

Physics Worksheet

Magnetic effects of Electric Current

1. Can two magnetic lines of force intersect each other? Give reasons in support of your answer.
2. Name one material in each case which is used to make a
 - a. permanent magnet
 - b. temporary magnet
3. Describe an activity to show that you can make an electromagnet in your school laboratory.
4. What is the magnitude of induced current in circular loop of radius 'r' if straight wire PQ carries a steady current of 'I' ampere?
5. An alternating current has a frequency of 50 Hz. How many times does it change its direction in one second?
46. How can 'overloading' in a circuit be avoided?
6. The magnetic field in a given region is uniform. Draw a diagram to represent it.
7. Is magnetic field a scalar or a vector quantity?
8. Which of the following measures will decrease the strength of the magnetic field of a current carrying solenoid
 - a. increasing the temperature of the solenoid
 - b. increasing the number of turns of wire
 - c. increasing the current
 - d. all the above measures
9. What is an MCB? Why is it better than an electric fuse?
10. At the time of short circuit, the current in the circuit
 - a. reduces substantially
 - b. does not change
 - c. increases heavily
 - d. varies continuously
11. When a fuse is rated at 8A, it means -
 - a. it will not work if current is less than 8A
 - b. it will work only if current is 8A
 - c. it has a resistance of 8 ohm
 - d. it will burn if current exceeds 8A

12. Alloys are commonly used in electrical heating devices. Why?
13. When a number of resistors are connected in series in a circuit what would be their equivalent resistance and why?
14. When a number of resistors are connected in parallel in a circuit what would be their equivalent resistance and why?
15. It is impracticable to connect an electric bulb and an electric heater in series. Why?
16. State the Joule's law of heating. Derive the expression for the same.
17. Which effect of current is responsible for the glow of an electric bulb? Explain.
18. The bulbs are usually filled with few gases. Name those gases. Also discuss the cause for the same.
19. Which metal is used as the filament of an electric bulb and why? 33. How does a fuse work in the electric circuit?
20. Which materials are preferred for a fuse wire and why?
21. Give the ratings of various fuses used in the domestic circuit.
22. Define the commercial unit of energy. Relate it to joules.
23. Describe any five safety measures that should be taken while dealing with electric appliances connected in domestic circuit.
24. How can 'overloading' in a circuit be avoided?