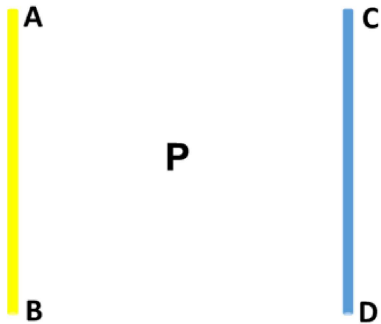


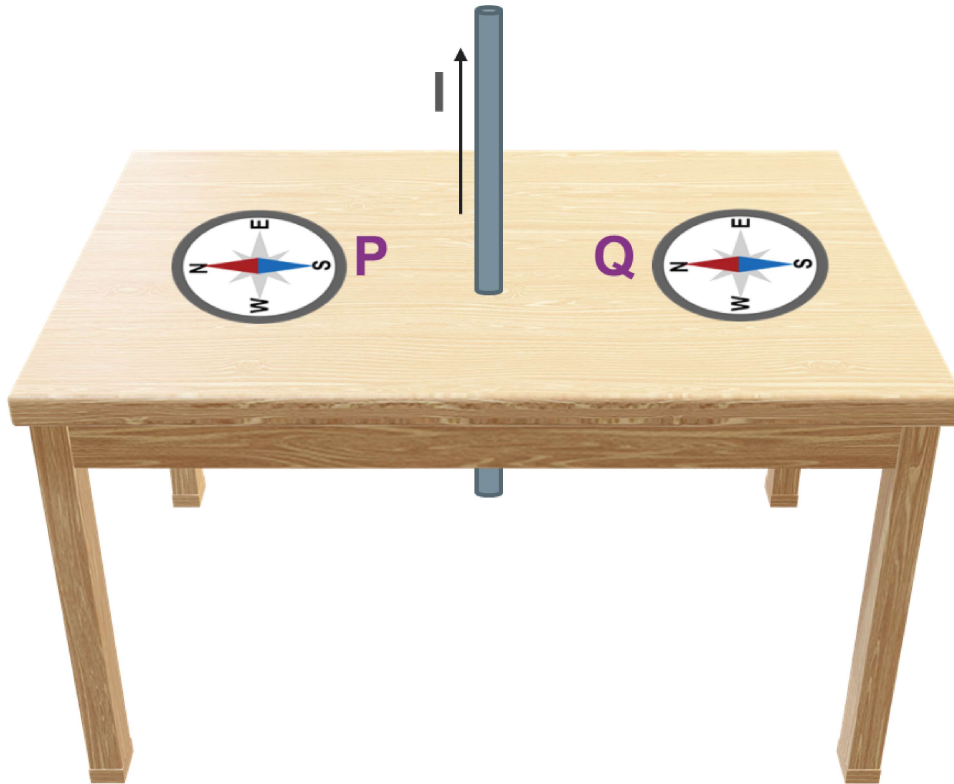
Magnetic Effects of Electric Current: 5 Intriguing Questions

CBSE: Term 2
Grade 10th: Physics

Instructions:

1. This set contains 5 questions.
2. Go through the questions properly.
3. Attempt all the questions.
4. Each question contains four options.
5. Only one of the options is correct.

1.	<p>Two identical conductors AB and CD carry the same magnitude of current. The direction of the magnetic field at point P, which is equidistant from both the conductors, is out of the plane of the paper. What is the direction of electron flow in both the conductors?</p>  <p>A. Upward in both AB and CD B. Upward in AB and Downward in CD C. Downward in AB and Upward in CD D. Downward in both AB and CD</p>
2.	<p>A current carrying wire passes through the middle of the table and two magnetic compasses are placed on positions P and Q on the table as shown. In which direction would the two north poles point to?</p>



- A. P - towards east; Q - towards west
- B. P - towards west; Q - towards east
- C. P - towards east; Q - towards east
- D. P - towards west; Q - towards west

Which of the following statements are incorrect?

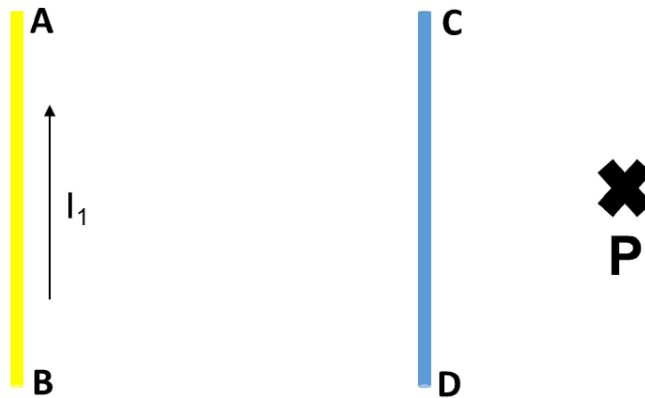
3.

- I. Only changing current can cause a magnetic field.
- II. The direction of the magnetic field inside a bar magnet is from the South pole to North pole.
- III. Two current carrying conductors always attract each other irrespective of the direction of the currents in both the conductors.
- IV. Magnetic field is created by both stationary and moving charges.

- A. Only II and III
- B. Only I and IV
- C. Only I, III and IV
- D. Only III and IV

4.

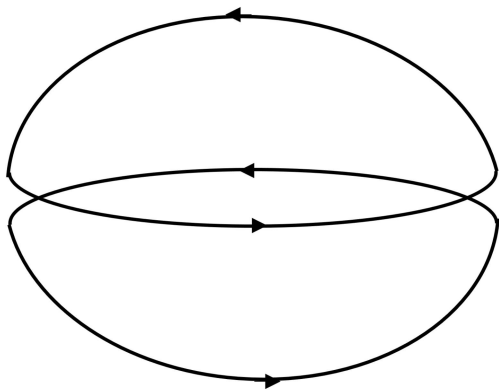
Two identical wires AB and CD are carrying currents I_1 and I_2 respectively. If I_1 is directed upwards, and the magnetic field at point P is directed into the plane of the paper, which of the following is impossible?



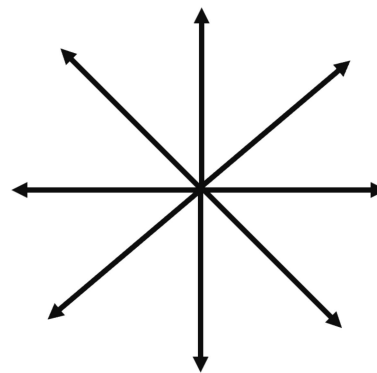
- A. I_2 is downwards and $I_2 < I_1$
- B. I_2 is upwards
- C. I_2 is downwards and $I_2 > I_1$
- D. $I_2 = 0$

5.

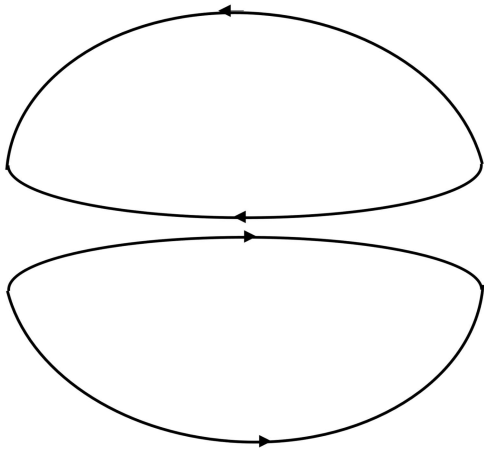
Which of the following figures can be valid magnetic field lines?



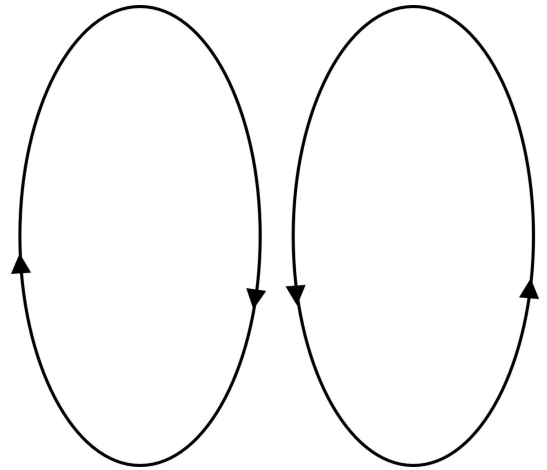
A.



B.



C.



D.