

1. Why don't two magnetic lines of force intersect each other?
2. Consider a circular loop of wire lying in the plane of the table. Let the current pass through the loop clockwise. Apply the right-hand rule to find out the direction of the magnetic field inside and outside the loop.
3. The magnetic field in a given region is uniform. Draw a diagram to represent it.
4. When is the force experienced by a current-carrying conductor placed in a magnetic field largest?
5. In which direction does a freely suspended compass needle align itself?
6. Can you separate North and South poles of a magnet?
7. What constitutes the field of a magnet?
8. What is the direction of magnetic field at a given point?
9. How can a magnetic field be represented graphically?
10. What is the most convenient way of describing a magnetic field?
11. Name two important properties of a magnet.
12. What is the direction of magnetic field lines:
 - (a) outside magnet.
 - (b) inside a magnet?
13. Do magnetic field lines due to a magnet form closed path (loop)?
14. Who demonstrated production of a magnetic field due to flow of current in a conductor wire?
15. What important observation was made by Oersted on the basis of his experiment with current carrying conductors?
16. What is the shape of magnetic field lines due to a straight current carrying conductor?
17. How does the magnetic field due to a current carrying conductor vary with amount of current flowing through the conductor?
18. On what factors does the magnetic field produced at the centre of a current carrying circular loop depend?
19. How is the magnetic field at the centre of a current carrying circular coil depends on number of turns in the coil?
20. Which end of the current carrying solenoid behaves as a N-pole? Which end behaves as a S-pole?
21. The current is seen to flow clockwise on one face of a solenoid. What is the polarity of this face?
22. If the direction of current flowing through a freely suspended solenoid coil is reversed, what will happen?
23. How can you prepare an electromagnet?
24. How can it be shown that a magnetic field exists around a wire through which a direct electric current is passing?
25. On what factors does the magnitude of force experienced by a current carrying conductor placed normally in a magnetic field depend?
26. On what factors does the direction of force experienced by a current carrying conductor when placed in a magnetic field depend?
27. An electron is moving along X-axis and the magnetic field is along Y-axis. What is the direction of magnetic force on the electron?
28. A proton beam is moving along the direction of a magnetic field. What force is acting on proton beam?
29. What potential difference is maintained between the live wire and neutral wire in India?
30. Why does a compass needle get deflected when brought near a bar magnet?
31. Draw magnetic field lines around a bar magnet.
32. List the properties of magnetic lines of force.
33. List three sources of magnetic fields.
34. Define magnetic field of a magnet. Describe a method of mapping magnetic field due to a bar magnet.

35. Draw the pattern of field lines due to a solenoid carrying electric current. Mark the north and south poles in the diagram.
36. How does a solenoid behave like a magnet? Can you determine the north and south poles of a current-carrying solenoid with the help of a bar magnet? Explain.
37. Imagine that you are sitting in a chamber with your back to one wall. An electron beam, moving horizontally from back wall towards the front wall, is deflected by a strong magnetic field to your right side. What is the direction of magnetic field?
38. Describe an activity to show that an electric current carrying wire behaves like a magnet.
39. List any three properties of magnetic field lines.
40. Describe an experiment to obtain the magnetic field lines around a straight current carrying wire.
41. With the help of figure, explain the law of pole formation at the ends of a solenoid carrying current.
42. What is the principle of an electric motor?
43. What is the role of the split ring in an electric motor?
44. State the principle of an electric generator.
45. Name some sources of direct current.
46. Which sources produce alternating current?
47. Name two safety measures commonly used in electric circuits and appliances.
48. When does an electric short circuit occur?
49. What is the function of an earth wire? Why is it necessary to earth metallic appliances?
50. Name a law which can be employed to know the direction of magnetic field produced by a current carrying wire.
51. Name the rule, which gives the direction of magnetic force experienced by a current carrying conductor when placed in a magnetic field.
52. Which law is commonly referred as the motor rule?
53. What is electromagnetic induction?
54. What is a dynamo (or an electric generator)?
55. Which rule is generally referred as the generator rule?
56. In one complete cycle of AC, how many times the direction of current changes?
57. What is the frequency of AC being supplied in our houses?
58. What will be the frequency of an alternating current, if its direction changes after every 0.01 s?
59. What are the commonly used colours for insulations of live, neutral and earth wires used in domestic electric supply?
60. What is the most important characteristic of a fuse wire?
61. What capacity fuse wire is used in lighting circuits?
62. What capacity fuse wire is used in power circuit designed for operating refrigerator, geyser or an immersion heater etc.?
63. What is a commutator?
64. In an electric motor, which part acts as a commutator?
65. What modification is done in an AC generator so as to produce DC?
66. Name some common devices that use current carrying conductors and magnetic fields.
67. Explain the reason for using
 - (a) an electromagnet
 - (b) a coil having large number of turns, and
 - (c) a soft iron core in an electric motor.
68. On what factors does the force experienced by a current carrying conductor placed in a uniform magnetic field depend?
69. What is an electromagnet? What does it consist of?

70. How will the magnetic field around a current carrying straight conductor be affected on
(a) increasing the current through the conductor?
(b) changing the direction of flow of current in the conductor?
71. 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?
72. How can you show that the magnetic field produced by a given electric current in the wire decreases as the distance from the wire increases?
73. What is the advantage of the third wire of earth connection in domestic electric appliances?
74. Explain different ways to induce current in a coil.
75. An electric oven of 2 kW power rating is operated in a domestic electric circuit (220 V) that has a current rating of 5 A. What result do you expect? Explain.
76. What precaution should be taken to avoid the overloading of domestic electric circuits?
77. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is
(a) pushed into the coil,
(b) withdrawn from inside the coil,
(c) held stationary inside the coil?
78. Two circular coils 1 and 2 are placed close to each other. If the current in the coil 1 is changed, will some current be induced in the coil 2? Give reason.
79. Distinguish between a direct current and an alternating current.
80. (a) Draw a schematic labelled diagram of a domestic wiring circuit which includes
(i) a main fuse,
(ii) a power meter,
(iii) one light point, and
(iv) a power plug.
(b) Why is it necessary to connect an earth wire to electric appliances having metallic covers?
81. Demonstrate that due to motion of a magnet near a solenoid coil an induced current is set up in the coil.
82. State the rule to determine the direction of a
(a) magnetic field produced around a straight conductor-carrying current,
(b) force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular to it, and
(c) current induced in a coil due to its rotation in a magnetic field.