

- Q1. What does crowding of magnetic field lines indicate ?
- Q2. How is the direction of the magnetic field at a point determined ?
- Q3. What is the SI unit of magnetic field ?
- Q4. How is the strength of the magnetic field around a wire related to the strength of the electric current flowing in the wire ?
- Q5. State the rule used to determine the direction of magnetic field produced around a straight conductor carrying current.
- Q6. State the rule to determine the direction of a force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular.
- Q7. A compass needle shows deflection when brought near a current carrying conductor. Why ?
- Q8. Draw a circuit diagram of the pattern of field lines due to a current flowing through a straight conductor.
- Q9. Draw the pattern of magnetic field lines of the field produced by a current carrying circular loop.
- Q10. State the rule to determine the direction of a force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular.
- Q11. A horizontal power line carries current in east to west direction. What is the direction of the magnetic field due to the current in the power line at a point above and at a point below the power line ?
- Q12. A student performs an experiment to study the magnetic effect of current around a current carrying conductor with the help of a magnetic compass. He reports that :
1. The degree of deflection of the magnetic compass increases when the compass is moved away from the conductor.
 2. The degree of deflection of the magnetic compass increases when the current through the conductor is increased

Which of the above observations of the student appears to be wrong and why ?

Q13. With the help of a diagram describe an activity to show that an electric current can affect a magnet.

Q14. State whether an alpha particle will experience any force in a magnetic field if (alpha particles are positively charged particles)

1. it is placed in the field at rest.
2. it moves in the magnetic field parallel to field lines.
3. it moves in the magnetic field perpendicular to field lines.

Justify your answer in each case.

Q15. The magnetic field produced by a current carrying circular coil having n turns is equal to n times the magnetic field produced by a current carrying circular coil having a single turn. Explain, why ?