

Magnetic Effects of Electric Current

CHAPTER 13



TRY YOURSELF

ANSWERS

1. (b) : Permanent magnetism
2. (c) : Point towards the South pole.
3. (b) : The magnitude of magnetic field due to a current carrying straight conductor is directly proportional to the current flowing through i.e., $B \propto I$.
4. (a) : The magnitude of magnetic field due to straight current carrying conductor is inversely proportional to the distance between source and point of observation. $B \propto \frac{1}{r}$ So, the field decrease with increase in distance and the separation between the field lines increases.
5. (c) : According to right hand thumb rule the direction of current in this face of the circular conductor is anticlockwise.
6. The magnetic field lines are nearly circular concentric due to circular carrying current.
7. (a) : Increases.
8. Inside solenoid magnetic field is uniform.
9. The end of the solenoid at which current flows in anticlockwise direction acts as a North pole, while the end at which current flows in clockwise direction acts as a south pole.
10. A moving charge produces an electric current which in turn causes the magnetic field.
11. The particle has a positive charge.
12. (a) Direction of rotation would be reversed.
(b) Direction of rotation would remain unchanged.
13. (b) : Commercial electric motors do not use a permanent magnet to rotate the armature.
14. (a) : To convert an AC generator into DC generator, split ring type commutator must be used.
15. The direction and magnitude of AC change periodically whereas in case of DC, these remain constant.
16. Fuse should be connected to the live wires.
17. It is the symbol of an electric fuse.

