



PHYSICS

BOOKS - ICSE

MAGNETISM

Examples

1. You are given two identical bars, one of which is magnetised. How will you select the magnetised bar?



[Watch Video Solution](#)

2. A horse shoe magnet has two iron needles attached at its ends. Show on a diagram the positions occupied by the needles and name the phenomenon which comes into play.



[Watch Video Solution](#)

3. You are given a magnetised bar and a compass needle. How will you mark polarity at

the ends of the bar ?



Watch Video Solution

4. Draw a labelled diagram to make an electro magnet from a soft iron bar AB. Mark the polarity at its ends. What precaution would you observe ?



Watch Video Solution

Exercise 10 A

1. What is a lodestone ?



Watch Video Solution

2. What is a natural magnet ? State two limitations of a natural magnet.



Watch Video Solution

3. What is an artificial magnet ? State two reasons why do we need artificial magnets.



[Watch Video Solution](#)

4. How will you test whether a given rod is made of iron or copper?



[Watch Video Solution](#)

5. You are given two similar bars. One is a magnet and the other is of soft iron. How will you distinguish and identify them?



[Watch Video Solution](#)

6. Fill in the blanks to complete the sentences :

Two ends of a magnet are called



[Watch Video Solution](#)

7. Fill in the blanks to complete the sentences :

Unlike poles of a magnet each other.



[Watch Video Solution](#)

8. Fill in the blanks to complete the sentences :

Like poles of a magnet each other.



Watch Video Solution

9. Fill in the blanks to complete the sentences :

A freely suspended magnet rests in the geographic direction.



Watch Video Solution

10. A small magnet is suspended by a silk thread from a rigid support such that the magnet can freely swing. How will it rest ?
Draw a diagram to show it.



Watch Video Solution

11. Explain the term induced magnetism.



Watch Video Solution

12. Explain what do you understand by magnetic induction. What role does it play in attraction of a piece of iron by a magnet ?



Watch Video Solution

13. Explain the mechanism of attraction of iron nails by a magnet when brought near them.



Watch Video Solution

14. Explain the following: When two pins are hung by their heads from the same pole of a magnet, their pointed ends move apart.



Watch Video Solution

15. Explain the following: Several soft iron pins can cling, one below the other, from the pole of a magnet.



Watch Video Solution

16. Explain the following: The north end of a freely suspended magnetic needle gets attracted towards a piece of soft iron placed a little distance away from the needle.



Watch Video Solution

17. A small iron bar is kept near the north pole of a bar magnet. How does the iron bar acquire magnetism ? Draw a diagram to show the polarity on the iron bar. What will happen if the magnet is removed ?



[Watch Video Solution](#)

18. Induced magnetism is temporary'.

Comment on this statement.



[Watch Video Solution](#)

19. Induction precedes attraction'. Explain the statement.



[Watch Video Solution](#)

20. What do you understand by the term magnetic field lines ?



[Watch Video Solution](#)

21. State four properties of magnetic field lines.



[Watch Video Solution](#)

22. Explain why iron filings which are sprinkled on a sheet of cardboard placed over a bar magnet, take up a definite pattern when cardboard is slightly tapped.



Watch Video Solution

23. Explain the method of plotting magnetic field lines by using a small compass needle.



Watch Video Solution

24. Why don't two magnetic lines of force intersect each other?



[Watch Video Solution](#)

25. In Fig. draw at least two magnetic field lines between the two magnets.

(a)



(b)



[Watch Video Solution](#)

26. State two evidences of the existence of earth's magnetic field.



Watch Video Solution

27. Sketch four magnetic field lines as obtained in a limited space on a horizontal plane in the earth's magnetic field alone.



Watch Video Solution

28. Draw the pattern of magnetic field lines near a bar magnet placed with its north pole pointing towards the geographic north. Indicate the position of neutral points by marking x.



Watch Video Solution

29. State whether the magnetic field lines in part (a) represent a uniform magnetic field or non uniform magnetic field ?





Watch Video Solution

30. Fig. shows a bar magnet placed on the table top with its north pole pointing towards south. The arrow shows the north-south direction. There are no other magnets or magnetic material nearby.



Insert two magnetic field lines on either side of the magnet using arrow head to show the direction of each field line.



Watch Video Solution

31. Fig. shows a bar magnet placed on the table top with its north pole pointing towards south. The arrow shows the north-south direction. There are no other magnets or magnetic material nearby.



Indicate by crosses, the likely positions of the neutral points.



[Watch Video Solution](#)

32. Fig. shows a bar magnet placed on the table top with its north pole pointing towards south. The arrow shows the north-south direction. There are no other magnets or magnetic material nearby.



What is the magnitude of the magnetic field at each neutral point? Give a reason for your answer.



Watch Video Solution

33. What conclusion is drawn regarding the magnetic field at a point if a compass needle at that point rests in any direction ? Give reason for your answer.



Watch Video Solution

34. What is a neutral point? How is the position of a neutral point located with the use of a compass needle ?



Watch Video Solution

35. State the positions of neutral points when a magnet is placed with its axis in the magnetic meridian and with its north pole pointing towards the geographic north .



Watch Video Solution

36. State the positions of neutral points when a magnet is placed with its axis in the magnetic meridian and with its north pole pointing towards the geographic north .





[Watch Video Solution](#)

37. Complete the following sentence :

If the field lines in a magnetic field are parallel and equidistant, the magnetic field is



[Watch Video Solution](#)

38. Complete the following sentence :

At a neutral point, the resultant magnetic field is



[Watch Video Solution](#)

39. Complete the following sentence :

The neutral points of a bar magnet kept with its north pole pointing towards geographic north are located



Watch Video Solution

Exercise 10 A Multiple Choice Type

1. Two like magnetic poles :

A. repel each other

B. attract each other

C. first attract each other, then repel

D. neither attract nor repel.

Answer: A



Watch Video Solution

2. In a uniform magnetic field, the field lines are :

A. curved

B. parallel and equidistant straight lines

C. parallel, but non-equispaced straight lines

D. nothing can be said.

Answer: B



Watch Video Solution

Exercise 10 B

1. What is an electromagnet ?



[Watch Video Solution](#)

2. Name the material used for preparing an electromagnet.



[Watch Video Solution](#)

3. How is an electromagnet made ? Name two factors on which the strength of the magnetic field of an electromagnet depends.



[Watch Video Solution](#)

4. You are required to make an electromagnet from a soft iron bar by using a cell, an insulated coil of copper wire and a switch. Draw a circuit diagram to represent the process.



[Watch Video Solution](#)

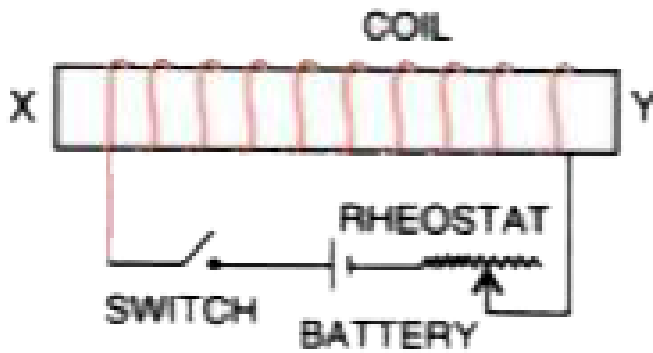
5. You are required to make an electromagnet from a soft iron bar by using a cell, an insulated coil of copper wire and a switch

Label the poles of the electromagnet.



[Watch Video Solution](#)

6. Fig. shows a coil wound around a soft iron bar XY.

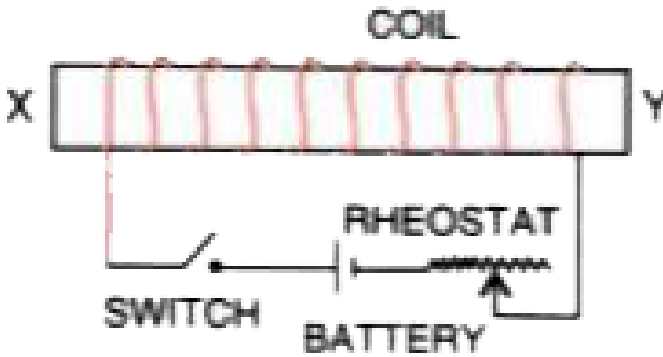


State the polarity at the ends X and Y as the switch is pressed.



[Watch Video Solution](#)

7. Fig. shows a coil wound around a soft iron bar XY.



Suggest one way of increasing the strength of the electromagnet so formed.

[Watch Video Solution](#)

8. A coil of insulated copper wire is wound around a piece of soft iron and current is passed in the coil from a battery. What name

is given to the device so obtained ? Give one use of the device mentioned by you.



[Watch Video Solution](#)

9. Show with the aid of a diagram how a wire is wound on a U-shaped piece of soft iron in order to make it an electromagnet. Complete the circuit diagram and label the poles of the electromagnet.



[Watch Video Solution](#)

10. State two ways by which the strength of magnetic field of an electromagnet can be increased.



Watch Video Solution

11. Name a common device that uses electro magnets.



Watch Video Solution

12. State two advantages of an electromagnet over a permanent magnet.



Watch Video Solution

13. State two differences between an electromagnet and a permanent magnet.



Watch Video Solution

14. Why is soft iron used as the core of the electromagnet in an electric bell ?



Watch Video Solution

15. How is the working of an electric bell affected, if alternating current is used instead of direct current ?



Watch Video Solution

16. Name the material used for making the armature of an electric bell. Give a reason for your answer.



Watch Video Solution

Exercise 10 B Multiple Choice Type

1. Electromagnets are made up of:

A. steel

B. copper

C. soft iron

D. aluminium

Answer: C



Watch Video Solution

2. State two ways by which the strength of magnetic field of an electromagnet can be increased.

A. reversing the directions of current

B. using alternating current of high frequency

C. increasing the current in the coil

D. decreasing the number of turns of coil.

Answer: C



Watch Video Solution