direction of magnetic field in the following case. <div style="text-align: center;"> </div>	(1)
11	<p>(a) Two magnets are lying side as shown below. Draw magnetic field line between poles P and Q.</p> <div style="text-align: center;"> </div> <p>(b) What does the degree of closeness of magnetic field lines near the poles signify?</p>	(2)
12	Write one application of each of the following: <p>(a) Right hand thumb rule</p> <p>(b) Fleming 's left hand rule</p>	(3)

	(c) Fleming's right hand rule	
13	A current carrying aluminium rod AB is placed in a magnetic field. The direction of magnetic field is vertically upward. How do you think the displacement of rod AB will be affected if a) The current in the rod AB is increased b) A stronger horse shoe magnet is used c) Length of the rod AB is increased?	(3)
14	List out the differences between A.C and D.C.	(2)
15	Under what condition is the force experienced by a conductor placed in a magnetic field i) maximum ii) minimum	(2)
16	Mention the colour convention for live, neutral and earth wires.	2015 SA(1) (1)
17	Explain whether an alpha particle(which is a positively charged particle) will experience any force in a magnetic field if: (i) It is placed in the field at rest (ii) It moves in the magnetic field parallel to field lines (iii) It moves in the magnetic field perpendicular to field lines.	2015 SA(1) (3)
18	Distinguish between overloading and short circuiting in domestic circuit.	(2)
19	Draw the schematic diagram of domestic circuit with a bulb and a fan.	2014,2012 SA(1)
20	A current carrying conductor produces a magnetic field around it. Is there a similar magnetic field produced around a thin beam of (i) electrons (ii) neutrons. Justify your answer.	(2)
21	List two precautions to avoid overloading in the domestic circuit.	(1)
22	What are the ratings of fuse wires used in domestic circuit	SA1 (2014) (1)
	Section B Numerical problems	
23	An electric motor of 1.5kW power rating is operated in a domestic electric circuit of current rating 5A. What would happen when it is switched ON? Give reason for your answer.	(2)
24	A circuit has a fuse of 5A. Find the maximum number of 100 W, 220V lamps that can be used in this circuit.	(2)