



PHYSICS

BOOKS - MBD

MAGNETIC EFFECTS OF ELECTRIC CURRENT

Example

1. Why does a compass needle get deflected when brought near bar magnet?



Watch Video Solution

2. Draw magnetic lines around a bar magnet



Watch Video Solution

3. List the properties of magnetic lines of force.



Watch Video Solution

4. Write characteristics of magnetic field lines.



[Watch Video Solution](#)

5. Why two magnetic lines of forces never intersect each other?



[Watch Video Solution](#)

6. Consider a circular loop of wire lying in the plane of the table, let the current pass

through the loop clockwise apply right hand rule to find out the direction of the magnetic field inside and outside the loop.



[Watch Video Solution](#)

7. The magnetic field in a given region is uniform. Draw a diagram to represent it.



[Watch Video Solution](#)

8. Choose the correct option

The magnetic field inside a long straight solenoid carrying current

A. is zero

B. decreases as we move towards end

C. increase as we move towards

D. is same at all points

Answer:



Watch Video Solution

9. Which of the following property of proton can change while is moves freely in a magnetic field?

There may be more than one correct answer.

A. mass

B. speed

C. velocity

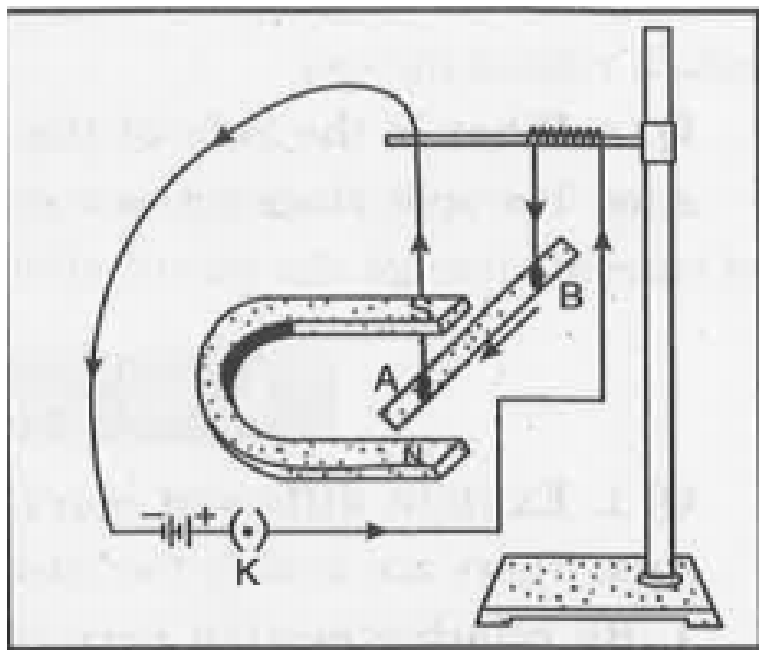
D. momentum

Answer:



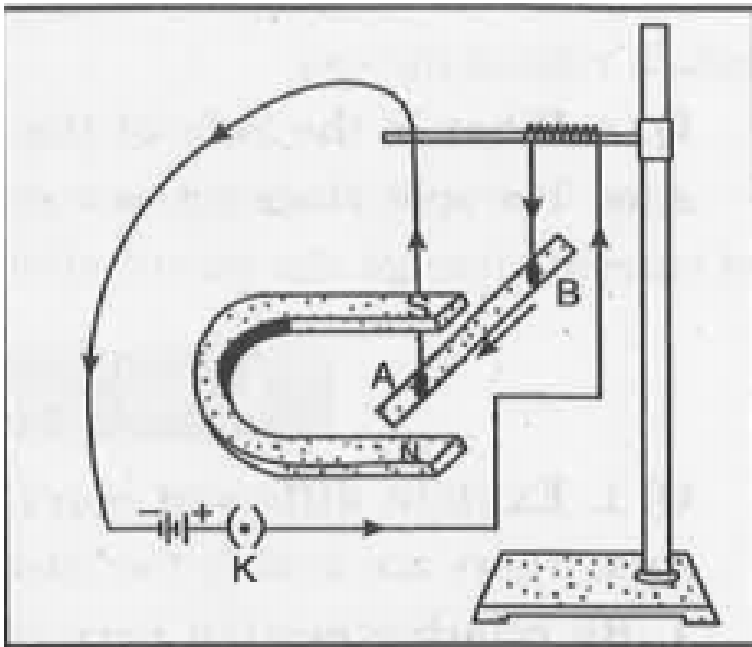
Watch Video Solution

10. In activity shown, how do you think the displacement of rod AB will be affected :if the current in rod ab is increased,



Watch Video Solution

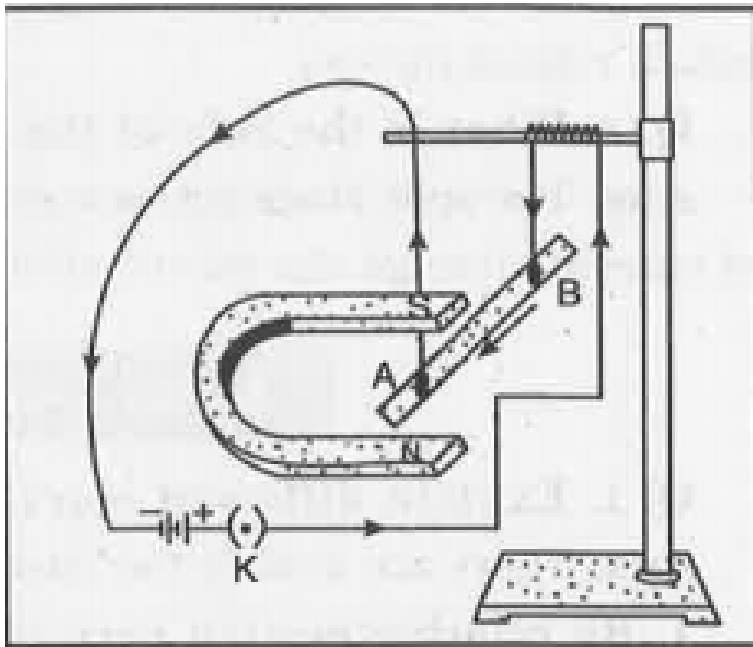
11. In activity shown, how do you think the displacement of rod AB will be affected :A stronger horse shoe magnet is used,



 Watch Video Solution

12. In activity shown, how do you think the displacement of rod AB will be affected

:Length of the rod AB is increased



[Watch Video Solution](#)

13. A positively charged particle emitted from a nucleus alpha particle projected towards west is deflected towards north by a magnetic field.

The direction of the magnetic field is,

A. towards south

B. towards east

C. downward

D. upward

Answer:



Watch Video Solution

[Watch Video Solution](#)

14. State Fleming's left hand rule.



[Watch Video Solution](#)

15. What is the principle of an electric motor?



[Watch Video Solution](#)

16. What is the role of the split ring in an electric motor?



[Watch Video Solution](#)

17. Explain different ways to induce current in a coil.



[Watch Video Solution](#)

18. State the principle of electric generator



[Watch Video Solution](#)

19. Name some sources of direct current.



Watch Video Solution

20. Which sources produce alternating current?



Watch Video Solution

21. Choose the correct option: A rectangular coil of copper wires is rotated in magnetic

field. The direction of induced current changes once in each:

- A. two revolutions,
- B. one revolution
- C. half revolution,
- D. one-fourth revolution

Answer:



Watch Video Solution

22. Name two safety measures commonly used in electric circuits and appliances



Watch Video Solution

23. Write two safety measures commonly used in electric circuit appliances



Watch Video Solution

24. An electric oven of 2k W power rating is operated in a domestic electric circuit (220 V) That has current rating of 5 a. What result do you expect? Explain.



[Watch Video Solution](#)

25. What precautions should be taken to avoid the overloading of domestic electric circuit?



[Watch Video Solution](#)

26. Which of the following correctly describes the magnetic field near a long wire?

A. The field consists of: Straight lines perpendicular to the wire

B. Straight lines parallel to the wire

C. Radial lines originating from the wire

D. The field consists of concentric circles centred on the wire

Answer:



Watch Video Solution

27. The phenomenon of electromagnetic is:

A. the process of charging a body

B. The process of generating magnetic field
due to a current passing through a coil.

C. Producing induced current in a coil due
to relative motion between a magnet
and the coil

D. The process of rotating the coil of an electric motor.

Answer:



Watch Video Solution

28. The device used for producing electric current is called,

A. generator

B. galvanometer

C. ammeter

D. motor

Answer:



Watch Video Solution

29. The essential difference between an AC generator and a DC generator is that:

A. AC generator has an electromagnet while a DC generator has a permanent

magnet

B. DC generator will generate higher voltage.

C. AC generator will generate higher voltage.

D. AC generator has slip rings while the DC generator has a commutator.

Answer:



Watch Video Solution

30. At the time of short circuit, the current in the circuit.

A. reduces substantially

B. does not change

C. increase heavily

D. vary continuously.

Answer:



Watch Video Solution

31. State whether the following statements are true or false. An electric motor converts mechanical energy into electric energy



Watch Video Solution

32. State whether the following statements are true or false: An electric generator works on the principle of electromagnetic induction



Watch Video Solution

33. State whether the following statements are true or false: The field at the centre of a long circular coil carrying current will be parallel straight lines.



Watch Video Solution

34. State whether the following statements are true or false. A wire with a green insulations usually the live wire.



Watch Video Solution

35. List three sources of magnetic field.



Watch Video Solution

36. How does a solenoid behave like a magnet? Can you determine north and south poles of current carrying solenoid with the help of bar magnet? Explain



Watch Video Solution

37. When is the force experienced by a current carrying conductor placed in a magnetic field, the largest?



Watch Video Solution

38. Imagine that you are sitting in a chamber with your back to one wall an electron beam moving horizontally with back towards the front wall ,is deflected by a strong magnetic field to your right side. What is the direction of the magnetic field?



[Watch Video Solution](#)

39. What is the role of the split ring in an electric motor?



[Watch Video Solution](#)

40. Name some devices in which electric motors are used.



[Watch Video Solution](#)

41. A coil of insulated copper wire is connected to a galvanometer, what will happen if a bar magnet is pushed into the coil



Watch Video Solution

42. A coil of insulated copper wire is connected to a galvanometer, what will happen if a bar magnet is Withdrawn from inside the coil.



Watch Video Solution

43. A coil of insulated copper wire is connected to a galvanometer what will happen if a bar magnet is held stationary in the coil?



Watch Video Solution

44. Two circular coils A and B placed closed to each other. If the current in the coil A is changed, will some current be induced in coil B? Give reason



Watch Video Solution

45. When does an electric short circuit occur?



Watch Video Solution

46. What is the function of earth wire? Why is it necessary to earth metallic appliances?



Watch Video Solution

47. State two properties of magnetic field lines.



Watch Video Solution

48. Given magnetic field due to solenoid on what factors the strength of the field depends?



Watch Video Solution

49. What is solenoid? How does a solenoid behave like a bar magnet?



Watch Video Solution

50. What is an electromagnet? Upon what factors its strength depends?



Watch Video Solution

51. Explain principal, construction and working of D.C. generator.



Watch Video Solution

52. Arrange an activity to show that current is produced due to change in magnetic field.



Watch Video Solution

53. What are essential precautions to be used while using electricity?



Watch Video Solution

54. What are magnetic field lines? How can the magnetic lines of force due to a bar magnet be shown?



Watch Video Solution

55. How will you prove that current flowing through a copper wire produces magnetic effect?



Watch Video Solution

56. What do you understand by magnetic effect of current? To understand this effect give oersted experiment



Watch Video Solution

57. Write important properties of magnetic lines of force?



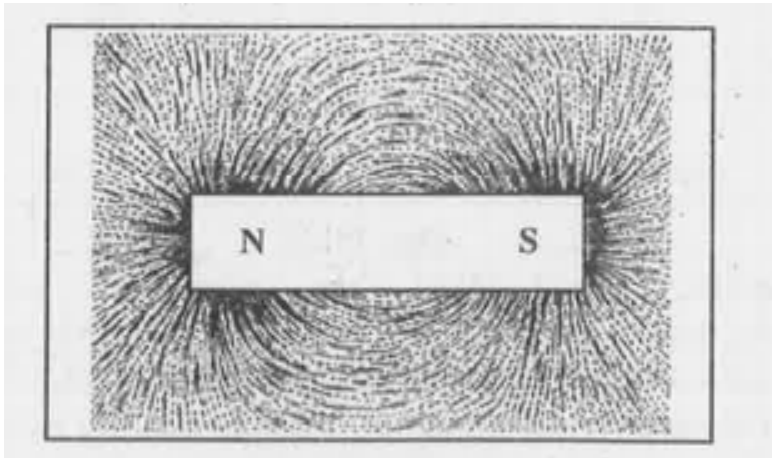
[Watch Video Solution](#)

58. How will you represent diagrammatically uniform and non-uniform magnetic field?



[Watch Video Solution](#)

59. In the given figure what are the lines shown around the magnet called? Also give any two properties of these lines.



[Watch Video Solution](#)

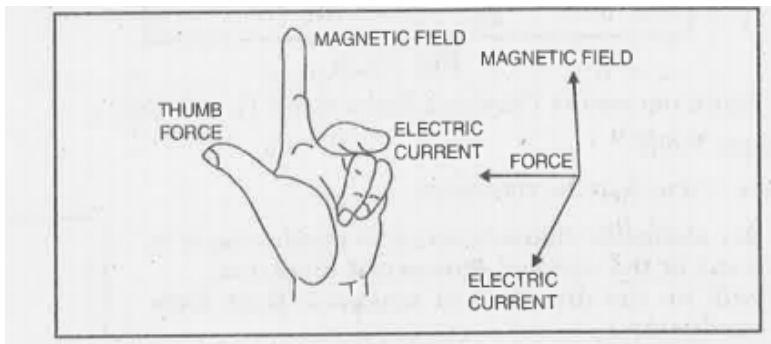
60. What is Maxwell's right hand thumb rule?





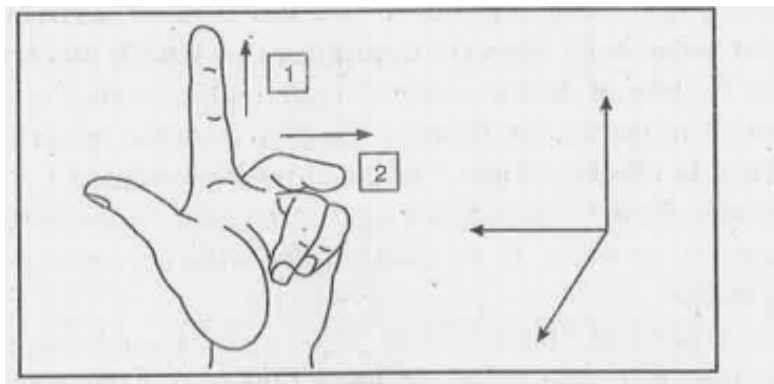
Watch Video Solution

61. Which rule is shown in the figure? Define the rule in which device this rule is used?



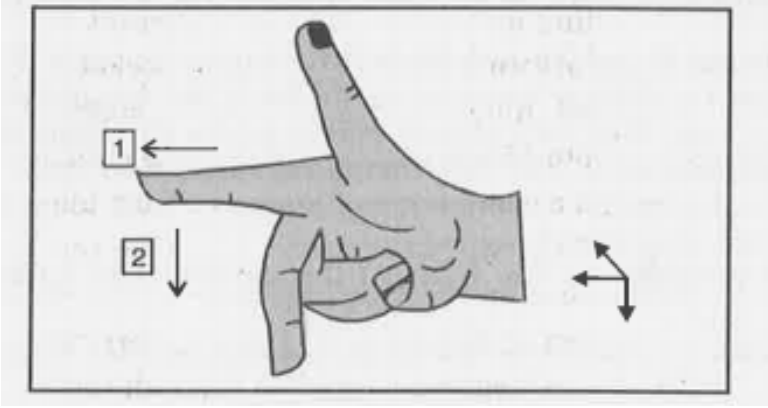
Watch Video Solution

62. In the figure which law is shown? label 1 and 2 in relation to the law shown.



Watch Video Solution

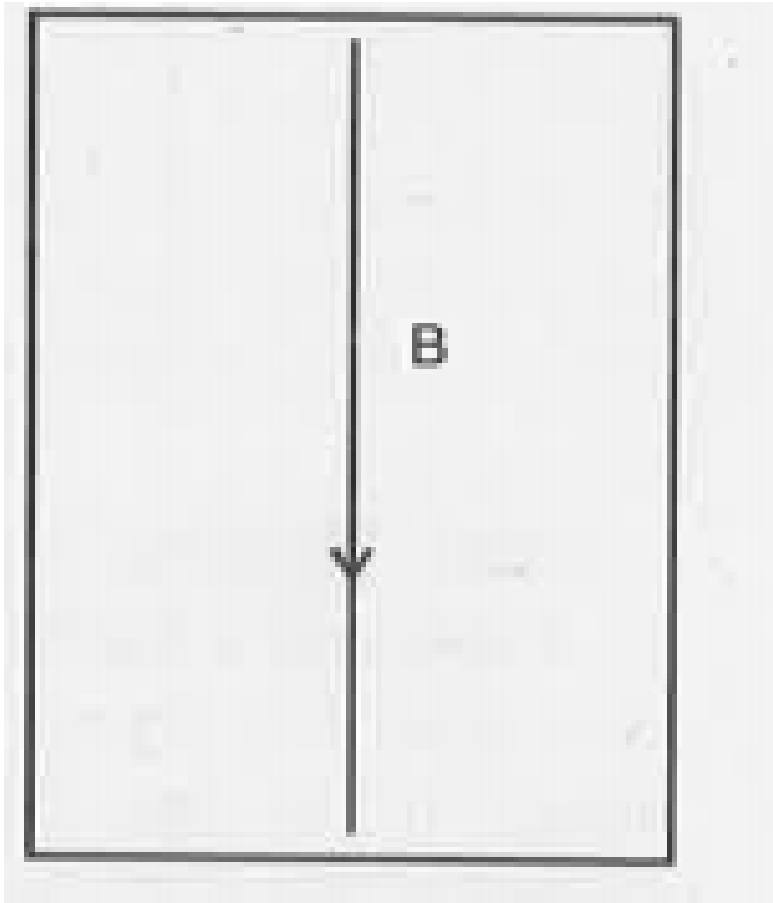
63. Name the law shown in the figure label 1 and 2 according to this law.



[Watch Video Solution](#)

64. In the alongside figure a straight conductor B is carrying current in the vertical downward direction. What will be the direction of magnetic field lines around the

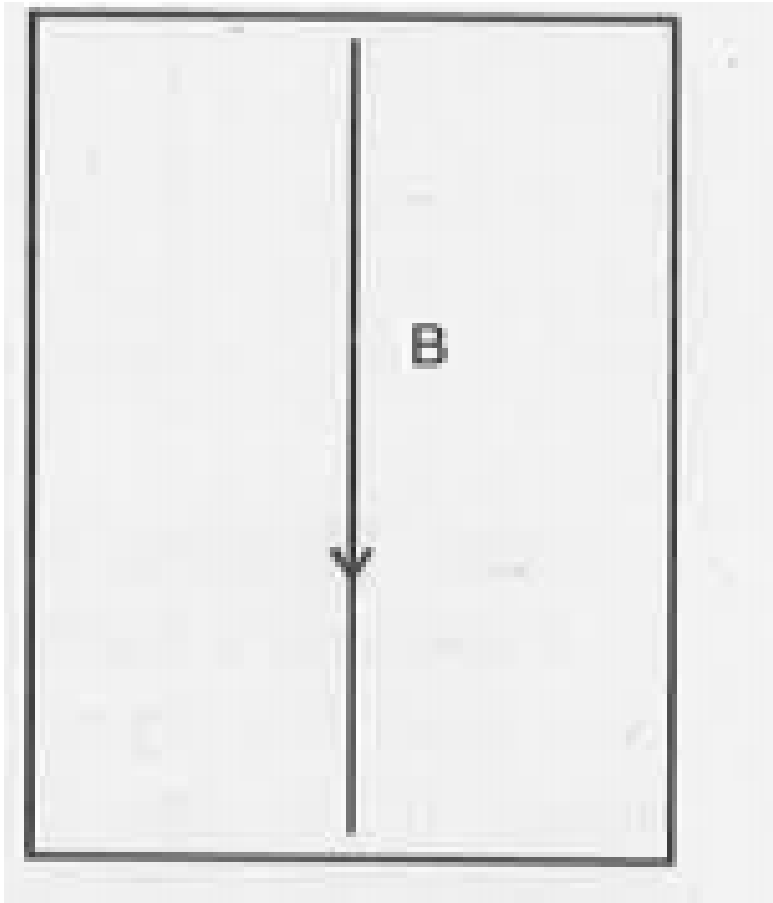
conductor?



Watch Video Solution

65. In the alongside figure a straight conductor B is carrying current in the vertical downward direction. What will be the direction of magnetic field lines around the

conductor?



[Watch Video Solution](#)

66. What is electro-magnetic induction?



Watch Video Solution

67. List some such electric appliances in which electric motor is used.



Watch Video Solution

68. What is electric fuse ?Why is its important?



Watch Video Solution

69. Why the fuse wire should have high resistance and low melting point?



Watch Video Solution

70. What is meant by over-loading?



Watch Video Solution

71. When does an electric short circuit occur?



[Watch Video Solution](#)

72. What are hazards of electricity?



[Watch Video Solution](#)

73. What is a dynamo?



[Watch Video Solution](#)

74. On what principle is a.c.motor based?



Watch Video Solution

75. What is an electric motor?



Watch Video Solution

76. List three sources of magnetic field.



Watch Video Solution

77. Name the physical quantity whose S.I. unit is weber / m^2 .



[Watch Video Solution](#)

78. In which part of a bar magnet, The magnetic field lines are more denser?



[Watch Video Solution](#)

79. How does the strength of the magnetic field at the centre of a circular coil of a wire depend on:(a)radius of the coil(b) number of turns of coil.



Watch Video Solution

80. Name any two devices which uses electric motor as an essential component in their working.



Watch Video Solution

81. Define an ellectromagnet



Watch Video Solution

82. Define magnetic pole.



Watch Video Solution

83. Name two electric devices which act on magnetic effect of electric current.





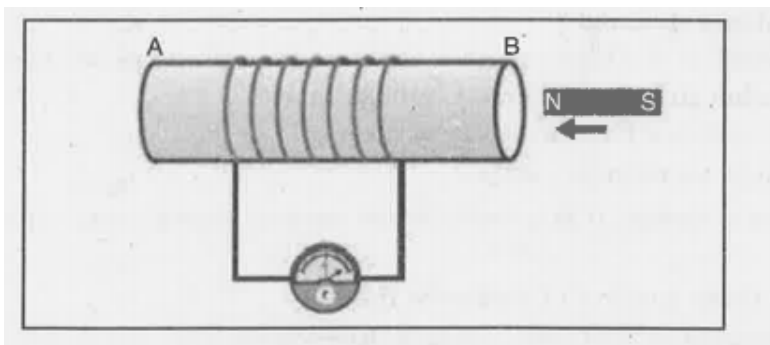
[Watch Video Solution](#)

84. What is electric fuse? Why is its important?



[Watch Video Solution](#)

85. Which electrical phenomenon is responsible for deflection of galvanometer needle in the given figure?





Watch Video Solution

86. The direction of magnetic field produced on passing electric current in a conductor is determined by

- A. Maxwell's left hand rule
- B. Flemings right hand rule
- C. Flemings left hand rule
- D. Faraday's law

Answer:



Watch Video Solution

87. The direction of the force produced in a current carrying coil placed in a strong magnetic field is determined by

- A. Maxwell's right hand rule
- B. Flemings right hand rule
- C. Flemings left hand rule
- D. faradays law

Answer:



Watch Video Solution

88. What is the colour of neutral wire in a domestic electric circuit?

A. black

B. red

C. green

D. no specific colour

Answer:



89. When a current carrying wire and neutral wire come in contact so that heavy current beings to flow, this arrangement is called

- A. overloading
- B. short circuit
- C. earthing
- D. all the above

Answer:



Watch Video Solution

90. Connecting metallic frame of high power electrical appliances with the earth wire of domestic circuit is called

- A. overloading
- B. short circuit
- C. earthing
- D. all of these

Answer:



Watch Video Solution

91. Which of the following is source of direct current?

- A. dry cell
- B. button cell
- C. lead battery
- D. all these

Answer:



92. The device used for producing electric current is called:

- A. generator
- B. galvanometer
- C. ammeter
- D. motor

Answer:



93. Similar magnetic poles...

A. attract

B. repel

C. both attract and repel

D. none of these

Answer:



Watch Video Solution

94. Magnetic field lines are....

A. straight lines

B. curved

C. closed curves

D. triangular

Answer:



Watch Video Solution