

## MCQ based on activity for 10<sup>th</sup> CBSE Magnetic effect of current

- 1) Magnetic fields are produced due to
- A. Stationary charges
  - B. Moving charges ✓
  - C. Both a and b
  - D. None of the above
- 2) 1 Gauss =
- A.  $10^4$  Tesla
  - B. 1000 Tesla
  - C.  $10^{-4}$  Tesla ✓
  - D. None of the above
- 3) The magnetic field density along the axial line of a circular coil carrying current
- A. Zero
  - B. Constant
  - C. Varies with distance from the center of the coil ✓
  - D. None of the above
- 4) In magnetostatics, the magnetic field generated by a steady current is given by
- A. Biot-Savart's ✓
  - B. Law Lenz's Law
  - C. Faraday's Law
  - D. Ohm's Law
- 5) The magnetic field developed at different points on the axial line of a circular coil is
- A. Directly proportional to the current ✓
  - B. Inversely proportional to the current
  - C. Independent of the current
  - D. Directly proportional to the square of the current
- 6) What is the nature of the magnetic field inside current carrying loop?
- A. randomly in all directions
  - B. all in one direction ✓
  - C. all fields cancel each other (no magnetic field)
  - D. none of the above
- 7) The functioning of an electric motor is based on
- A. thermal properties of a wire
  - B. magnetic effect of a permanent magnet
  - C. magnetic effects of current ✓
  - D. none of the above
- 8) The loops in the conductor repel each other when current is passed through them.
- A. depends on the type of current
  - B. (AC/DC) depends on the radius of the loops
  - C. true
  - D. false ✓
- 9) Which of the following about a magnetic field is correct?
- A. The unlike magnetic poles repel.
  - B. A magnetic pole can be isolated.
  - C. The magnetic field lines indicate the direction of force. ✓
  - D. A magnetic pole cannot induce magnetic poles in other materials.
- 10) Amit attaches one end of a string to a steel paper clip and the other end to a table. The string is very light. He then uses a magnet to attract it so the clip seems to float in air. However, when she lifts the magnet, the paper clip falls. What is the reason for this?
- A. The potential energy of the clip decreases.
  - B. The gravitational force near the magnet increases.
  - C. The magnetic properties of the clip decreases.
  - D. The magnetic field strength near the clip decreases ✓

11) A rod P is hung on a string and then another rod Q is brought near it. P and Q attract each other. Which of the following statements is correct?

- A. P must be a magnetic object.
- B. Q must be a magnetic object.
- C. Both P and Q must be magnetic objects.
- D. It is possible that P and Q both are magnetic objects or only one of them is. ✓

12) A piece of metal can be deduced to become a magnet if

- A. both ends of a compass needle are attracted to it.
- B. a magnet is attracted to it.
- C. one end of a compass needle is repelled by it. ✓
- D. copper wire is repelled by it.

13) Which of the following statements describes an example of induced magnetism?

- A. A bar magnet, swinging freely, comes to rest pointing North-South.
- B. A bar magnet loses its magnetism if it is repeatedly dropped.
- C. A bar magnet attracts a piece of soft iron. ✓
- D. It is hard to magnetise steel, but easy to magnetise soft iron.

14) A metal bar X-Y hung by a thread always settles in no definite direction. Another bar P-Q of the same metal always comes to rest with end P pointing North. What is the result if the two bars are brought near one another?

- A. P attracts X but repels Y.
- B. P neither attracts nor repels X.
- C. P attracts X but Q repels Y.
- D. P and Q both attract X. ✓

15) Which of the following is suitable to be used for the needle of a plotting compass?

- A. Brass
- B. Copper
- C. Iron

D. Steel ✓

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