



PHYSICS

BOOKS - MODERN PUBLICATION

MAGNETIC EFFECTS OF ELECTRIC CURRENT

Example

1. Give important properties of magnets.



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2. State two properties of magnetic field lines.



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3. Draw magnetic field lines for a straight current carrying conductor. On what factors does the magnitude of magnetic field depends?



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4. With the help of which rule can you find the direction of magnetic field due to a current carrying wire? Explain the rule.



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5. Draw magnetic field lines due to a current carrying circular wire placed in vertical plane



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6. Draw magnetic field lines due to a current carrying circular wire placed in a horizontal plane.



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7. On what factors does the magnitude of magnetic field at the centre of a current carrying circular wire depends.



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8. What is a solenoid .On what factors does the strength of magnetic field depends? What is its main use?



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9. What is the difference between an electromagnet and a permanent magnet? How is an electromagnet designed? State any two factors on which the strength of an electromagnet depends.





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10. What does the direction of thumb indicate in the right hand thumb rule?



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11. Give the arrangement of magnetic field lines around a straight wire and state the rule to find the direction of magnetic field.



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12. Draw the pattern of magnetic field lines around a current carrying straight conductor. How does the strength of magnetic field produce change with an increase in current in a conductor?



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13. On what factors does the force acting on a charged particle moving in a magnetic field depends?





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14. What is the direction of force acting on a charged particle q , moving with a velocity in a uniform magnetic field?



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15. On what factors does the force acting on a charged particle moving in a magnetic field depends?



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16. On what principle is d.c. motor based?



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17. What is the principle of electromagnetic damping?



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18. State and explain Faraday's law of electromagnetic induction.



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19. Define Fleming's right hand rule.



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20. What is the difference between steady current and d.c.?



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21. Draw a diagram of domestic electric circuit.



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22. What is electric fuse? Why is it important?



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23. Differentiate between overloading and short circuiting.



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24. Write the advantages of AC over DC.



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25. What is the colour of

Live wire



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



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



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28. Draw magnetic lines around a bar magnet



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29. List the properties of magnetic lines of force.



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





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31. 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.



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



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33. Choose the correct option

The magnetic field inside a long straight solenoid carrying current

A. is zero

B. decrease as we move towards its end

C. increases as we move towards its end

D. is the same at all points.

Answer:



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

There may be more than one correct answer.

A. mass

B. speed

C. velocity

D. momentum.

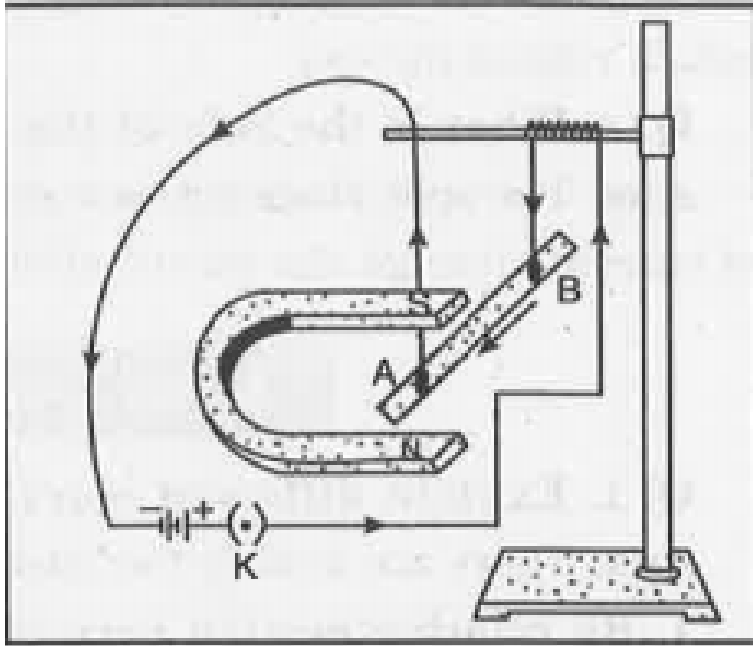
Answer:



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

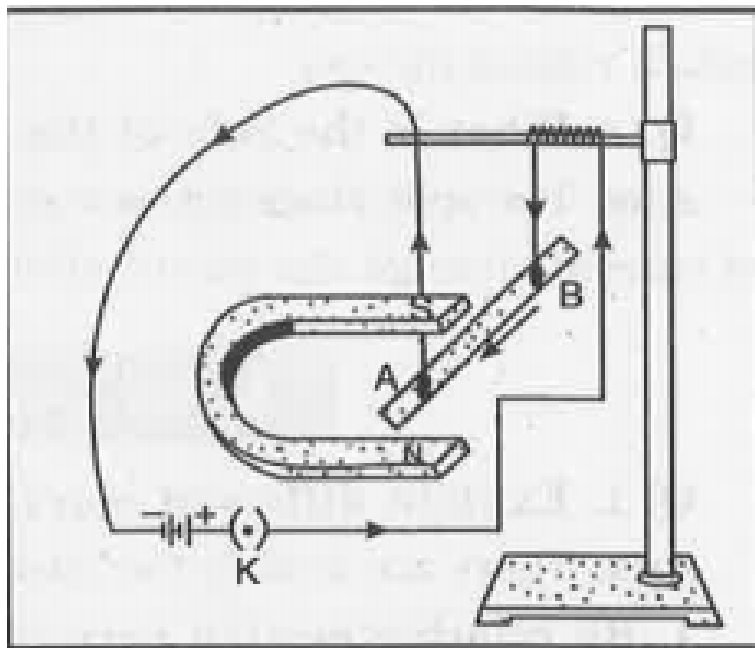
current in rod ab is increased,



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

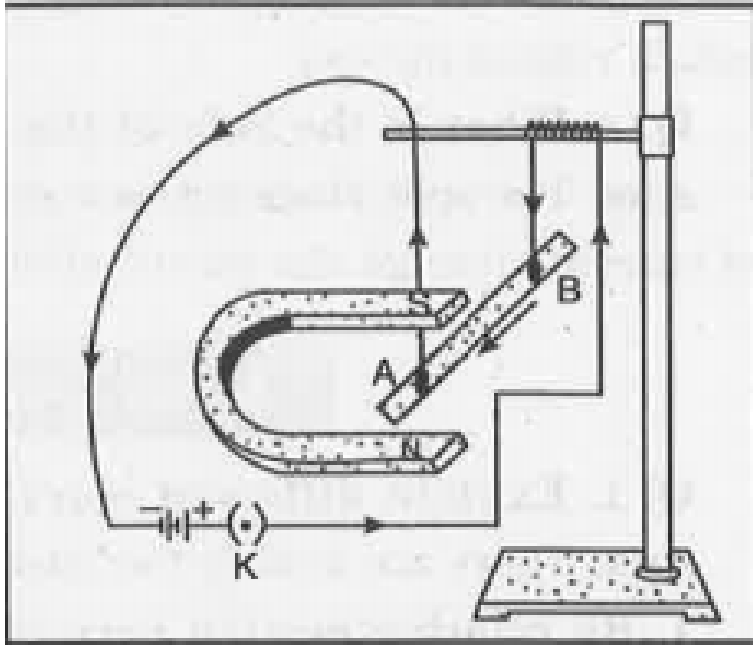
stronger horse shoe magnet is used,



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

:Length of the rod AB is increased



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38. A positivity 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:



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39. State Fleming's left hand rule.



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40. What is the principle of an electric motor?



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



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



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43. State the principle of electric generator



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44. Name some sources of direct current.



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45. Which sources produce alternating current?



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46. 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 revolutions

C. half revolutions

D. one-fourth revolutions.

Answer:



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



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48. An electric oven of 2 k 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.



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



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

A. The field consists of straight line perpendicular of the wire

B. The field consists of straight lines parallel to the wire

C. The field consists of radial lines originating from the wire

D. The fields consists of concentric circles
centered of the wire

Answer:



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51. 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 col

C. producing induced current in a coil by relative motion between a magnet and the coil.

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

Answer:



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

A. generator

B. galvanometer

C. ammeter

D. motor

Answer:



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

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

B. DC generator will generate a higher voltage.

C. AC generator will generate a higher voltage.

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

Answer:



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

A. reduces substantially

B. does not change

C. increases heavily

D. vary continuously

Answer:



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



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



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57. 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.



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



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59. List three sources of magnetic field.



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60. 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



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



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62. 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?



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63. Draw a labelled diagram of an electric motor. Explain its principle and working. What

is the function of split ring in an electric motor?



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



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65. A coil of insulated copper wire is connected to a galvanometer, what will happen if a bar

magnet is pushed into the coil



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



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67. A coil of insulated copper wire is connected to a galvanometer what will happen if a bar

magnet is held stationary in the coil?



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68. 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



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



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70. State the rule to determine the direction of a

force experienced by a conductor carrying straight current placed in a magnetic field which is perpendicular to it.





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71. Identify the rules to determine the direction of

Current induced in a coil due to rotation in a magnetic field.



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72. Explain the underlying principle and working of an electric generator by drawing a

labelled diagrams. What is the function of brushes?



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73. When does an electric short circuit occur?



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

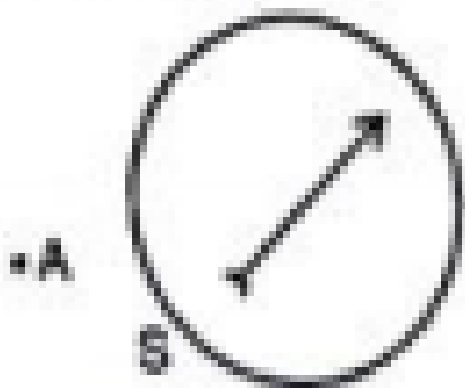


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75. A magnetic compass needle is placed in the plane of paper near point A as shown in figure. In which plane should be a straight current carrying conductor be placed so that it passes through A and there is not change in the deflection of the compass? under what

condition is the deflection maximum and why?

.....



.....



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76. Under what conditions permanent electromagnet is obtained if a current carrying solenoid is used? Support your answer with the help of a labelled circuit diagram.



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77. AB is a current carrying conductor in the plane of the paper as shown in figure.. What are the directions of magnetic fields produced by it at point P and Q? Given $r_1 > r_2$, where will the strength of the magnetic field be larger?



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78. It is established that an electric current through a metallic conductor produces a magnetic field around it. Is there a similar magnetic field produced around a thin beam of moving alpha particles? Justify your answer.



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79. It is established that an electric current through a metallic conductor produces a

magnetic field around it. Is there a similar magnetic field produced around a thin beam of moving

neutrons? Justify your answer.



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80. What does the direction of thumb indicate in the right hand thumb rule?



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81. Meena draw magnetic field lines of field close to the axis of a current carrying circular loop. As she moves away from the centre of the circuit loop she observes that the lines keep on diverging. How will you explain the observations.



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82. What does the divergence of magnetic field lines near the ends of a current carrying

straight solenoid indicate?



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83. Name four appliances whereas an electric motor a rotating device that converts electrical energy to mechanical energy, is used as an important component. In what respect motors are different from generators?



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84. What is the role of the two conducting stationary brushes in a simple electric motor?



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85. Why does a magnetic compass needle pointing North and South in the absence of a nearby magnet get deflected when a bar magnet or a current-carrying loop is brought near it. Describe some salient features of magnetic lines of field concept





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86. The direction of magnetic field in case of a straight current carrying conductor can be found by right hand thumb represents the direction of magnetic field.

Is this statement true.



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87. Explain with the help of a labelled diagram the distribution of a magnetic field due to a

current through a circular loop. Why is it that if a current carrying loop has n turns the field produced at any point is n times as large as that produced by a single turn?



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88. The direction of magnetic field at a point near a current carrying conductor is given by



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89. Draw a labelled diagram of a d.c. motor.

State its principle and explain its working.



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90. What is the difference between direct current and alternating current? How many times does AC used in India change direction in one second?



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91. What is the role of fuse, used in series with any electrica appliances? Why should a fuse with defined rating not be replaed by one with a larger rating?



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92. Explain the phenomenon of electromagnetic inducton. Describe an experiment to show that a current is set up in a closed loop when an external magnetic fiel passing through the loop increases or decreases.



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93. Describe the working an AC generator with the help of a labelled circuit diagram. What changes must be made in the arrangement to convert it to a DC generator?



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94. Draw a schematic diagrams of a common domestic circuit showing provision of

main fuse?



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95. How will you use solenoid to magnetise a steel bar?



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96. Why is pure iron not used for making permanent magnets?

Name one material used for making

permanent magnets. State two example of electrical instruments made by using permanent magnets.



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97. A student performs an experiment to study the magnetic effect of current around a current carrying straight conductor with the help of a magnetic compass. He reports that For a given battery, the degree of deflection on N-pole decreases when the compass is kept

at a point farther away from the conductor.

Is the given statement incorrect.



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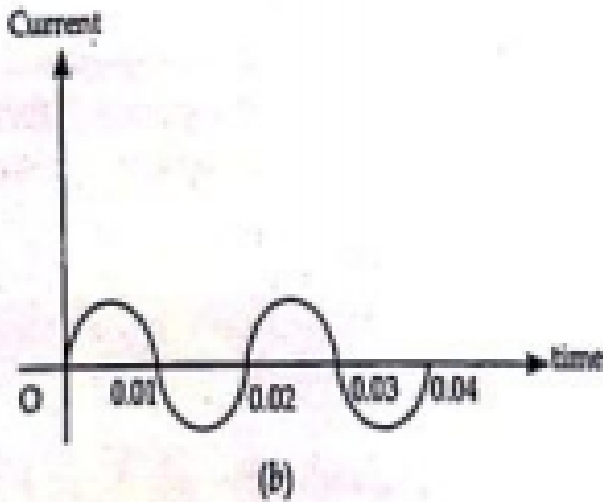
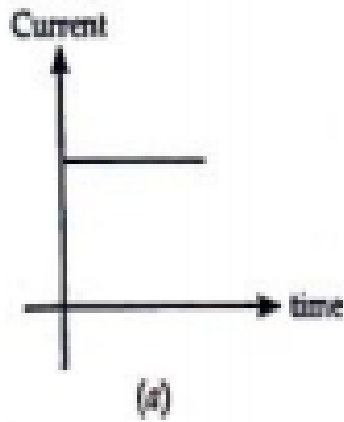
98. A student performs an experiment to study the magnetic effect of current around a current carrying straight conductor with the help of a magnetic compass. He reports that the direction of deflection of the magnetic compass increases when the current through the conductor is increased. Which of the

above observations of the student appears to be wrong and why?



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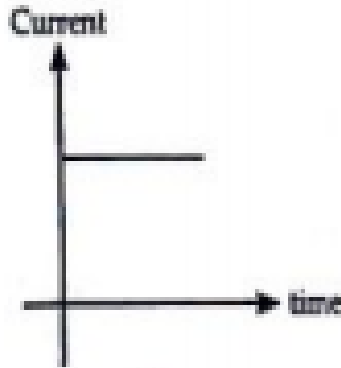
99. You are given following current time graphs from two different sources:



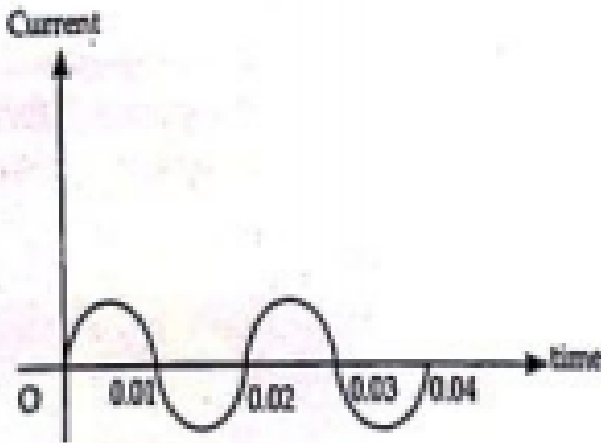
Name the type of current in two cases.

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100. You are given following current time graphs from two different sources:



(a)



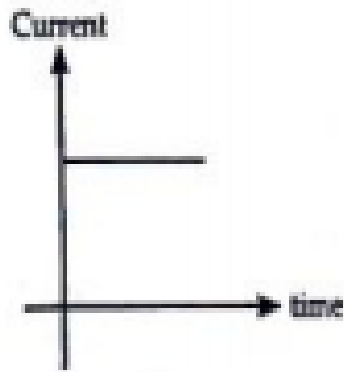
(b)

What is the frequency of current in case in India?

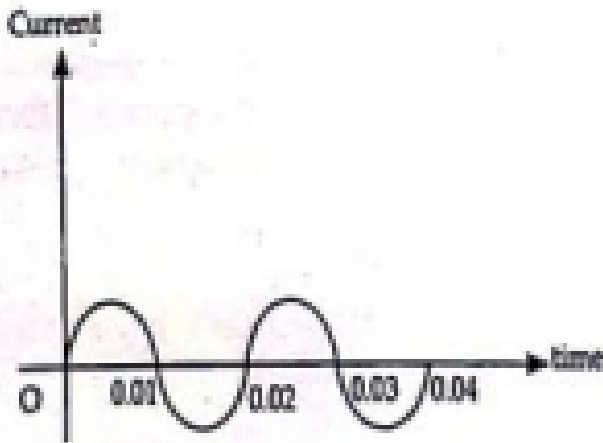


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101. You are given following current time graphs from two different sources:



(a)



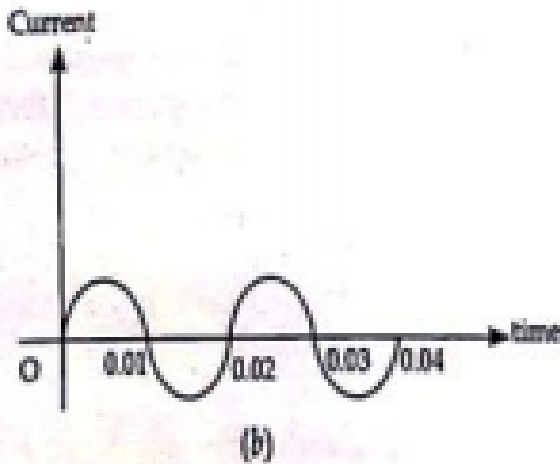
(b)

What is the advantage of AC over DC?



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102. You are given following current time graphs from two different sources:



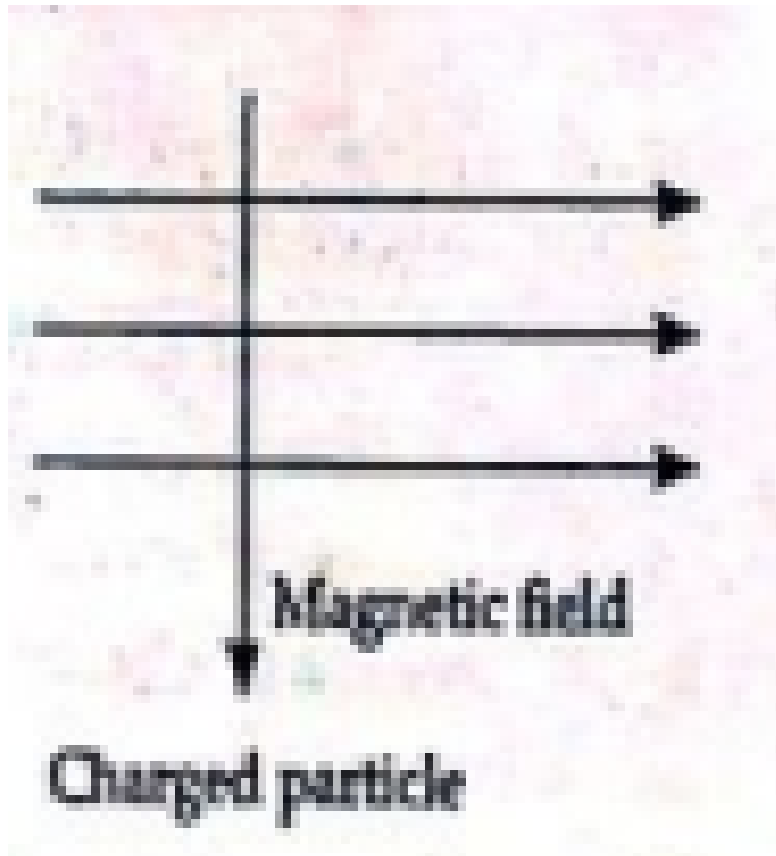
Using above graphs wire two differences between the current in two cases?



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103. A charged particle enters at right angles into a uniform magnetic field as shown: What should be the nature of charge on the particle if it begins to move in a direction pointing vertically out of the page due to its interaction

with the magnetic field?



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104. Two coils A and B of insulated wire are kept close to each other. Coil A is connected to a galvanometer while coil B is connected to a battery through a key. What would happen if: a current is passed through coil B by plugging the key

Explain your answer mentioning the name of the phenomenon involved?



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105. Two coils A and B of insulated wire are kept close to each other. Coil A is connected to a galvanometer while coil B is connected to a battery through a key. What would happen if: the current is stopped by removing the plug from the key?

Explain your answer mentioning the name of the phenomenon involved?



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106. Two circular coils P and Q are kept close to each other, of which coil P carries a current. If coil P is moved towards Q, will some current be induced in coil Q ? Give reason



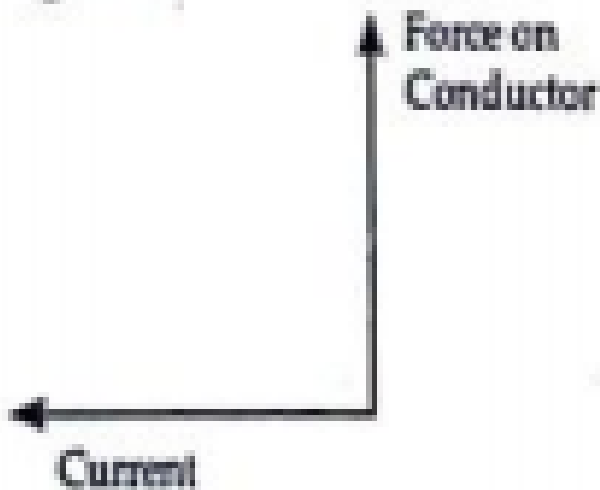
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107. Name the physical quantities which are indicated by the direction of thumb and forefinger in Fleming's right hand side?



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108. State the direction of magnetic field in the following case:



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109. Name the type of current used in household supply.



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110. Name the type of current given by cell.



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111. What is meant by magnetic field? Mention two parameters that are necessary to describe it completely.



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112. If field lines of a magnetic field are crowded at a point, what does it indicate?



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113. List in tabular form two major differences between the electric motor and a generator.



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114. A student performs an experiment to study the magnetic effect of current around a current carrying straight conductor with the help of a magnetic compass. He reports that For a given battery, the degree of deflection on N-pole decreases when the compass is kept

at a point farther away from the conductor.

Is the given statement incorrect.



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115. A student performs an experiment to study the magnetic effect of current around a current carrying straight conductor with the help of a magnetic compass. He reports that the direction of deflection of the magnetic compass increases when the current through the conductor is increased. Which of the

above observations of the student appears to be wrong and why?



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116. Draw a schematic diagrams of a common domestic circuit showing provision of earth wise?



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117. Draw a schematic diagrams of a common domestic circuit showing provision of main fuse?



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118. Draw a schematic diagrams of a common domestic circuit showing provision of electric meter?



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119. Draw a schematic diagrams of a common domestic circuit showing provision of distribution box.



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120. State whether an alpha particle will experience any force it in a magnetic field if(alpha particels are positively charged particles)

it is placed in the field at rest?



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121. State whether an alpha particle will experience any force if it is in a magnetic field if (alpha particles are positively charged particles)

it moves in the magnetic field parallel to field lines.



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122. State whether an alpha particle will experience any force if it is in a magnetic field if (alpha particles are positively charged particles)

it moves in the magnetic field perpendicular to field lines.



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123. Explain the meanings of words 'Electromagnetic' and 'Induction' in the term

electromagnetic induction. State one practical application of this phenomenon in everyday life.



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124. Draw a schematic diagrams of a common domestic circuit showing provision of distribution box.



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125. State the function of fuse and earth wire.



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126. The north pole of a magnet is brought near a stationary positively charged conductor. Will the pole experience any force?



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127. A circular loop of bigger radius will produce higher magnetic field than a loop of smaller radius, if same current is flowing through both the loops, explain.



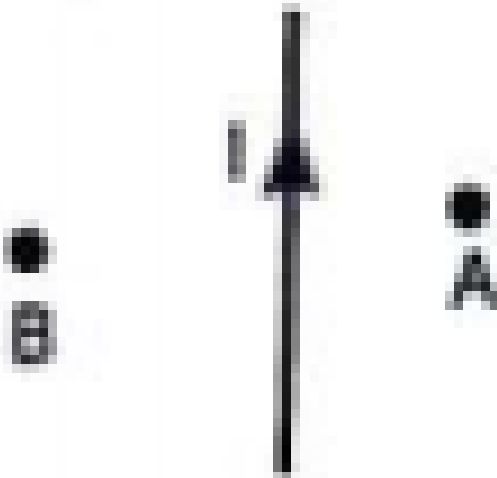
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128. What is the advantage of a solenoid over an ordinary coil?

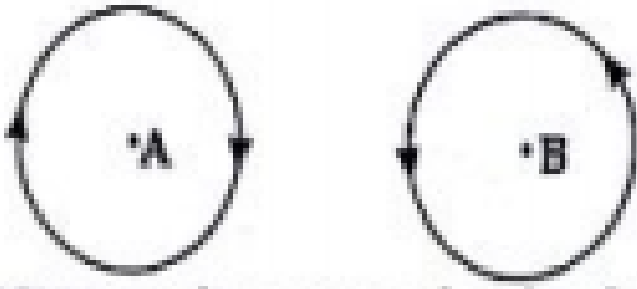


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129. A current is flowing in upward direction on the plane of paper find the direction of magnetic field at A and B



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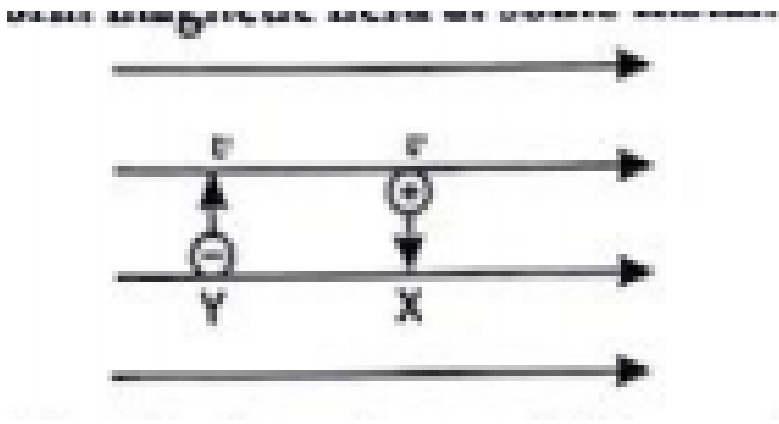
130.

Above shown are two cases of a circular current carrying conductor. Find the direction of magnetic field at the centre of the circular coil. Also find the magnetic pole towards the reader side in both the cases.



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131. A positively charged particle X and a negatively charged particle Y are moving perpendicular in uniform magnetic field at some instant of time.



Find the direction of magnetic force acting on the charged particles at this instant.



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132. Find the direction of magnetic force acting on a straight line current carrying conductor kept perpendicular to a uniform magnetic field B .



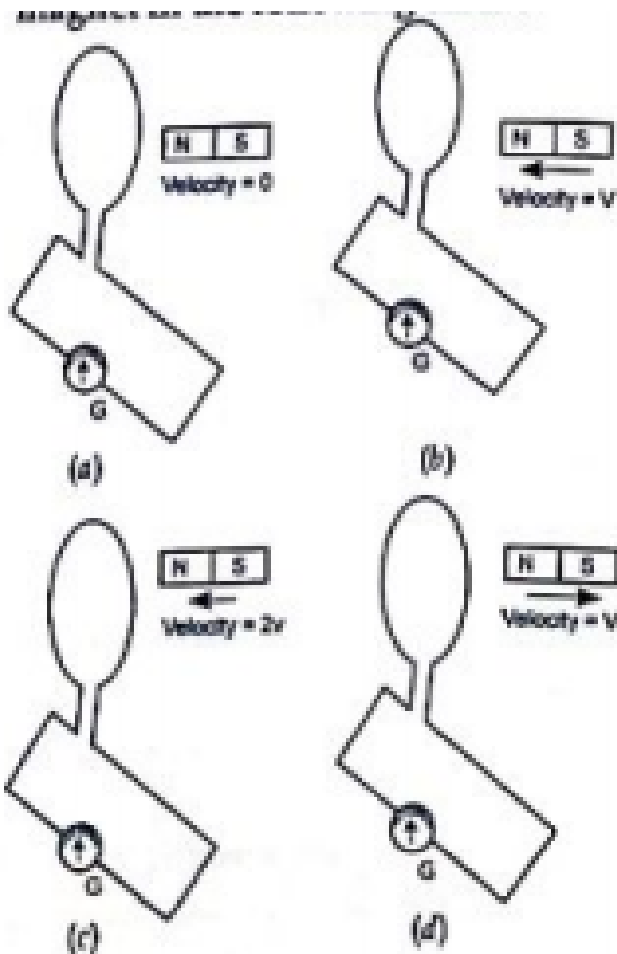
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133. What is a galvanometer?



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134. Find the magnetic pole towards the magnet in the following cases:



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135. What is the frequency of direct current?



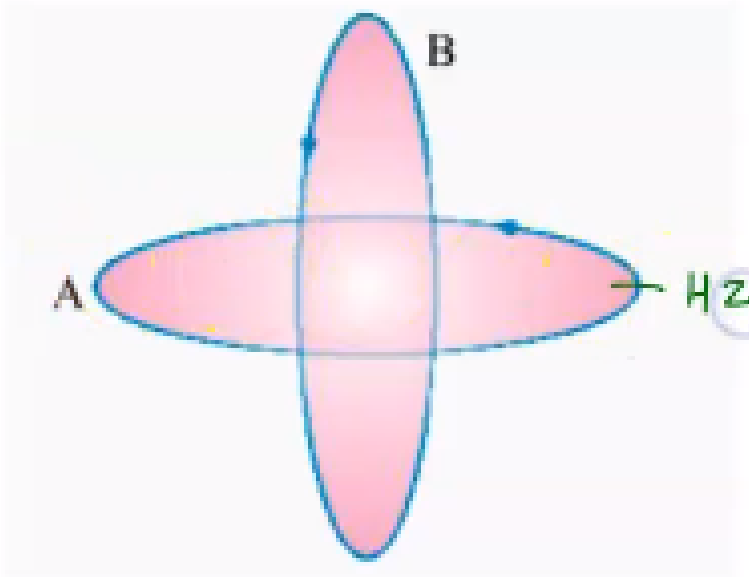
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136. What happens if a bar magnet is cut into pieces along its length?



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137. Two circular conductors are perpendicular to each other as shown in figure. If the current is changed in conductor B, will a current be induced in the conductor A,



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138. Which of the following measures will decrease the strength of the magnetic field of a current carrying solenoid?

A. increase the permeability of the core

B. increase the temperature of the solenoid

C. increase the current

D. all the above measures.

Answer:



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139. An electron beam is moving horizontally south to north in a television tube. The vertical component of earth's magnetic field is directed downwards. In which direction will the beam be deflected?



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140. Does magnetic field exert force on a static charge?



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141. Does it exert a force on a moving charge in the same direction as the direction of field itself?



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142. A proton moving in a straight line enters a strong magnetic field in a direction parallel to the field. What will be the change in its

speed and the direction of motion on moving the magnetic field?



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143. Mention some uses of electromagnet in daily life.



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144. There was a science exhibition in Priyanka's school. Her friends were preparing

complex hi-tech working model to be displayed during the event. Priyanka thought that she would take up a useful project which relates to the day to day requirement for all people. she prepared a working model of a household circuit which displayed the following points clearly:

Parallel circuit for each electrical appliance

Short circuiting

Overloading

Earthing

Fuse

Save electricity

What is the requirement of earth wire?



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145. There was a science exhibition in Priyanka's school. Her friends were preparing complex hi-tech working model to be displayed during the event. Priyanka thought that she would take up a useful project which relates to the day to day requirement for all people. she prepared a working model of a

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Overloading

Earthing

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Save electricity

What is the function of fuse?



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146. There was a science exhibition in Priyanka's school. Her friends were preparing complex hi-tech working model to be displayed during the event. Priyanka thought that she would take up a useful project which relates to the day to day requirement for all people. she prepared a working model of a household circuit which displayed the following points clearly:

Parallel circuit for each electrical appliance

Short circuiting

Overloading

Earthing

Fuse

Save electricity

What is the requirement of earth wire?



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147. Abhimanyu a student of class-V asked from his brother Rohan studying in class X as to how an on switching on a button, the fan starts rotating. Rohan told that there is a motor in the fan which a dynamo converts

electrical energy into mechanical energy.

Abhimanyu requested his brother to show this with the help of a working model.

Then both of them bought required material field magnets, armature, connecting wires, a switch, a carbon brushes, a battery, a split ring

On making the set up Abhimanyu could see the armature rotating

What values were displayed by Rohan?



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Then both of them bought required material field magnets, armature, connecting wires, a switch, a carbon brushes, a battery, a split ring
On making the set up Abhimanyu could see

the armature rotating

What is the principle of working of an electric motor?



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Then both of them bought required material field magnets, armature, connecting wires, a switch, a carbon brushes, a battery, a split ring

On making the set up Abhimanyu could see the armature rotating

Does a water pump also uses an electric motor?



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150. Sheetal and Sonia brought an electric iron having a two pin plug. Devender insisted for a three pin plug for the use of electric iron as it provides earthing and thus help us to prevent us from electric shocks if the electric iron goes faulty.

What is earthing?



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151. Sheetal and Sonia brought an electric iron having a two pin plug. Devender insisted for a three pin plug for the use of electric iron as it provides earthing and thus help us to prevent us from electric shocks if the electric iron goes faulty.

What is earthing?



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Exercise

1. Write the S.I. unit of magnetic field \vec{B} .



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2. With the help of which rule can you find the direction of magnetic field due to a current carrying wire? Explain the rule.



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3. An electric motor converts one form of energy to another. Name these forms.



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4. What is the principle of an electric motor?



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5. What is a compass needle?



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6. what happens to the strength of magnetic field if current flowing in the wire is increased?



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7. Whenever there is a relative motion between a coil and a magnet, and induced current flows in the coil. What is this phenomenon known as?



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



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9. Switch is connected to which wire-live neutral or earth?



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



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11. In an electric circuit... is always connected in parallel



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12. Which of the two circuits 5 ampere or 15 ampere requires a thin fuse wire?



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13. Does current prefers to move in a high or low resistance path?



Watch Video Solution

14. What is the composition of the alloy of which the electric fuse is made up of?



Watch Video Solution

15. What is the frequency of household supply of a.c. in India?



Watch Video Solution

16. Lodestone(Fe_3O_4) has enormous application because it is a strong magnet.



[Watch Video Solution](#)

17. Unlike poles repel each other.

Is this statement true.



[Watch Video Solution](#)

18. The magnetic field lines



[Watch Video Solution](#)

19. Magnetic field lines are discontinuous curves.

Is this statement true.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

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



[Watch Video Solution](#)

22. The strength of magnetic field gets halved if the current flowing in a circular current carrying wire is doubled.

Is this statement true.



[Watch Video Solution](#)

23. The direction of magnetic field at the center of circular current carrying wire can be found by right-hand thumb rule where the curl of finger represents the direction of magnetic field.



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24. If the number of turns of a circular current carrying conductor is doubled, the magnetic

field at its center is also doubled.



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25. An electromagnet is a solenoid with a soft iron core.

Is this statement true.



[Watch Video Solution](#)

26. When the number of magnetic field lines through a closed loop changes ,an induced

current flows in the coil.

Is this statement true.



[Watch Video Solution](#)

27. In 15A wiring the copper wire used is thicker as compared to 5A wiring.

Is this statement true.



[Watch Video Solution](#)

28. The direction of induced current can be found by Fleming's left hand rule.

Give Reasons.



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29. When the current changes the direction 50 times in one second then the frequency of a.c. is 50 Hz.

is this statement true.



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30. Greater the power of an appliance, higher is the current flowing through it.

IS this statement true.



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31. The magnitude of induced emf produced depends on the rate of change of magnetic flux through the coil.

is this statement true.



Watch Video Solution

32. The direction of magnetic field in case of a straight current carrying conductor can be found by right hand thumb represents the direction of magnetic field.

Is this statement true.



Watch Video Solution

33. The magnetic field around a current carrying straight conductor is in concentric

circles with the center of circle at a point where the conductor is not located.

Is this statement true.



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34. If the total number of turns of solenoid is doubled, and simultaneously the length of the solenoid is doubled, then the magnetic field inside the solenoid is also doubled.

Is this statement true.



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35. An electromagnet is a temporary magnet.

Is this statement true.



Watch Video Solution

36. A stationary charged particle in a magnetic field experiences a magnetic force.

Is this statement true.



Watch Video Solution

37. A neutron moving in a magnetic field experiences a magnetic force.

Is this statement true.



Watch Video Solution

38. F is always perpendicular to v and B in the formula $F = q(v \times B)$.

is this statement true.



Watch Video Solution

39. Fill in the blanks

A magnet attracts materials like _____.



Watch Video Solution

40. Space around a in which its magnetic effect can be experienced is called the magnetic field.



Watch Video Solution

41. Fill in the blanks

Magnetic field lines are directed _____ to _____ outside the magnet and _____ to _____ inside the magnet.



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42. Fill in the blanks

The tangent at any point on the magnetic field line gives _____ at that point.



[Watch Video Solution](#)

43. Fill in the blanks

Magnetic field produced by a current carrying conductor depends on _____ and _____.



Watch Video Solution

44. SI unit of magnetic flux is :



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45. Fill in the blanks

The magnetic field produced by a circular current carrying wire at its centre depends on _____ and _____.



[Watch Video Solution](#)

46. Fill in the blanks

A long, tightly wound helical coil of insulated metallic wire is called a _____.



[Watch Video Solution](#)

47. Fill in the blanks

The material used for making permanent magnets are _____.



[Watch Video Solution](#)

48. Fill in the blanks

The magnetic force acting on a charged particle depends on _____ and _____.



[Watch Video Solution](#)

49. Fill in the blanks

Electric motor is a device which converts _____
into _____.



Watch Video Solution

50. Fill in the blanks

The direction of induce current can be found
by _____.



Watch Video Solution

51. Fill in the blanks

A current which flows in the same direction is called _____.



[Watch Video Solution](#)

52. Fill in the blanks

The concept of electromagnetic induction was forwarded by_____.



[Watch Video Solution](#)

53. Fill in the blanks

A device which converts mechanical energy into electrical energy is called ____.



[Watch Video Solution](#)

54. Fill in the blanks

The frequency of alternating current in India is _____.



[Watch Video Solution](#)

55. Fill in the blanks

The principal of working of generator is _____.



Watch Video Solution

56. Fill in the blanks

Electric fuse is an alloy of ____ and _____.



Watch Video Solution

57. Fill in the blanks

When a live wire comes in direct contact with the neutral wire due to fault then it is known as _____.



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58. In household electrical wiring red colour is for _____ wire, black colour is for _____ wire and green colour is for _____ wire.



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59. Where does the north pole of a freely suspended magnet point (Geographical North/ Geographical South)? Why?



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60. Make a list of

Magnetic substance

Non-magnetic substance. Why are some substances magnetic while others are non-magnetic.



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61. Make an electromagnet by using an iron nail, a battery, insulated copper wire, switch. Check the polarity of iron nail at both ends. If the direction of current is reversed by reversing the terminals of battery does the polarity of the ends change? explain your observation.



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62. Make a car whose body is a bar magnet and make it move and stop with the help of another bar magnet.



Watch Video Solution

63. How to make your own magnetic compass.



Watch Video Solution

64. Find the use of electromagnet in medicine.



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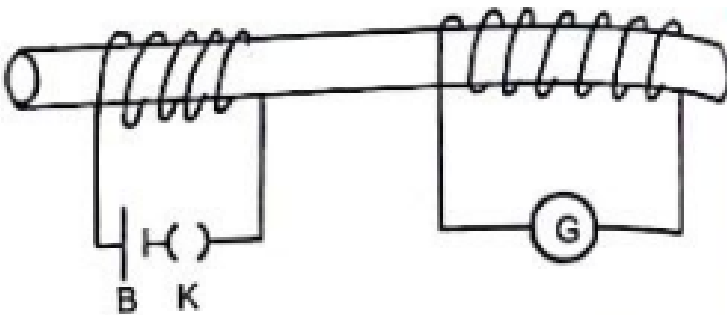
65. Take a coil and connect it with a galvanometer. Bring a bar magnet near the coil. Does galvanometer deflects? Now, move the bar magnet away from the coil. What do you observed? Explain your observation.

Repeat the same activity by bringing both the coil and magnet towards itself fast. observe the deflection of galvanometer. is it more as compared to the previous case? Explain?



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66. Take a soft iron bar. With the help of insulated copper wire make two separate coils as shown in fig. To one coil connect a battery with a key. To another coil connect a galvanometer. Press the key. Do you observe deflection in the galvanometer? What happens when the key is opened?



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67. How many time does the current flowing in an electric bulb becomes zero in one second?

Explain.



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68. What depletes ozone in the atmosphere?

How does this affect human life?



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69. You are facing a coil through which a current I is passing in the clockwise direction.

The magnetic field on the coil towards you is

A. north pole

B. monopole

C. dipole

D. south pole

Answer:



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70. The magnetic field due to a long straight conductor carrying current is independent of

A. the current

B. distance of conductor from the point

C. length of conductor

D. none

Answer:



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71. A charged particles experiences minimum force when it travels.

A. parallel to the magnetic field

B. normal to the magnetic field

C. at 45° to the field

D. at 75° to the field.

Answer:



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72. The direction of force on a current carrying conductor in a magnetic field is given by

- A. Fleming's left hand rule
- B. Fleming's right hand rule
- C. Right-hand thumb rule
- D. Left-hand thumb rule

Answer:



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73. A charged particle moving at right angle to a uniform magnetic field follows:

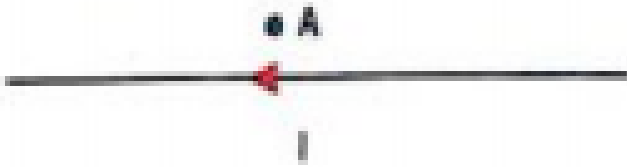
- A. Parabolic path
- B. Hyperbolic path
- C. Circular path
- D. Linear path

Answer:



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74. In the adjacent figure the direction of magnetic field at point A above the current carrying conductor is



- A. towards left in the plane of paper
- B. towards right in the plane of paper
- C. perpendicular to the plane of paper
outwards
- D. perpendicular to the plane of paper
towards

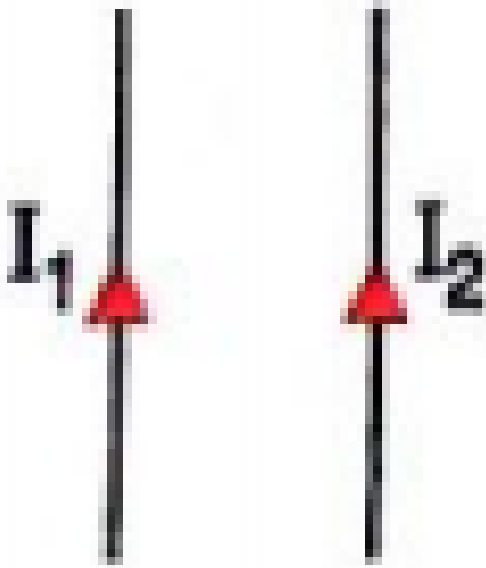
Answer:



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75. Two current carrying conductors are held parallel then the nature of force between

them is



A. attractive

B. repulsive

C. attractive or repulsive depending on the
magnitude of current

D. none

Answer:



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76. A charged partikel having a charge q is moving at right angles to a magnetic field.

Which of the following changes

A. path of motion

B. kinetic energy

C. infinite

D. uniform

Answer:



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77. A magnetic field directed in north direction acts on an electron moving in east direction .
the magnetic force on the electron will act ?

A. vertically upward

B. towards the east

C. vertically downward

D. towards north

Answer:



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78. When soft iron is present in the core of a current carrying solenoid, the magnetic field

A. increases

B. decreases

C. is zero

D. none

Answer:



Watch Video Solution

79. Magnetic field lines in a region. A are closer together as compared to a region B. this means that

A. magnetic field is stronger at A

B. magnetic field is stronger B

C. magnetic field at A=magnetic field at B

D. no conclusion can be drawn about the
strength of magnetic fields

Answer:



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80. The magnetic field inside a solenoid is

A. zero

B. non uniform

C. uniform

D. none

Answer:



Watch Video Solution

81. The magnetic field due to a circular wire at its centre is

A. in the plane of wire, tangential to wire

B. 30° to the plane of wire

C. 90° to the plane of wire

D. none

Answer:



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82. The best material to make permanent magnet is

A. copper

B. soft iron

C. aluminium

D. alnico

Answer:



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83. An electric generator converts

A. electrical energy into mechanical energy

B. mechanical energy into electrical energy

C. electrical into chemical energy

D. none

Answer:



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84. Tesla is the unit of

A. electric field

B. magnetic field

C. force per unit length

D. work per unit length

Answer:



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85. In case of a bar magnet the magnetic lines of force

A. originate from north pole and terminate at south pole

B. originate from south pole and terminate
at north pole

C. are continuous lines

D. none

Answer:



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86. Which of the following is the most suitable material for core of an electromagnet?

A. air

B. alrico

C. carbon steel

D. soft iron.

Answer:



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87. A magnet can attract

A. sulphur

B. phosphorus

C. carbon

D. cobalt

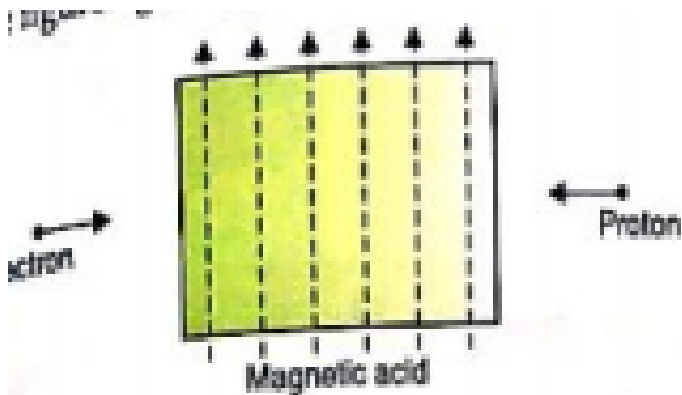
Answer:



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88. The figure shows a chamber in which a uniform magnetic field is present. An electron enters the chamber from the left side and a proton enters the chamber from the right

side, as shown in the figure.



Initially, the forces of the electron and the proton due to the magnetic field are:

A. in the same direction in the plane of the

paper

B. in opposite directions in the plane of the

paper

C. in the same direction perpendicular to
the plane of the paper

D. in opposite direction perpendicular to
the plane of the paper

Answer:



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89. The direction of induced current is given by

A. Fleming's left hand rule

B. Fleming's right hand rule

C. Right-hand thumb rule

D. Left-hand thumb rule

Answer:



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90. When south pole of a bar magnet is brought towards metallic coil, the induced current flows such that the side of the coil towards the magnet develops

A. north pole

B. south pole

C. polarity depends on the speed

D. none

Answer:



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91. What percent of tin and lead is used in electric fuse?

A. 45% to 55%

B. 23% and 77%

C. 63% and 37%

D. 85% and 55%

Answer:



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92. An a.c genertor convertes

A. electrical energy into mechanical energy

B. mechanical energy into electrical energy

C. generates energy

D. none

Answer:



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93. When the speed of the coil of generator is increased?

A. the induced emf decreases but frequency increases

B. the induced emf increases but frequency decreases

C. the induced emf increases and the frequency increases

D. the induced emf decreases and the frequency decreases

Answer:



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94. When a coil is moved towards stationary magnet, the induced emf does not depend on

A. number of turns

B. strength of magnet

C. speed with the coil is moved

D. resistance of the coil

Answer:



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95. A magnet is moving towards a coil quickly and slowly, then the induced emf is

A. larger in case (i)

B. smaller in case (i)

C. equal in both case

D. depends on the radus of coil

Answer:



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96. Motional emf is produced in a rod moving perpendicular in a uniform magnetic field is due to

A. change in number of magnetic lines of force through the rod

B. rod is cutting magnetic field lines

C. Diameter of rod changes when rod moves

D. none

Answer:



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97. Live wire has

- A. red coloured insulation
- B. black coloured insulation
- C. green coloured insulation
- D. pink coloured insulation

Answer:



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98. Fuse is connected in

A. live wire

B. neutral wire

C. earth wire

D. any wire

Answer:



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99. The use of fuse is

A. to control the voltage

B. to supply high current in case of overloading

C. to supply high current in case of short circuit

D. to stop the supply of current in case of overloading or short circuit.

Answer:



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100. In India, the electricity is supplied at

A. 220V, 50 Hz

B. 110 V, 50 Hz

C. 110 V, 60 Hz

D. 220V, 60Hz

Answer:



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101. Switches are connected to

A. live wire

B. neutral wire

C. earth wire

D. any one

Answer:



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102. Which wire is thickest?

A. Live wire

B. neutral wire

C. earth wire

D. all have equal thickness

Answer:



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103. The magnitude of induced emf produced depends on the rate of change of magnetic flux through the coil.

is this statement true.

A. number of magnetic lines passing through the coil

B. orientation of the coil

C. rate at which number of magnetic lines of force change through the coil

D. none

Answer:



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104. Name the physical quantity whose S.I unit is $Wb - m^2$. Is it is a scalar or a vector quantity?



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105. How will the magnetic field intensity at the centre of a circular coil carrying current

change, if the current through the coil is doubled and the radius of the coil is halved?



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106. How can it be shown that a magnetic field exists around a wire through which a direct current is passing?



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107. How is the strength of the magnetic field at a point near a wire related to the strength of electric current flowing in the wire?



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108. What constitutes the field of a magnet?



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109. How can you show that the magnetic field produced by a given electric current in the wire decreases as the distance from the wire increases?



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110. It is observed that when a magnetic compass is brought near a bar magnet its needle gets deflected? Explain.



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



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112. What happens to magnetic needle it is brought near a current carrying conductor?



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113. Find the force acting on a current carrying conductor placed in an uniform magnetic field.



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114. 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.



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115. When is a magnetic field said to be uniform? Draw magnetic lines of force for the uniform magnetic field.



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116. What is the principle of an electric motor?



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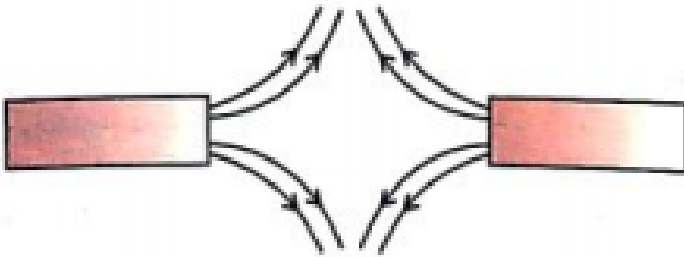
117. What is the principle of an electric motor?





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118. Magnetic field lines of two magnets are shown as follows. Name the poles of magnets facing each other.



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



Watch Video Solution

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



Watch Video Solution

121. How can it be shown that a magnetic field exists around a wire through which a direct current is passing?



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122. Describe an activity with a neat diagram to show the magnetic field lines through and around a current carrying solenoid.



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123. Describe an activity with a neat diagram to show the magnetic field lines around a bar magnet.



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



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125. How can the direction of the magnetic field be found ?



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126. State two properties of magnetic field lines.



Watch Video Solution

127. State the characteristics of magnetic force.



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128. What is the basic difference between magnetic lines of force and electric lines of force?



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129. What are the factors on which the strength of magnetic field produced by current carrying solenoid depend?



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130. Draw the pattern of field lines due to a bar magnet. Mention any two properties of magnetic field lines.



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131. 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.



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132. 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

133. How does the strength of the magnetic field at the centre of a circular coil of the wire

depend on

the strength of the current flowing in the coil?



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134. Draw the pattern of field lines due to a solenoid carrying electric current. What does the magnetic field pattern inside the solenoid indicate.

How can this principle be utilised to make an electromagnet? State two ways by which

strength of an electromagnet can be increased?



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135. Draw the pattern of magnetic field lines through and around a current carrying loop of wire. How does the strength of magnetic field due to current in a loop be affected if the strength of the current passing through this loop is doubled.



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136. Draw the pattern of magnetic field lines through and around a current carrying loop of wire. How does the strength of magnetic field due to current in a loop be affected if the radius of the loop is reduced to half of the original radius.



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137. What are magnetic field lines? How can the magnetic lines of force due to a bar

magnet be shown?



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138. State Fleming's left hand rule.



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139. Describe the activity that shows that a current-carrying conductor experiences a force perpendicular to its length and the external magnetic field. How does Flemings' left-hand

rule help us to find the direction of the force acting on the current-carrying conductor?



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140. Name the methods of producing induced emf.



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141. Can a freely suspended current carrying solenoid stay in one direction? Justify your

answer. What happens when the direction of the current is reversed?



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142. What are magnetic field lines? How is the direction of a magnetic field at a point determined?



[Watch Video Solution](#)

143. Draw the pattern of field lines due to a bar magnet. Mention any two properties of magnetic field lines.



Watch Video Solution

144. State two properties of magnetic field lines.



Watch Video Solution

145. Why is pure iron not used for making permanent magnets? Name any one material used for making permanent magnets. Describe how permanent magnets are made electrically. State any two examples of electrical instruments made by using permanent magnets.



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146. Draw the lines of force of the magnetic field through and around single loop of wire carrying electric current.



Watch Video Solution

147. Draw the lines of force of the magnetic field through and around a solenoid carrying electric current.



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148. State Fleming's left hand rule. With the help of a labelled diagram describe the working of an electric motor. What is the function of split ring commutator in a motor?



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149. What is an electromagnet? What does it consist of?



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150. The best material to make permanent magnet is



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151. Name one metal each to make a permanent magnet and a temporary magnet.



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152. Describe an activity to show that you can make an electromagnet in your school

laboratory?



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153. What is meant by magnetic field? Mention two parameters that are necessary to describe it completely.



[Watch Video Solution](#)

154. What are magnetic field lines? How is the direction of a magnetic field at a point

determined?



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155. Describe an activity to demonstrate the direction of the magnetic field generated around a current carrying conductor.



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156. Using Biot-Savart's law, derive an expression for magnetic field at the centre of a

current carrying circular coil. What will be the direction of this magnetic field?



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157. What is an electromagnet?



[Watch Video Solution](#)

158. What is an electromagnet ? List any of its two uses?



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159. Draw a labelled diagram to show how an electromagnet is made.



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160. What is the purpose of the soft iron core used in making an electromagnet?



Watch Video Solution

161. What are magnetic field lines? How is the direction of a magnetic field at a point determined?



Watch Video Solution

162. Draw the lines of force of the magnetic field through and around single loop of wire carrying electric current.



Watch Video Solution

163. 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

164. Identify the nature of poles of the magnets in a given figures.

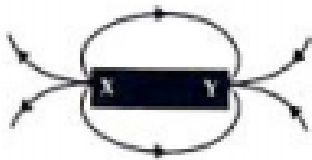


Fig. 1

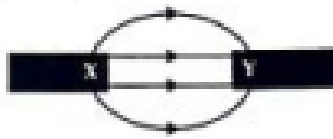


Fig. 2



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165. Draw magnetic field lines due to a current carrying circular wire placed in vertical plane



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166. What is the magnitude of the induced currents in circular loop KLMN of radius r if the straight wire PQ carries a steady current of magnitude i ampere?



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167. An alternating electric current has a frequency of 50 Hz. How many times does it change its direction in one second?



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168. What will be the frequency of alternating current if its direction changes after every 0.01 s?



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169. What is the advantage of the third wire of earth connected in domestic electrical appliance?



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170. Define the term induced current?



Watch Video Solution

171. Name the colour convention for live and earth wires.



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172. Explain the following : Why is the series arrangement not used in domestic circuits?



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173. Explain what is short circuiting in electrical supply?



[Watch Video Solution](#)

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



[Watch Video Solution](#)

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



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176. A coil of copper wire is connected to a galvanometer. What would happen if a bar magnet is pulled out of the coil?



Watch Video Solution

177. 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

178. What is the function of an electric fuse?
Name the material used for making a fuse. In a household circuit where is fuse connected?

Distinguish between overloading and short circuiting?



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179. Describe an activity to show how a moving magnet may be used to generate an electric current. State the rule to find the direction of electric current generated in the coil?



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180. A coil A of insulate copper wire is connected to a galvanometer what would you observe when a current carrying coil B is brought near A?



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181. A coil A of insulate copper wire is connected to a galvanometer what would you observe when strength of B is changed?





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



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183. Identify the rules to determine the direction of

Force experienced by a current carrying straight conductor placed in a magnetic field.



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184. Identify the rules to determine the direction of

Current induced in a coil due to rotation in a magnetic field.



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185. What does the direction of thumb indicate in the right hand thumb rule?



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186. State Fleming's left hand rule.



Watch Video Solution

187. Define Fleming's right hand rule.



Watch Video Solution

188. Give the principle, construction and working of an a.c. generator.



Watch Video Solution

189. Draw a schematic labelled diagram of a domestic wiring circuit which includes:
a main fuse?



Watch Video Solution

190. Draw a schematic labelled diagram of a domestic wiring circuit which includes:
a power meter?



Watch Video Solution

191. Draw a schematic labelled diagram of a domestic wiring circuit which includes:
one tube light point?



Watch Video Solution

192. Draw a schematic labelled diagram of a domestic wiring circuit which includes:
a power meter?



Watch Video Solution

193. Why is it necessary to connect an earth wire to electrical appliances having metallic covers?



Watch Video Solution

194. State Fleming's right hand rule. With a labelled diagram. Describe the working of an a.c. electric generator.



Watch Video Solution

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



Watch Video Solution

196. Give two examples each of Inertia of motion.



Watch Video Solution

197. What is the usually capacity of the fuse wire in the lien to feed lights and fuse?



Watch Video Solution

198. What is the usually capacity of the fuse wire in the lien to feed

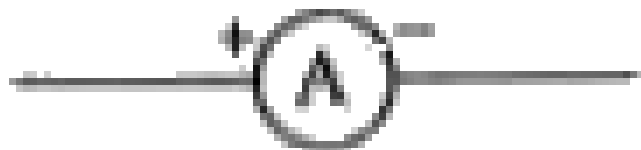
Appliance of 2kW or more power?



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199. What do the following symbols represent in a circuit? Write the name and function of

each.

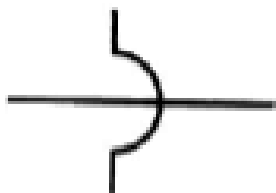


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200. What do the following symbols represent

in a circuit? Write the name and function of

each.



(i)



(ii)



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201. Draw a schematic diagram of a circuit consisting of a battery of 12V, three resistors of 5ohm , 10ohm , and 20ohm connected in parallel, an ammeter to measure the total current through the circuit, voltmeter to

measure the potential difference across the combination of resistors.



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202. What are the advantages of connecting electric devices in parallel with the battery instead of connecting the in series?



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203. State the function of a fuse in a circuit.

How is it connected in the domestic circuit?



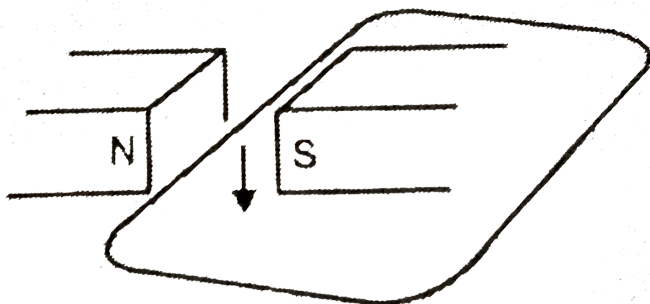
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204. An electric fuse of rating 3A is connected in a circuit in which electric iron of power 1 kW is connected which operates at 220V. What would happen?



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205. The wire in figure below is being moved downwards through the magnetic field so as to produce induced current:



What

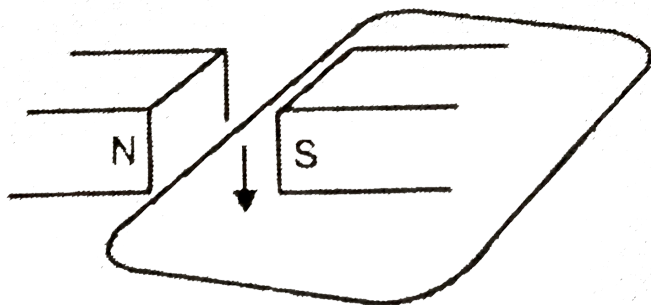
would be the effect of:

Moving the wire with higher speed?



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206. The wire in figure below is being moved downwards through the magnetic field so as to produce induced current:



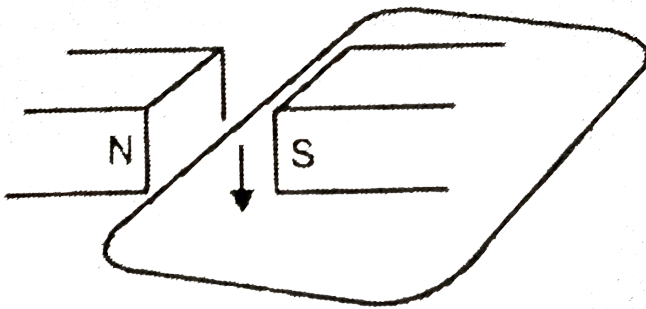
What would be the effect of:

Moving the wire upward rather than downward?



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207. The wire in figure below is being moved downwards through the magnetic field so as to produce induced current:



What would be the effect of:

Using a stronger magnet?



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208. Choose the incorrect statement from the following regarding magnetic lines of field

- A. The direction of magnetic field at a point is taken to be the direction in which the north pole of a magnetic compass needle points
- B. Magnetic field lines are closed curves
- C. If magnetic lines are parallel and equidistant, they represent zero field

strength

D. Relative strength of magnetic field is shown by the degree of closeness of the filed lines.

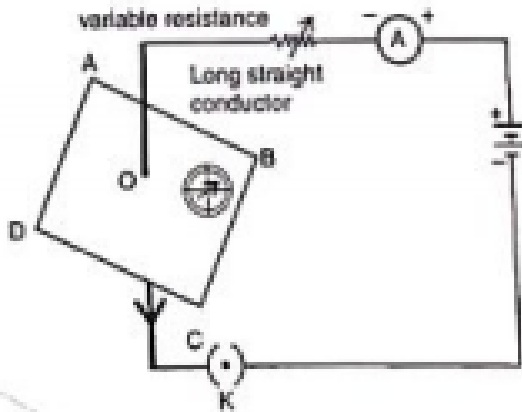
Answer:



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209. If the key in the arrangement is taken out and magnetic field lines are drawn over the

horizontal plane ABCD, the lines are



- A. concentric circles
- B. elliptical in shape
- C. straight lines parallel to each other
- D. concentric circles near the point O but is elliptical shapes as we go away from it

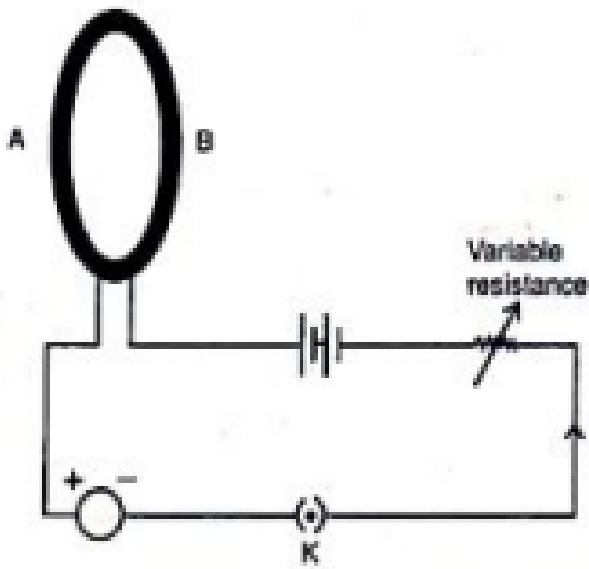
Answer:



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210. A circular loop placed in a plane perpendicular to the plane of paper, carries a current when the key is ON. The current, as seen from points A and B (in the plane of the paper and on the axis of the coil) is anticlockwise and clockwise respectively. The magnetic field lines point from B to A. the N pole of the resultant magnet is on the face

close to:



A. A

B. B

C. A if the current is small, and B if the current is large

D. B if the current is small and A if the current is large.

Answer:



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211. For a current in a long straight solenoid N- and S-poles are created at two the ends. Among the following statements the incorrect statement is:

A. The field lines inside the solenoid are in the form of straight lines which indicate that the magnetic field is the same at all points inside the solenoid.

B. The strong magnetic field produced inside the solenoid can be used to magnetise a piece of magnetic material like soft iron, when placed inside the coil.

C. The pattern of the magnetic field associated with the solenoid is different

from the pattern of the magnetif field
around a bar magnet.

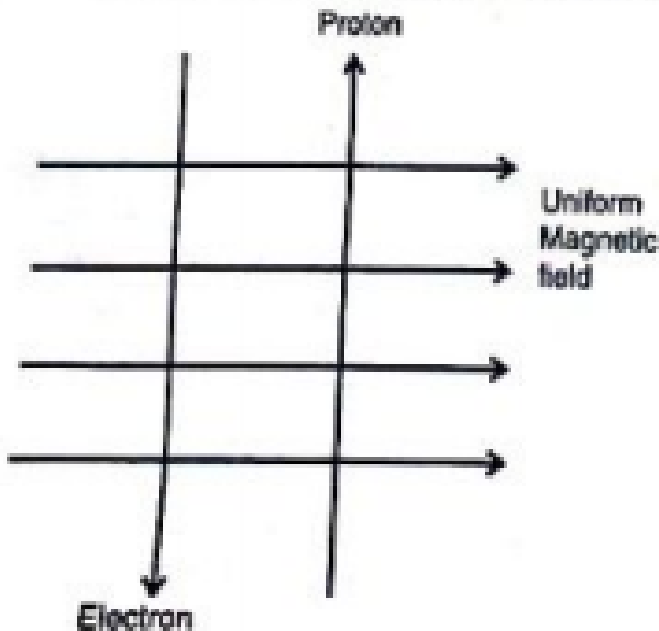
D. the N and S poles exchange position
whne the direction of current through
the solenoid is reversed.

Answer:



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212. A uniform magnetic field exists in the plane of paper pointing from left to right as shown in figure. In the field an electron and a proton move as shown. Where do the electron and the proton



A. forces both pointing into the plane of paper

B. forces both pointing out of the plane of paper.

C. forces pointing into the plane of paper and out of the plane of paper

D. force pointing opposite and along the direction of the uniform magnetic field respectively.

Answer:



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213. Commercial electric motors do not use:

A. An electromagnet to rotate the armature.

B. Effectively large number of turns of conducting wire in the current carrying coil

C. A permanent magnet to create the armature.

D. a soft iron core on which the coil is wound.

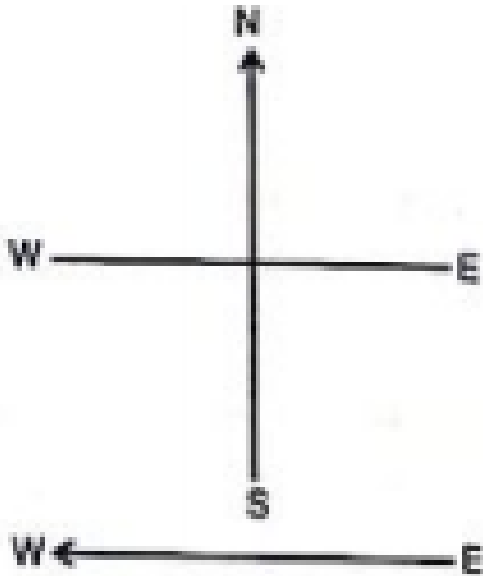
Answer:



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214. A constant current flows in a horizontal wire in the plane of the paper from east to west as shown in figure. The direction of magnetic field at a point will be North to

south.



- A. directly above the wire
- B. directly below the wire
- C. at a point located in the plane of the paper, on the north side of the wire

D. at a point located in the plane of the paper, on the south side of the wire.

Answer:



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215. The strength of magnetic field gets halved if the current flowing in a circular current carrying wire is doubled.

Is this statement true.

A. more at the ends than at the centre

B. minimum in the middle

C. same at all points

D. found to increase from one end to the other.

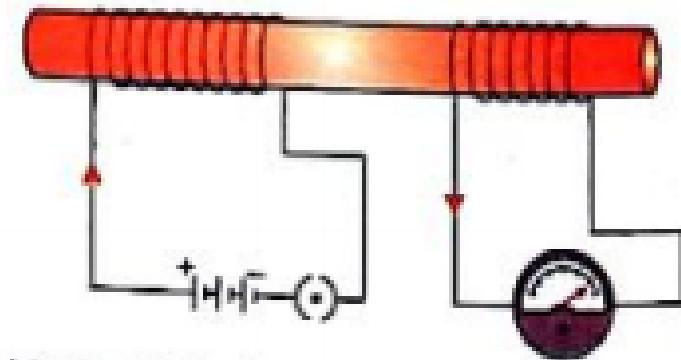
Answer:



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216. In the arrangement shown in figure there are two coils wound on a non conducting cylindrical rod initially the key is not inserted. Then the key is inserted and later removed then

When the key is later removed, then



A. the deflection in the galvanometer remains zero throughout

B. there is a momentary deflection in the galvanometer but it dies out shortly and there is no effect when the key is removed.

C. there are momentary galvanometer deflections that die out shortly, the deflections are in the same direction.

D. there are momentary galvanometer deflections that die out shortly, the deflections are in the opposite directions.

Answer:



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217. Choose the incorrect statement

- A. Fleming's right hand rule is a simple rule to know the direction of induced current.
- B. The right hand thumb rule is used to find the direction of magnetic field due to the current carrying conductors.

C. The difference between the direct and alternating currents is that the direct current always flows in one direction, whereas the alternating current reverse is direction periodically.

D. in India, the AC changes direction after every $\frac{1}{50}$ second.

Answer:



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218. To convert an AC generator into DC generator

- A. split ring type commutator must be used
- B. slip rings and brushes must be used
- C. a stronger magnetic field has to be used
- D. a rectangular write loop has to be used.

Answer:



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219. The most important safety method used for protecting home appliances from short circuiting or overloading is

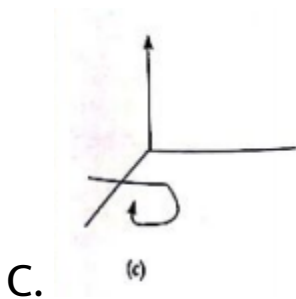
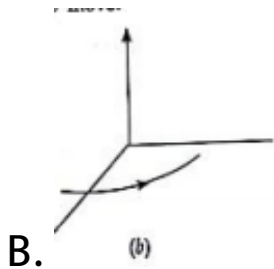
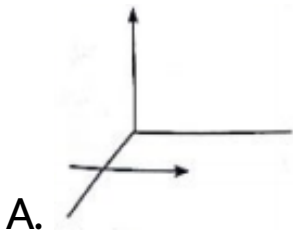
- A. earthing
- B. use of fuse
- C. use of stabilizers
- D. use of electric meter

Answer:



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220. A high energy electron enters into a strong magnetic field which is perpendicular to its velocity plane. In which path is it expected to move?





D. (d)

Answer:



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221. A rectangular coil of copper wire is rotated in a magnetic field. The direction of the induced current changed once in each

A. revolution

B. two revolutions

C. half revolution

D. one fourth of a revolution

Answer:



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222. Commercial electric motors do not used:

A. An electromagnet to rotate the armature.

- B. Effectively large on, of turns of
conducting wire in the current carrying
oil
- C. A permanent magnet to create the
armature.
- D. A soft iron core on which the coil is
wound

Answer:



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223. A particle is moving towards east enters in a magnetic field directed towards north and deflected in vertically downwards direction. The charged particle is

- A. an electron
- B. a proton
- C. an alpha particles
- D. a neurton.

Answer:



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224. A charged particle moves through a uniform magnetic field perpendicular to its direction. Then

A. speed changes

B. velocity changes

C. KE changes

D. acceleration does not change

Answer:





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225. The magnetic field lines inside a long current carrying solenoid are nearly

- A. circular
- B. parabolic
- C. straight
- D. elliptical.

Answer:



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226. An AC generator is connected to an electrical appliances. In 10 revolutions of the armature the current is

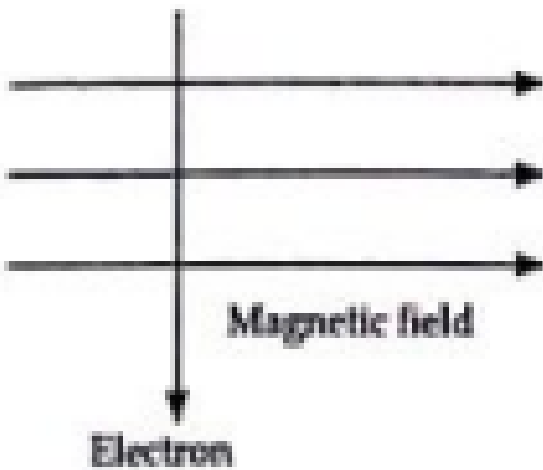
- A. 5 times
- B. 10 times
- C. 20 times
- D. 40 times

Answer:



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227. An electron enters in a magnetic field at right angle to its shown in figure. The direction of force acting on the electron will be



A. to the left

B. to the right

C. out of the page

D. into the page

Answer:



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228. The magnetic field at the centre of a current carrying circular coil depends on the radius R of the coil is

A. R

B. R^2

C. $\frac{1}{R}$

D. $\frac{1}{R^2}$

Answer:



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229. The direction of magnetic field at a point near a current carrying conductor is given by

- A. Fleming's left hand rule
- B. Fleming's right hand rule
- C. Right-hand thumb rule
- D. None

Answer:



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230. A dynamo

- A. creates mechanical energy

B. creates electrical energy

C. converts electricla energy into
mechanical energy

D. converts mechanical energy into
electrical energy.

Answer:



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231. An induced emf is produced when a magnet is plunged into a coil. The magnitude of induced emf does not depend upon

A. the number of turns in the coil

B. the speed with which the magnet is moved

C. the strength of the magnet

D. the resistivity of the material of the coil.

Answer:





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232. The frequency of AC means in India is

A. 30 cycles/s

B. 50 cycle/s

C. 60 cycles/s

D. 0 cycle/s

Answer:



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233. An electrical bulb rated 220 V is connected to 220v, 5Hz AC source. The bulb

- A. does not glow
- B. glows intermittently
- C. glows continuously
- D. gets fused

Answer:



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234. When a charged particle moves perpendicular to a magnetic field, then

A. speed of the particle is changed

B. speed of the particle remains unchanged

C. direction of the particle remains unchanged

D. acceleration of the particle remains unchanged.

Answer:



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235. A straight wire of mass 200 g and length 1.5 m carries a current of 2 A. it is suspended in mid air by a uniform horizontal magnetic field

B. The magnitude of B (in tesla) is

A. 2

B. 1.5

C. 0.55

D. 0.65

Answer:



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236. The magnetic field at a distance r from a long wire carrying current I is 0.4 T . The magnetic field at a distance $2r$ is

A. 0.1 tesla

B. 0.2 tesla

C. 0.8 tesla

D. 1.6 tesla

Answer:



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237. A long solenoid carrying a current produces a magnetic field B along its axis. If the current is doubled and the number of turns per cm is halved, then new value of magnetic field is

A. B

B. $2B$

C. $4B$

D. B/2

Answer:



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238. The device used for producing electric current is

A. generator

B. galvanometer

C. ammeter

D. motor

Answer:



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

A. reduces substantially

B. does not change

C. increases heavily

D. varies continuously

Answer:



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



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241. True or false

A constant magnetic flux in a coil can induce current in it.



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242. True or false

AC is more dangerous as compared to DC.



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243. True or false

AC is the best suitable for electroplating.



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244. True or false

The function of a fuse wire depends on its length.



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245. Fill ups

Electromagnetic induction is the phenomenon of converting.....into electric energy.



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246. Fill ups

Fleming's left hand rule enables us to find the direction of



[Watch Video Solution](#)

247. Fill ups

.....cannot be used for electroplating.



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248. Fill ups

Live wire hascoloured insulation.



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249. Fill ups

Short circuiting occurs when live and.....
wires come in contact with each other.



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250. When does an electric short circuit occur?



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251. Which sources produce alternating current?



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252. What is the principle of working of an A.c generator?



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



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254. With the help of magnetic field lines how can you find the direction and strength of magnetic field?



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255. On what factors does the force acting on a charged particle moving in a magnetic field depend?



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256. Draw magnetic field lines for a straight current carrying conductor. On what factors does the magnitude of magnetic field depend?



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257. How can you produce a magnetic field without a magnet? How can you change the strength and direction of magnetic field in this device?



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258. You are given the following materials two coils on a non conducting cylindrical rod, a key, a battery, a galvanometer and connecting wire. Use this to demonstrate the phenomenon of

electromagnetic induction. Draw the relevant circuit diagram.



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



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260. What is an electromagnet? What does it consist of?



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261. For a current in a long straight solenoid N-and S-poles are created at two the ends. Among the following statements the incorrect statement is:

A. The field lines inside the solenoid are n the form of striaght lines which indicated that the magnetic field is the same all points inside the solenoid.

B. The strong magnetic field produced inside the solenoid can be used to magnetise a piece of magnetic material like soft iron, when placed inside the coil

C. The pattern of the magnetic field associated with the solenoid is different from the pattern of the magnetic field around a bar magnet.

D. the N and S poles exchange position when the direction of current through

the solenoid is reversed.

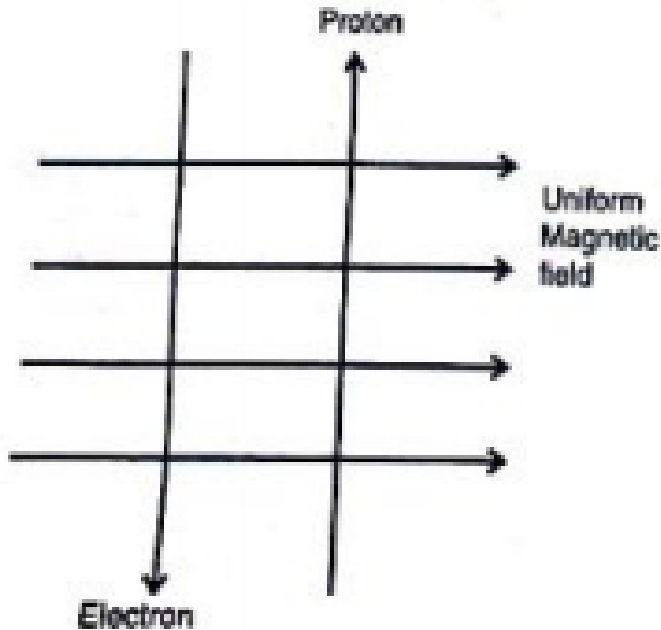
Answer:



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262. A uniform magnetic field exists in the plane of paper pointing from left to right as shown in figure. In the field an electron and a proton move as shown. Where do the electron

and the proton



A. forces both pointing into the plane of
paper

B. forces both pointing out of the plane of
paper.

- C. forces pointing into the plane of paper
and out of the plane of paper
- D. force pointing opposite and along the
direction of the uniform magnetic field
respectively.

Answer:



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263. Commercial electric motors do not use:

A. an electromagnetic to rotate the armature.

B. efficitively lager number of turns of conducting wire in the current carrying coil.

C. a permnent magnet to rotate the armature

D. a soft iron core on which the coil is wound.

Answer:



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

A. The field consists of straight line perpendicular of the wire

B. The field consists of straight lines parallel to the wired

C. The field consits of radial lines originating from the wire

D. The fields consists of concentric circles
centered of the wire

Answer:



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265. 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 col

C. producing induced current in a coil by relative motion between a magnet and the coil.

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

Answer:



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