doubtnut
India's Number 1 Education App

PHYSICS

BOOKS - NAVNEET PUBLICATION

EFFECTS OF ELECTRIC CURRENT

Solved

1. How do we decide that a given material is a good conductor of electricity or is an insulator ?

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2. Give Scientific reasons:

Iron is a conductor of electricity, but when we Pick up a Piece of iron resting on the ground, why don't we get electric shock?

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3. How can we write mechanical power in a manner similar to the elcetric power ?

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4. Which effects of electric current do you find ?

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Exercise

1. Fill in the blanks and rewrite the competed statements:

Electric power=V^2 / .....

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2. Fill in the blanks and rewrite the competed statements:

.....= 1 joule/ 1 second.

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3. Fill in the blanks and rewrite the competed statements:

1 KW.h=.....J.

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4. Fill in the blanks and rewrite the competed statements:

According to joule's law , quantity of heat (H) produced by an electric current=.....

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5. Fill in the blanks and rewrite the competed statements:

Magnetic effect of electric current was discovered by.....

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6. Fill in the blanks and rewrite the competed statements:

.....is expressed in oersted..

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7. Fill in the blanks and rewrite the competed statements:

Electromagnetic induction was discovered by.....

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8. Fill in the blanks and rewrite the competed statements:

Galvanometer is used for.....

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9. Fill in the blanks and rewrite the competed statements:

In India, the frequency of alternating current is.....

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10. Fill in the blanks and rewrite the competed statements:

Electric motor converts electric energy into..... energy.

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11. Fill in the blanks and rewrite the competed statements:

Electric generator converts ..... energy into electric energy.

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12. Choose the correct alternative and write it along with its allotted alphabet:

The device used for producing a current is called.....

A. a voltmeter

B. an ammeter

C. a galvanometer

D. a generator

Answer:

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13. Choose the correct alternative and write it along with its allotted alphabet:

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

A. increase

B. decreases

C. remains the same

D. increases in steps

Answer:

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14. Choose the correct alternative and write it along with its allotted alphabet:

The direction of the magnetic field around a straight conductor carrying current is given by.....

A. the right hand thumb rule

B. Fleming's left hand rule

C. Fleming's right hand rule

D. none of these

Answer:

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15. Choose the correct alternative and write it along with its allotted alphabet:

The resistance of a wire is 100Omega . If it carries a current of 1A for 10 seconds , the heat produced will be.....

A. 1000 J

B. 10 J

C. 0.1J

D. 10000 J

Answer:

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16. Choose the correct alternative and write it along with its allotted alphabet:

If 220 V potential difference is applied across an electric bulb, a current of 0.45 A flows in

the bulb. What must be the power of the bulb ?.

A. 99 W

B. 70 W

C. 45 W

D. 22 W

Answer:

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17. Choose the correct alternative and write it along with its allotted alphabet:

Electromagnetic induction means.....

A. charging of an electric conductor

B. production of magnetic field due to a current flowing through a coil.

C. generation of a current in a coil due to relative motion between the coil and the magnet.

D. motion of the coil around the axle in an electric motor.

Answer:

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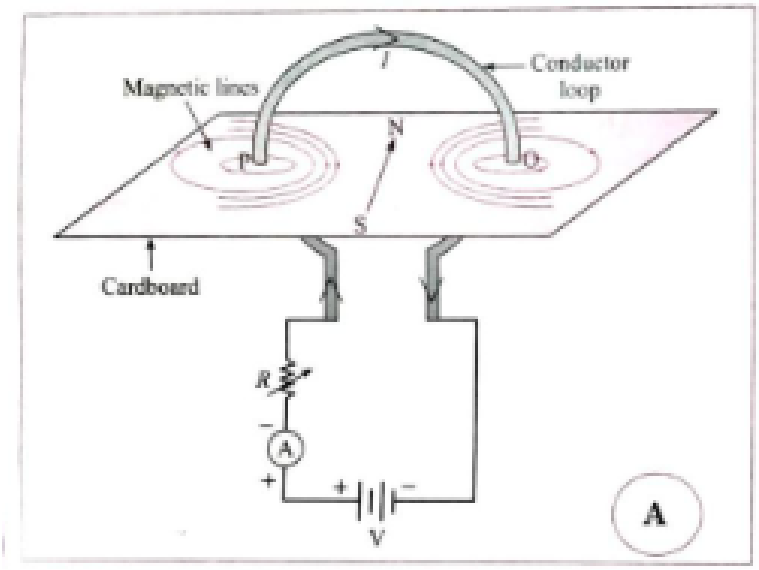
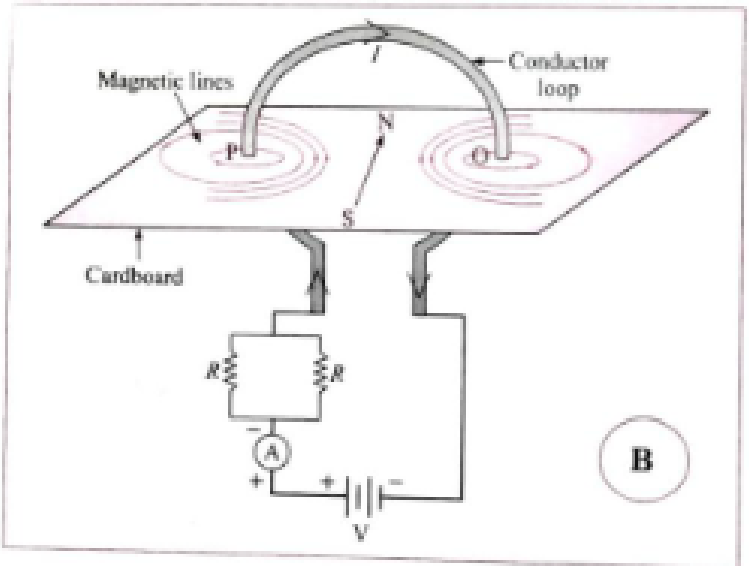
18. Choose the correct alternative and write it along with its allotted alphabet:

Write the correct option by observing the

figures.





A. Magnetic field in A is stronger.

B. Magnetic field in B is stronger.

C. Magnetic fields in A and B are same.

D. Magnetic fields in A and B are weaker.

Answer:

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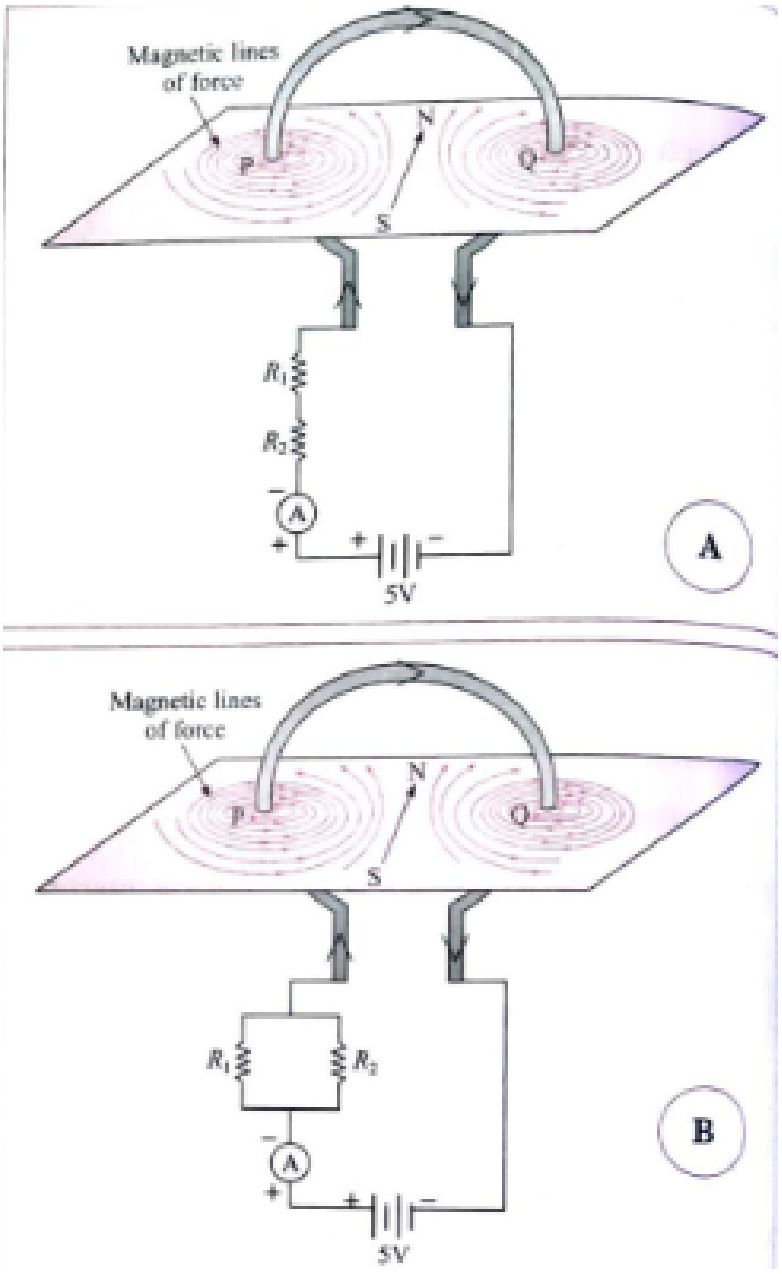
19. Choose the correct alternative and write it along with its allotted alphabet:

Observe the following diagram and choose the

correct alternative:



A. The intensity of magnetic field in A is larger than that of in B.

B. The intensity of magnetic field in B is less than that in A.

C. The intensity of magnetic field in A and B is same.

D. The intensity of magnetic field in A is less than that in B.

Answer:

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20. Choose the correct alternative and write it along with its allotted alphabet:

When an electric current is passed through a solenoid, it shows magnetic lines of force similar to a.....

A. bar magnet

B. horseshoe magnet

C. disc magnet

D. Spherical magnet.

Answer:

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21. Which of the statements given below correctly describes the magnetic field near a long, straight current - carrying conductor ?

The magnetic lines of force are in a plane,perpendicular to the conductor in the form of straight lines.

A. The magnetic lines of force are in a plane,perpendicular to the conductor in the form of straight lines.

B. The magnetic lines of force are parallel to the conductor on all the sides of conductor.

C. The magnetic lines of force are penpendicular to the conductor going radially outward.

D. The magnetic lines of force are in concentric circles with the wire as the centre, in a planeperpendicular to the conductor.

Answer:

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22. Which device is used to produce electricity? Describe with a neat diagram.

A. Electric motor

B. Galvanometer

C. Electric generaator

D. Voltmeter

Answer:

23. State whether the following statements are true or false. (If a statement is false,

correct it and rewrite it.):

Electric power = I^2R

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24. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Magnetic poles exist in pairs.

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25. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Electromagnetism was discovered by oersted.

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26. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Magnetic field increases as we go away from a magnet.

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27. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Magnetic lines of force intersect each other.

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28. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Electric generator is used to generate current.

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29. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

An electric motor converts mechanical energy into electric energy.

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30. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

In India, the frquency of AC is 50 Hz.

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31. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

The electricity meter in the domestic electric circuit measures electrical energy consumption in kilowatt.- hours.

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32. State whether the following statements are true or false. (If a statement is false,

correct it and rewrite it.):

Electric generator converts mechanical energy into electric energy.

Watch Video Solution

33. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Split rings are used in a DC generator and in an electric motor.

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34. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Electromagnetic induction was discovered by coulomb.

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35. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Faraday found that electricity could produce rotational motion.

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36. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

The production of magnetism by an electric current is called electromagnetism..

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37. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

Magnetic field is a vector quantity..

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38. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

In India , AC changes direction every 1/100s

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39. State whether the following statements are true or false. (If a statement is false, correct it and rewrite it.):

In India , the periodic time of AC is 0.02 s.

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40. Find the odd one out . give proper explanation:

Fusewire, bad conductor, rubber gloves, generator.

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41. Find the odd one out . give proper explanation:

Voltmeter, ammeter, galvanometer, thermometer.

Watch Video Solution

42. Find the odd one out . give proper explanation:

Loudspeaker, microphone, electric motor ,magnet

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43. Find the odd one out . give proper explanation:

Fusewire, M.C.B, rubber gloves, generator.

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44. Match the following

Column I	Column II
(1) The right hand thumb rule	(a) The direction of the force on a current-carrying conductor placed in a magnetic field.
(2) Fleming's right hand rule	(b) The direction of the magnetic field around a straight conductor carrying a current.

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45. Name the following :

The negatively charges particle considered as

a free particle moving in a metallic conductor.

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46. Name the following :

The quantity expressed in ampere.

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47. Name the following :

The quantity expressed in ohm.

Watch Video Solution

48. Name the following :

The quantity expressed in volt.

Watch Video Solution

49. Name the following :

The quantity expressed in joule.

Watch Video Solution

50. Name the following :

The quantity expressed in watt.

Watch Video Solution

51. Name the following :

The quantity expressed in kilowatt.hour.

Watch Video Solution

52. Name the following :

A component used to control the current.

Watch Video Solution

53. Name the following :

An instrument used to measure electric current.

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54. Name the following :

An instrument used to measure potential difference.

Watch Video Solution

55. Name the following :

The ratio of the work done to the quantity of charge transferred.

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56. Name the following:

An alloy of Ni, Cr, Mn and Fe.

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57. Define S.I. unit of resistance.

Watch Video Solution

58. Name the following :

A metal used to make the filament of an

electric bulb.

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59. Name the following :

An alloy used to prepare a coil of high resistance for use in electric appliances such as an electric heater.

Watch Video Solution

60. Name the following :

Consitituents of the alloy used to make a fuse wire.

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61. Name the following :

The unit same as the watt. second.

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62. Name the following:

A unit for intensity of magnetic field.

Watch Video Solution

63. Name the following:

The scientist in whose honour the SI unit of power is named.

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64. Name the following:

A device that converts electric energy into mechanical energy.

Watch Video Solution

65. Name the following:

A device that converts mechanical energy into electric energy.

Watch Video Solution

66. Answer the following questions :

Define electric power.

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67. Answer the following questions :

State the formula for electric power. Hence , obtain its SI unit.

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68. Answer the following questions :

What is the commercial unit of electric energy? Obtain the relation between this unit and the SI unit of energy.

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69. Answer the following questions :

What is one kilowatt-hour?

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70. Answer the following questions :

What is heating effect of electric current ? What is its origin?

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71. Answer the following questions :

Statement 1: Electric current (flow of electrons) creates heat in a resistor.

Statement 2: Heat in the resistor is created according to the law of energy conservation.

Explain statement 1 with the help of statement 2.

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72. Answer the following questions :

State Joule's law about heating effect of electric current.

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73. Answer the following questions :

Obtain the mathematical expression for the heat generated in a metallic conductor by electric current (Joule,s law)

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74. Answer the following questions :

Two dissimilar bulbs are connected in series . Which bulb will be brighter?

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75. Answer the following questions :

Name any six domestic appliances whose working is based on the heating effect of electric current

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76. Answer the following questions :

State applications of heating effect of electric current.

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77. Answer the following questions :

Explain the application of heating effect of electric current in an electric bulb.

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78. Answer the following questions :

Why is tungsten used to make solenoid type coil in an electric bulb ?

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79. Answer the following questions :

Explain the application of heating effect of electric current in an electric iron .

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80. Answer the following questions :

Take any electricity bill of your home. In the bill there is one table which shows the units consumed by you for the last eleven months. Find the average consumption of electricity in

your home for each seasons (i.e summer, winter and rainy season). Are they the same ? why ??

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81. Answer the following question:

Name the types of wires or cables used in the electric power supply provided by the Electricity Board for houses and factories.

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82. Answer the following questions :

In a domestic electric supply in India, what is the potential difference between the live wire and the neutaral wire?

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83. Answer the following question:

Name the type of wire to which the main fuse is connected.

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84. Answer the following question:

What does the electricity meter measure?

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85. Answer the following question:

Is the electric potential difference across each appliance(in a domestic electric circuit) the same?

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86. Answer the following question:

Name the types of wire across which an electric appliance is connected.

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87. Answer the following question:

Electrical appliances are connected in parallel. What are the advantages of this arrangement?

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88. Answer the following question:

In a domestic electric supply, if two bulbs are connected in series instead of parrel, what will happen if the filament of one of the bulbs breaks?

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89. Answer the following questions :

Explain the term short circuiting . What does a short circuit lead to ?

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90. How does short circuit form?What is its effect ?

Watch Video Solution

91. Answer the following questions :

What is overloading? When does it occur? What does it cause ? How can overloading be avoided?

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92. Answer the following questions :

Explain the aplication of heating effect of electric current in a fuse.

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93. Answer the following questions :

State the conclusions that can be drawn from Oersted's experiment.

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94. Answer the following questions :

What is the effect on the magnetic needle in Oersted's experiment, when (1) a current is passed through the wire (2) the current through the wire is increased (3) the current through the wire is stopped (4) the current through the wire is reversed (5) the distance between the magnetic needle and the wire is increased, keeping the current through the wire constant ?

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95. Answer the following questions :

Observe the diagrams and answer the questions.

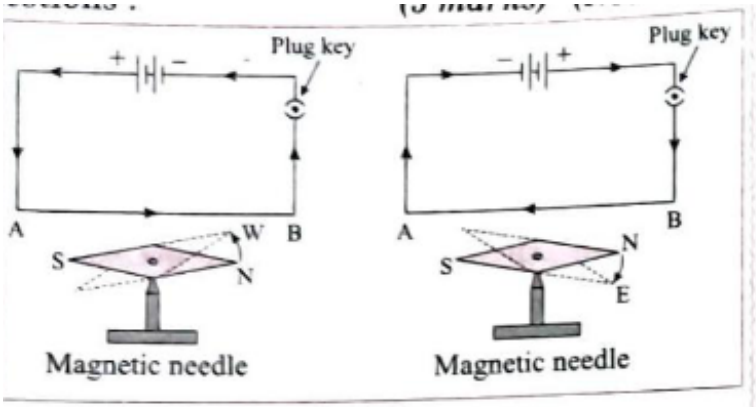

Fig. 4.11

Which effect of electric current is shown in the above figure ?

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96. Answer the following questions :

Observe the diagrams and answer the questions.

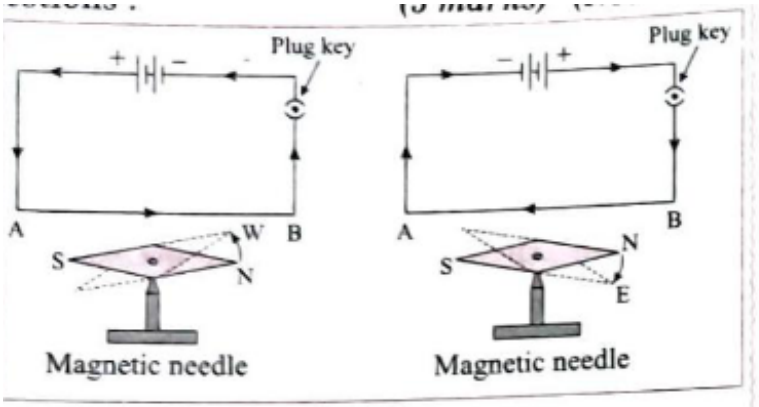

Fig. 4.11

What will happen if the number of electric cells is increased on the magnetic needle?

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97. Answer the following questions :

Observe the diagrams and answer the questions.

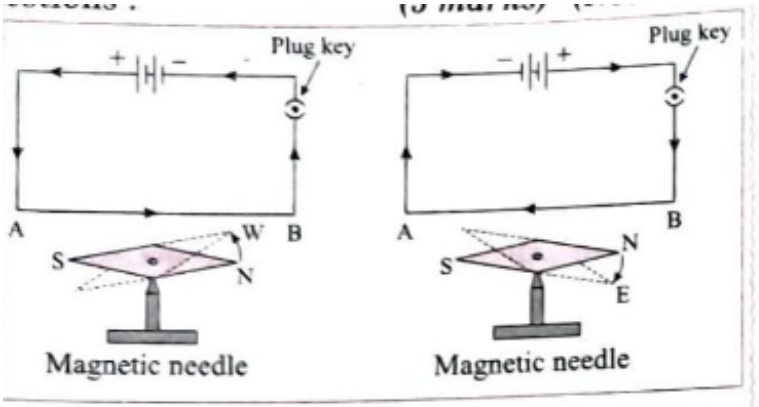

Fig. 4.11

If the distance between between the conductor and magnetic needle is increased, what will be the effect on the intensity of the magnetic field?

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98. Answer the following questions :

Observe the diagrams and answer the questions.

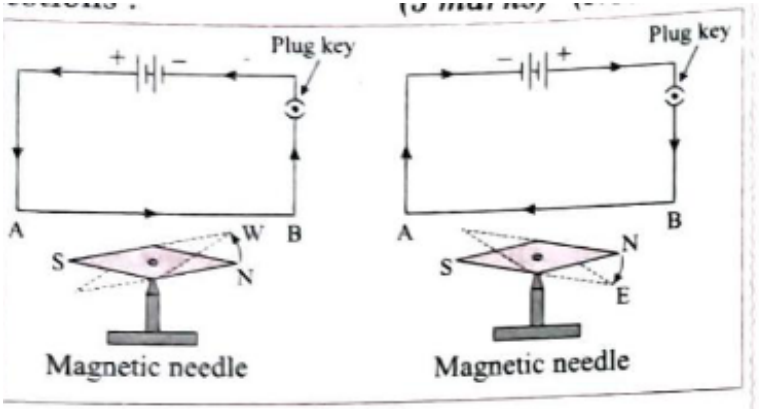

Fig. 4.11

f the ends of electric cell are interchanged, what will be the effect on the magnetic needle ?

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99. Answer the following questions :

Observe the diagrams and answer the questions.

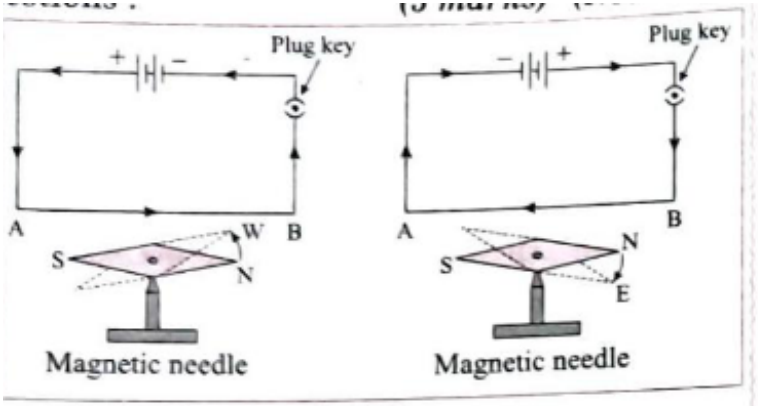

Fig. 4.11

Write the names of any two instruments which work on the magnetic effect of electric current.

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100. Answer the following questions :

State the factors on which the magnitude of the magnetic field due to a current - carrying conductor depends and how it depends..

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101. Answer the following questions :

State the right hand thumb rule.

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102. Answer the following questions :

With a neat labelled diagram, describe the pattern of magnetic lines of force due to a current through a circular loop. Also explain how the magnetic field depends on the number of turns (n) in the loop.

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103. What is Solenoid?Compare the magnetic field produced by a solenoid with the magentic field of a bar magnet.Draw neat figure and name various components

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104. Answer the following questions :

Write Fleming's left hand rule.

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105. What is electric motor?

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106. Answer the following questions :

State the principal on which the working of an electric motor is based.

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107. Answer the following questions :

Explain the construction and working of an electric motor. Draw a neat diagram and label it.

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108. Answer the following questions :

With a neat labelled diagram , explain the construction and working of an electric motor.

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109. Answer the following questions :

State the uses/ applications of an electric motor.

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110. Answer the following questions :

Which rule is used to find out the direction of force in this principle?

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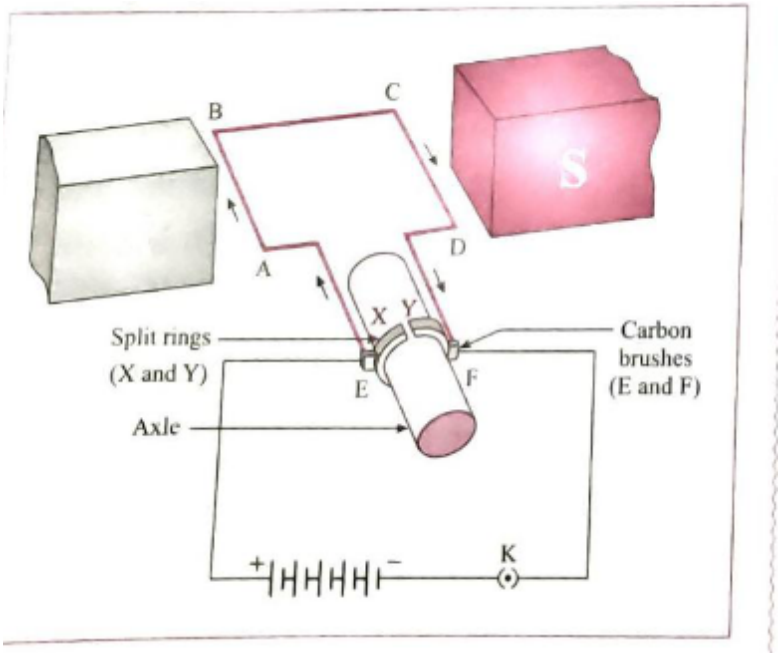
111. Answer the following questions :

Observe the following diagram and answer the questions.



Construction of which quipment does the following diagram show ?

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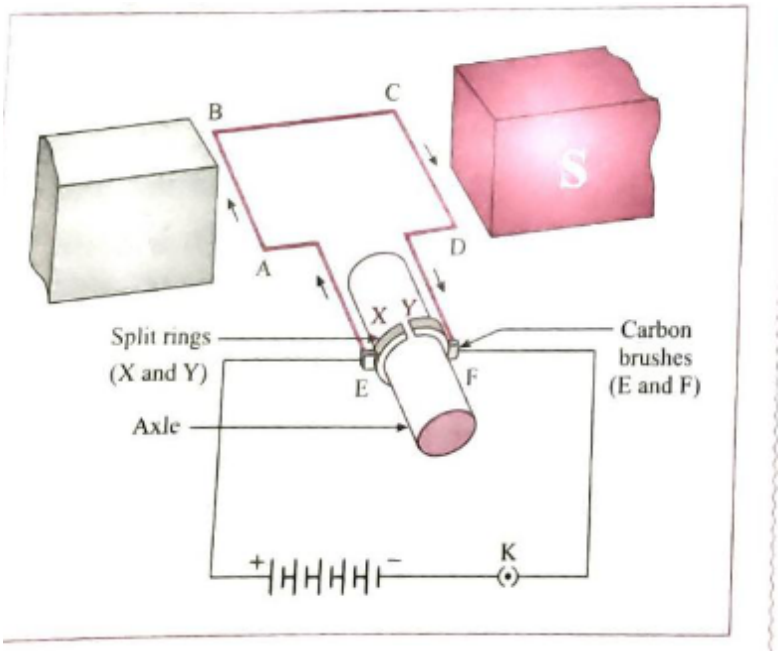
112. Answer the following questions :

Observe the following diagram and answer the questions.



On which principle does this equipment work ?

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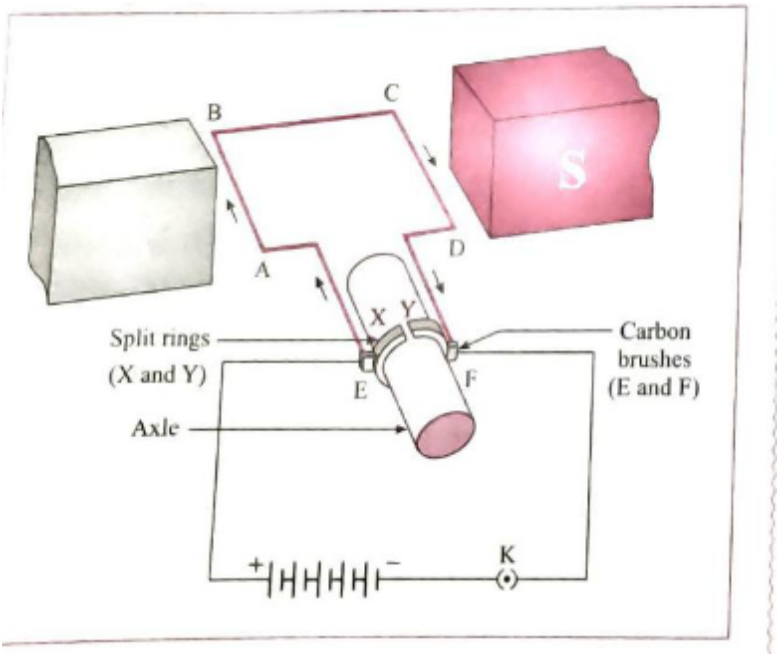
113. Answer the following questions :

Observe the following diagram and answer the questions.



According to which law does the coil ABCD rotate ?

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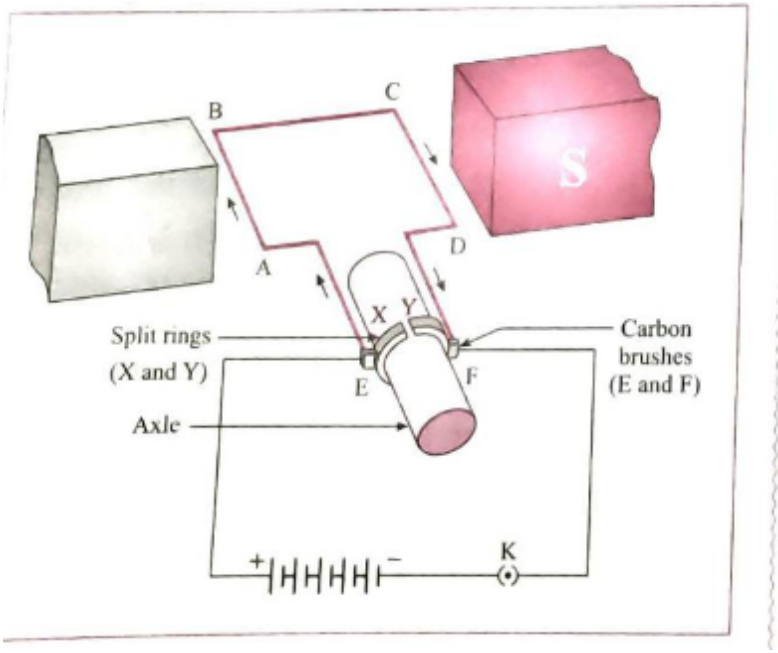
114. Answer the following questions :

Observe the following diagram and answer the questions.



Write the law in your own words ?

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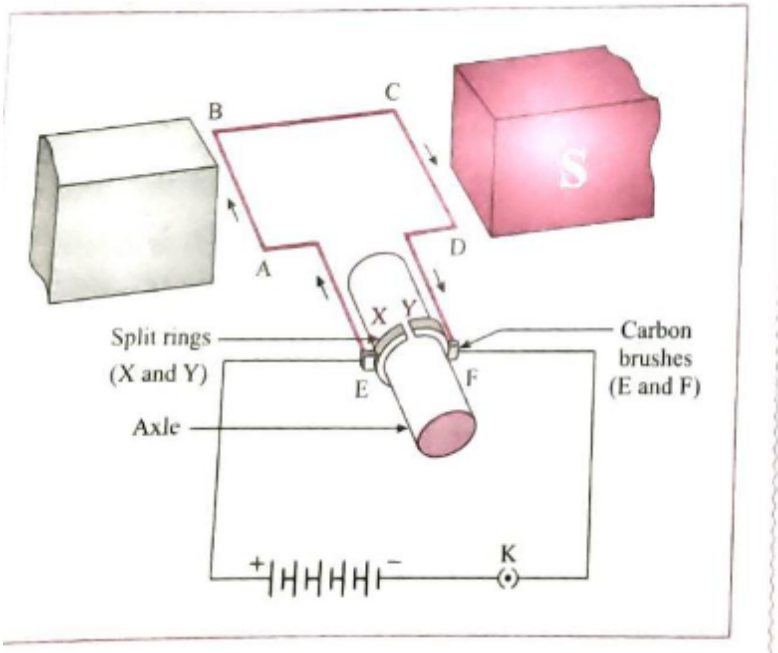
115. Answer the following questions :

Observe the following diagram and answer the questions.



Where is the equipment used ?

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116. Answer the following questions :

Study the following principle and answer the questions.

A force is excreted on a current - carrying conductor placed in a magnetic field. The direction of this force depends on both the direction of the current and the direction of the magnetic field . This force is maximum when the direction of the current is perpendicular to the direction of the magnetic

field.

By which law can we determine the direction of the force excreted on the current carrying conductor ?

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117. Answer the following questions :

Study the following principle and answer the questions.

A force is excreted on a current - carrying conductor placed in a magnetic field. The

direction of this force depends on both the direction of the current and the direction of the magnetic field . This force is maximum when the direction of the current is perpendicular to the direction of the magnetic field.

In which electrical equipment is this principal used?

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118. Answer the following questions :

Study the following principle and answer the questions.

A force is excreted on a current - carrying conductor placed in a magnetic field. The direction of this force depends on both the direction of the current and the direction of the magnetic field . This force is maximum when the direction of the current is perpendicular to the direction of the magnetic field.

Draw a diagram representing the construction of this equipment.

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119. Answer the following questions :

Study the following principle and answer the questions.

A force is excreted on a current - carrying conductor placed in a magnetic field. The direction of this force depends on both the direction of the current and the direction of

the magnetic field . This force is maximum when the direction of the current is perpendicular to the direction of the magnetic field.

Write the working of this equipment in brief.

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120. Answer the following questions :

What is galvanometer used for ? Explain in brief the working of a galvanometer.

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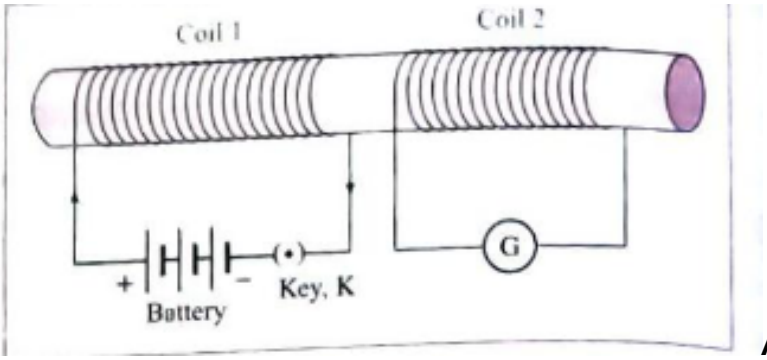
121. Answer the following questions :

Take two coils of about 50 turns. Insert them over a nonconducting cylindrical roll as shown in fig.



A thick paper roll can be used . Connect coil 1 to a battery with a plug key k. Connect coil 2 to a galvanometer G.

plug the key and observe the deflection in the

galvanometer.

Unplug the key and again observe the deflection.

Note (your observations. What conclusions do you draw from these observations?

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122. Answer the following questions :

What is electromagnetic induction? Who discovered electromagnetic induction?

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123. Answer the following questions :

State faraday's law of induction.

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124. Answer the following questions :

State Fleming's right hand rule.

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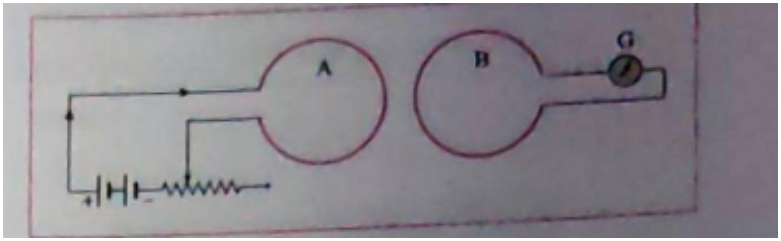
125. Answer the following questions :

Observe the following figure. If the current in the coil A is changed, will some current be induced in the coil B ? Explain.



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126. Answer the following questions :

What is a direct current (DC)?

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127. Answer the following questions :

What is an alternating current (AC)?

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128. Answer the following questions :

What is the value of frequency of AC in India ?

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129. Answer the following questions :

What is the periodic time of AC in India ?

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130. Answer the following questions :

State one advantage of AC over DC.

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131. Answer the following questions :

Name two appliances/ devices in which a

direct current is used.

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132. Answer the following questions :

Name two appliances/ devices in which an alternating current is used.

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133. Answer the following questions :

State any two uses of an AC generator.

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134. Answer the following questions :

What is an electric generator?

Watch Video Solution

135. Answer the following questions :

What is an electric generator?

Watch Video Solution

136. Answer the following questions :

What is a DC generator?

Watch Video Solution

137. Answer the following questions :

State the principal on which the working of an electric generator is based.

Watch Video Solution

138. Answer the following questions :

Explain the onstruction and working of an electric generator (AC) . Draw a neat diagram and label it.

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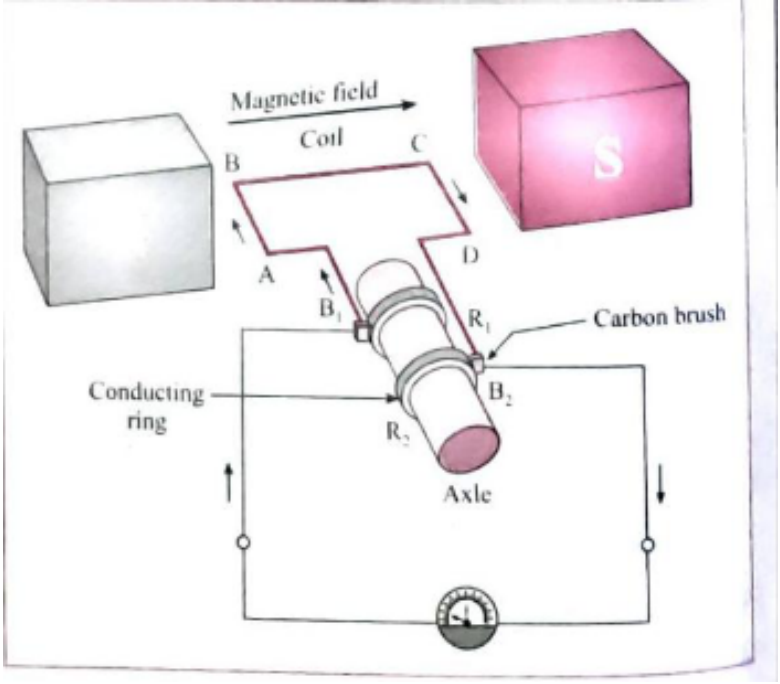
139. Answer the following questions :

Obsere the following diagram and write the answers to the given sub-questions:



Which instrument does the above figure show

?

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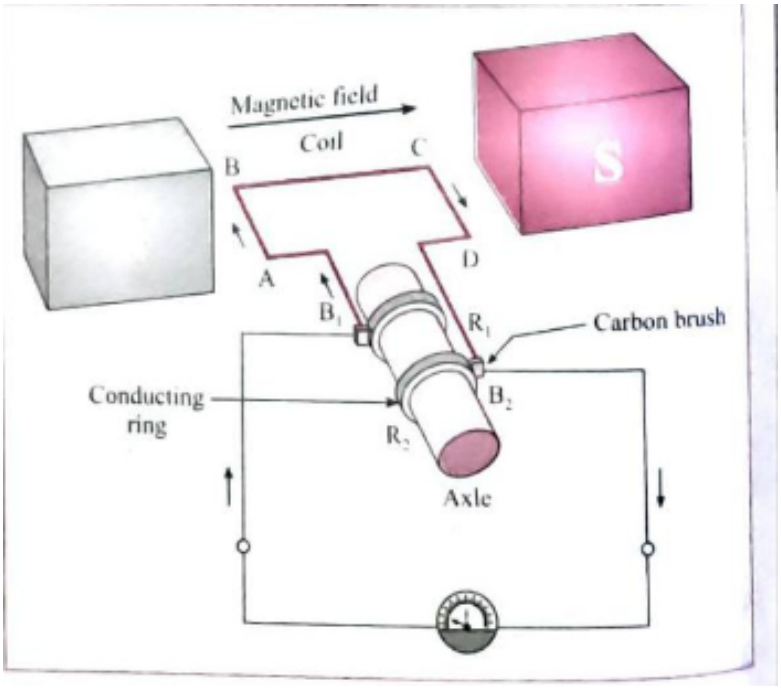
140. Answer the following questions :

Obsere the following diagram and write the answers to the given sub-questions:



Which rule is used to determine the direction of the current produced ?

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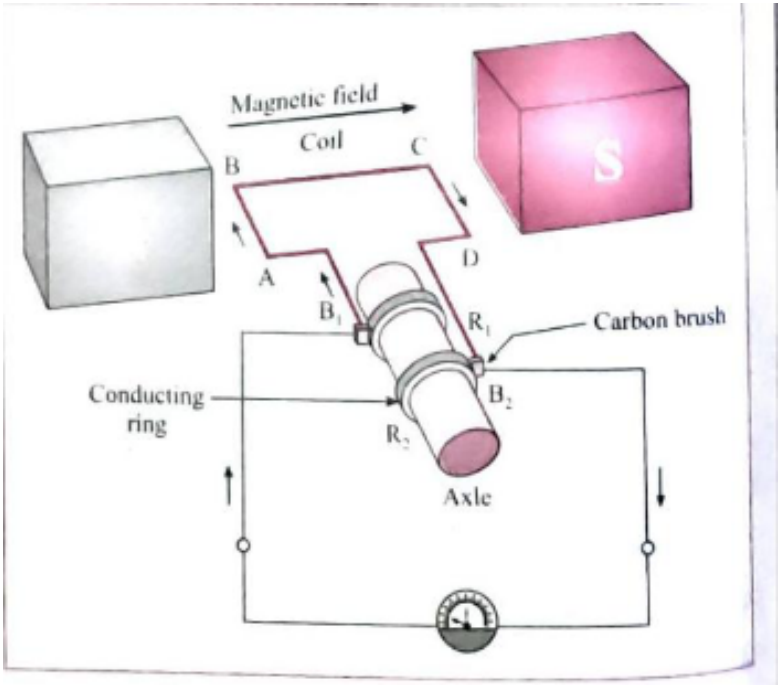
141. Answer the following questions :

Obsere the following diagram and write the answers to the given sub-questions:



State the rule

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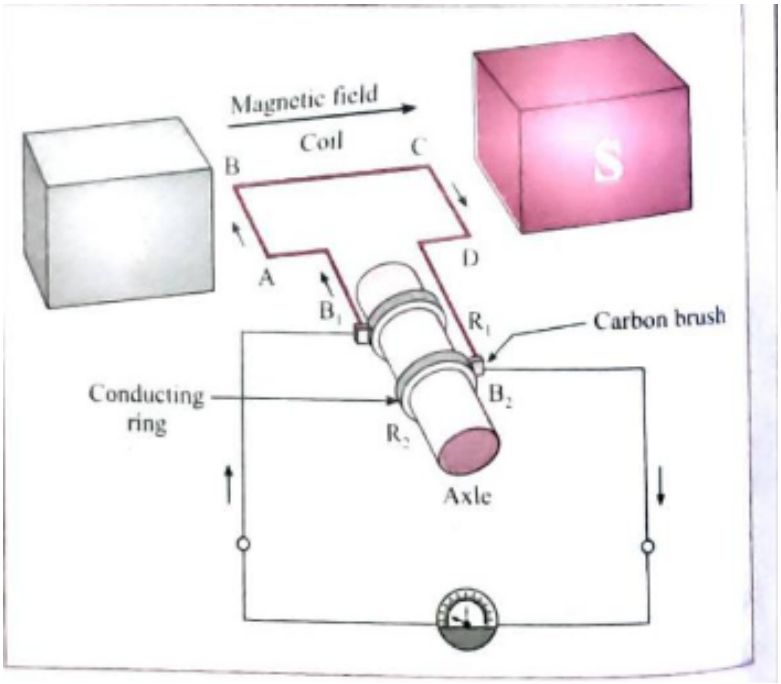
142. Answer the following questions :

Obsere the following diagram and write the answers to the given sub-questions:



In which direction (B_1 to B_2 or B_2 to B_1) will

the current flow in the external circuit in that situation ?

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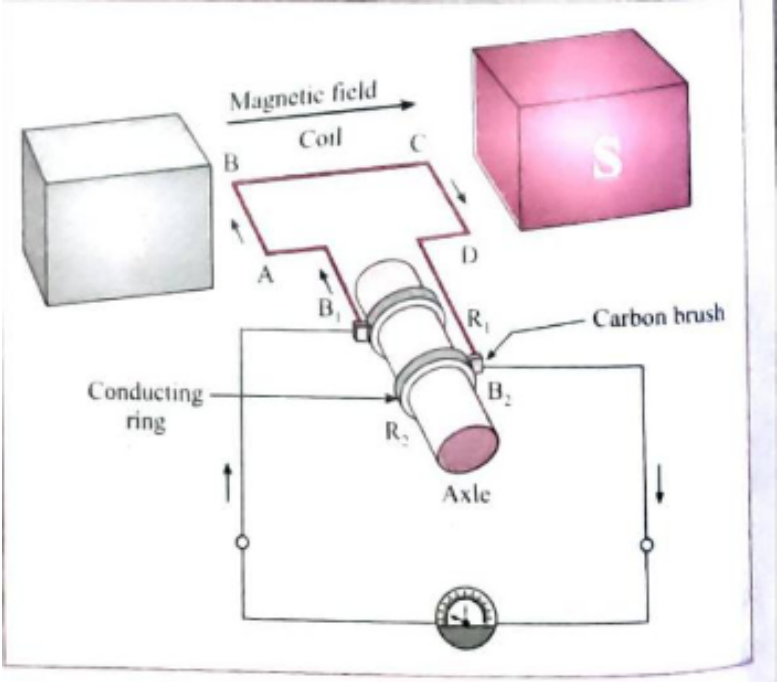
143. Answer the following questions :

Obsere the following diagram and write the answers to the given sub-questions:



What change will have to be made in the coil for increasing the current several times without changing the magnet?

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144. Answer the following questions :

Draw the diagram of a DC generator . Then explain as to how the DC current is obtained.

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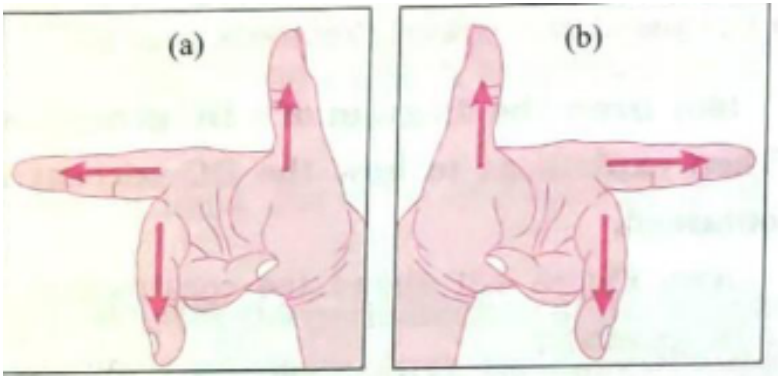
145. Answer the following questions :

Name the following diagrams and explain the

concept behind them.



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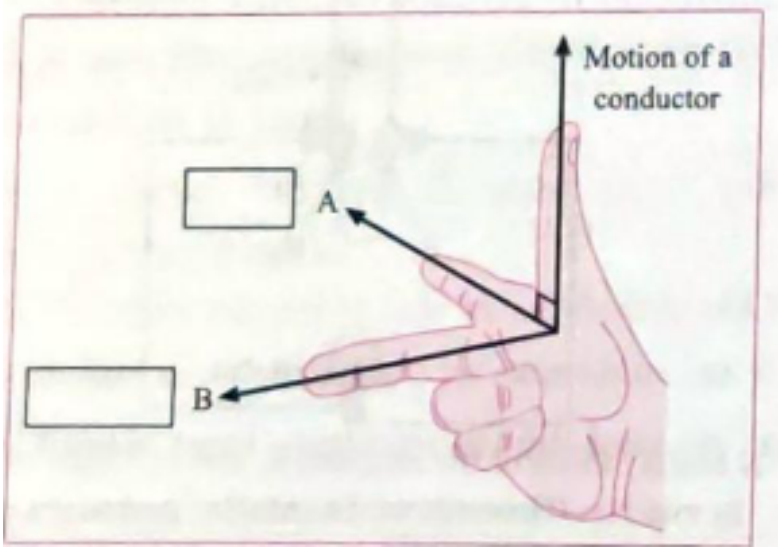
146. Answer the following questions :

observe the given figure of Fleming,s Right Hand Rule and write the labels of A and B

correctly.



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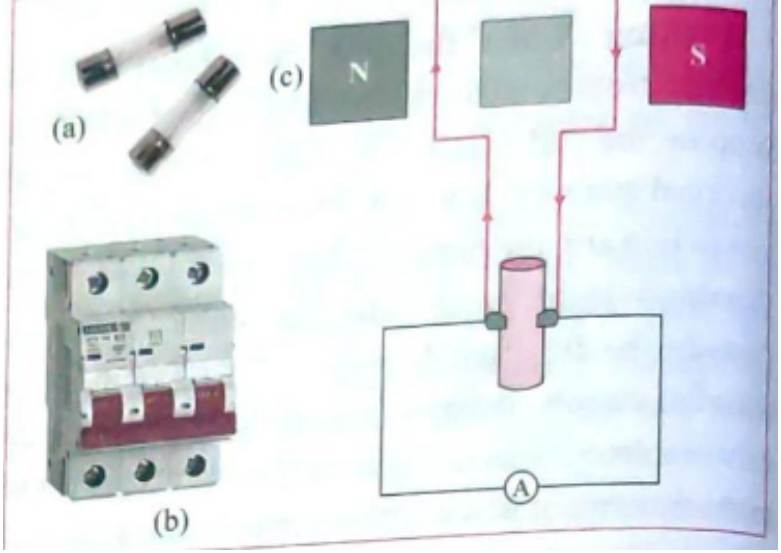
147. Answer the following questions :

Identify the figures and explain their use.



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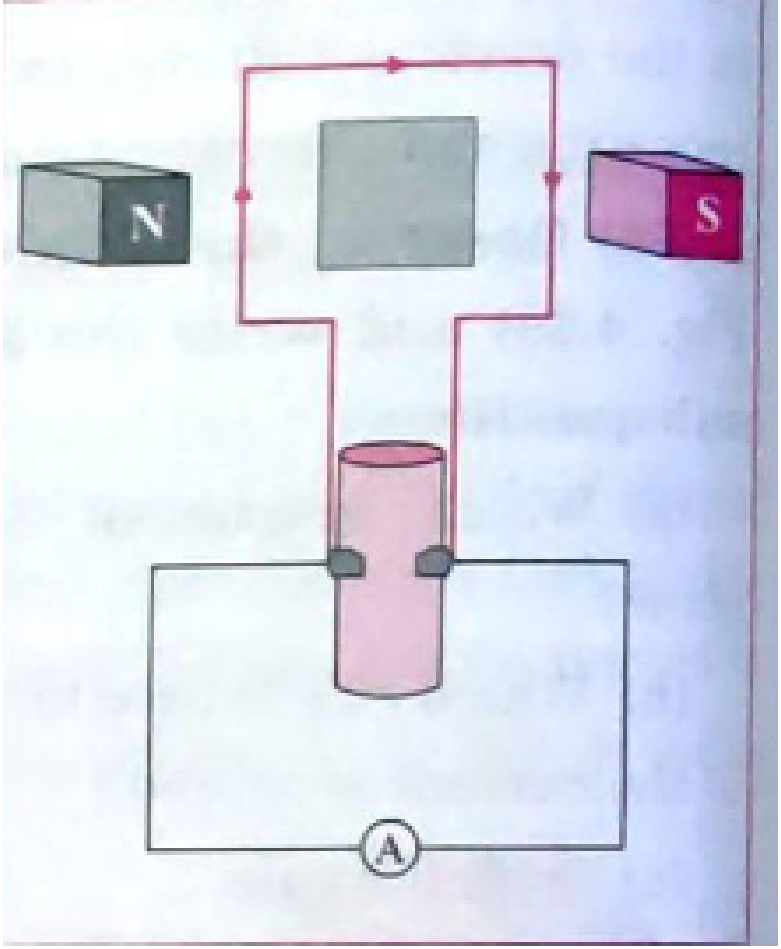
148. Answer the following questions :

Observe the figure and answer the following questions.



Identify the machine shown in the figure.

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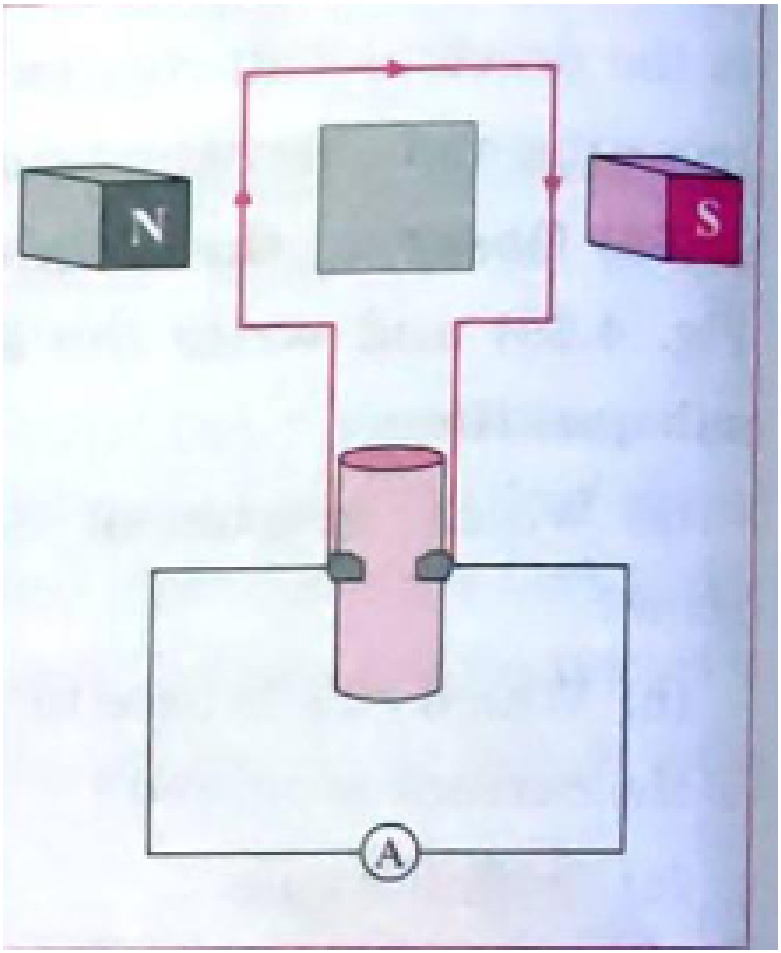
149. Answer the following questions :

Observe the figure and answer the following questions.



Write the use of this machine.

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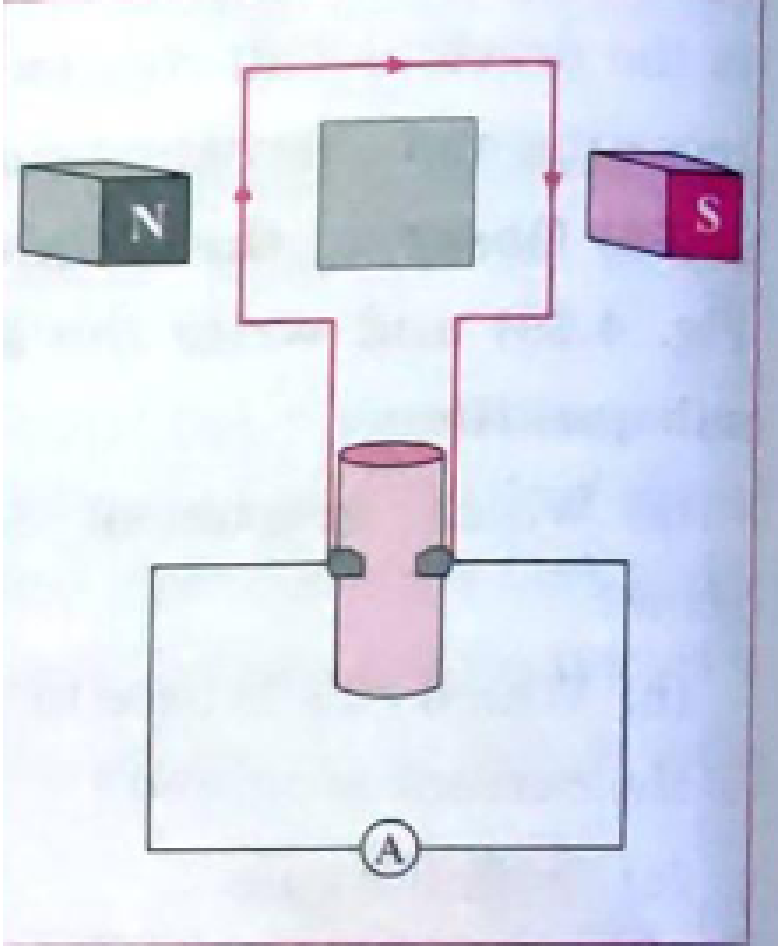
150. Answer the following questions :

Observe the figure and answer the following questions.



How does transformation of energy takevplace

in this machine?

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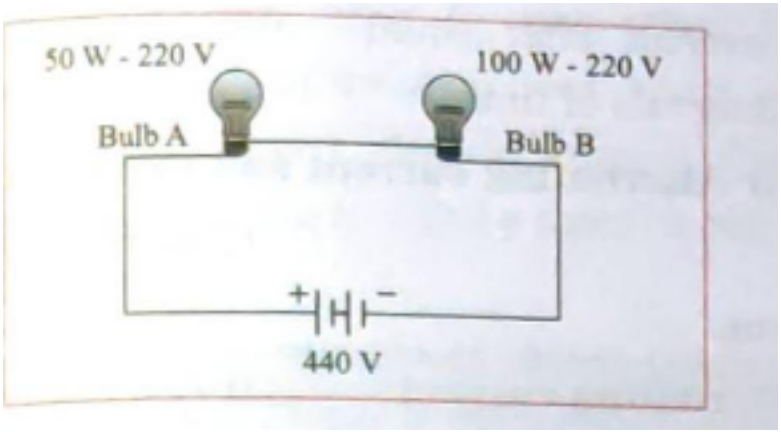
151. Answer the following questions :



Observe the following figure. Which bulb will fuse?

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152. Give scientific reasons:

For electric power transmission , copper or

aluminium wire is used.

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153. Give scientific reasons:

In practice the unit KW.h, rather than the joule, is used for the measurement of electric energy.

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154. Give Scientific reasons:

Tungsten metal is used to make a solenoid type coil in an electric bulb

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155. Give scientific reasons:

The filament of an electric bulb is made of tungsten.

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156. Give scientific reasons:

The melting point of the filament of a bulb is very high.

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157. Give scientific reasons:

The filament of a bulb should have a high melting point..

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158. Give Scientific reasons:

In the electric equipment's producing heat e.g. iron, electric heater, boilers, toaster etc. and alloy such as Nichrome is used, not pure metal

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159. Give scientific reasons:

The coils in heating devices such as a toaster and electric iron are made of an alloy such as Nichrome, rather than a pure metal.

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160. Give scientific reasons:

In an electric iron, the coil of high resistance is kept between mica sheets.

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161. Give Scientific reasons:

The material used for making fuse wire has low melting point

Watch Video Solution

162. Give Scientific reasons:

The material used for making fuse wire has low melting point

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163. Distinguish between the following

Electric motor and Electric generator

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164. Distinguish between :

AC generator and DC generator.

Watch Video Solution

165. Distinguish between the following

Alternating current and Direct current.

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166. Read the given passage and answer the following questions:

The home electrical connection consists of 'live','neutral' and 'earth wires. The 'live' and the 'neutral' wires have potential difference of 220 v. The earth ire is connected to ground. Due to a fault in the equipment or if the plastic coating on the 'live ' and the neutral wires gives away the two wires come in contact with each other and a large current flows through it producing heat . If any inflammable material (such as wood , cloth ,

plastic etc). exists around that place it can catch fire. Therefore a fuse wire is used as a precautionary measures.

Name the two wires having potential difference of 220 v.

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167. Read the given passage and answer the following questions:

The home electrical connection consists of 'live','neutral' and 'earth wires. The 'live' and

the 'neutral' wires have potential difference of 220 v. The earth ire is connected to ground. Due to a fault in the equipment or if the plastic coating on the 'live ' and the neutral wires gives away the two wires come in contact with each other and a large current flows through it producing heat . If any inflammable material (such as wood , cloth , plastic etc). exists around that place it can catch fire. Therefore a fuse wire is used as a precautionary measures.

What is short circuit?

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168. Read the given passage and answer the following questions:

The home electrical connection consists of 'live','neutral' and 'earth wires. The 'live' and the 'neutral' wires have potential difference of 220 v. The earth ire is connected to ground. Due to a fault in the equipment or if the plastic coating on the 'live ' and the neutral wires gives away the two wires come in contact with each other and a large current flows through it producing heat . If any

inflammable material (such as wood , cloth , plastic etc). exists around that place it can catch fire. Therefore a fuse wire is used as a precautionary measures.

Write the function of a fuse?

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169. Solve the following examples/ numerical problems.

An electric bulb is connected to a source of

250 volts. The current passing through it is 0.27 A. What is the power of the bulb?

170. If the bulb of 60 W is connected across a source of 220 V.find the electric current drawn by it .

171. Solve the following examples/ numerical problems.

A bulb of 40 w is connected across a source of 220 v. Find the resistance of the bulb.

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172. Heat energy is being produced in a resistance in a cricuit at the rate of 100 W.The current of 3 A is flowing in the circuit.What must be the value of the resistance?

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173. Solve the following examples/ numerical problems.

If the current passing through a bulb is 0.2 A and the power of the bulb is 20 w., find the voltage applied across the bulb.

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174. Two tungsten bulbs of wattage 100 W and 60 W power work on 220 V potential

difference. If they are connected is parallal,how much current will flow in the main conductor?

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175. Solve the following examples/ numerical problems.

Two tungsten bulbs of power of 50 w and 60 w work on 220 v potential difference . If they are connected in parallel, how much current will flow in the main conductor?

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176. Solve the following examples/ numerical problems.

A electric iron rated 750 w is operated for 2 hours/ day. How much energy is consumed by the electric iron for 30 days ?

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177. Who will spend more eletrical energy,500 W TV set in 30 mins or 600W heater in 20

mins?

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178. If a TV of rating 100 W is operated for 6 hrs per day,find the number of units consumed in a leap year .

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179. Solve the following examples/ numerical problems.

An electric appliances of rating 300 w is used 5 hours per day in the month of march . Find the number of units consumed.?

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180. A washing maching rated 300 W opertes one hour/day.If the cost of unit is rs.3.00 find the cost of the energy to operate a washing machine for the month March.

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181. An electric iron of 1100 W is operated for 2 hrs. daily. What will be the electrical consumption expenses for the month of April? (The electric company charges rs.5 per unit of energy).

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182. Solve the following examples/ numerical problems.

Find the heat produced in joule if a current 0.1 A is passed through a coil of resistance 50

ohm. for two minutes . Keeping other conditions the same if the length ofthe wire is reduced 1/4 th of the original length (by cutting the wire). What will be the heat produced?

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183. Solve the following examples/ numerical problems.

Calculate the heat produced in calorie when a

current of 0.1 A is passed through a wire of resistance 41.8 ohm for 10 minutes.

184. Solve the following examples/ numerical problems.

A potential differnce of 250 volts is applied across a resistance of 1000 ohm in an electric iron. Find (1) the current (2) the heat produced in joule in 12 seconds. Keeping other conditions the same, if the length of the wire

in the iron is reduced to half the original length (by cutting the wire), what will be the current and heat produced?

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185. Solve the following examples/ numerical problems.

A potential difference of 100 v is applied across a resistor of resistance 50 ohm for 6 minutes and 58 seconds . Find the heat produced in (1) Joule (2) Calorie.

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186. When the voltage applied across a bulb is 220 v the current passing through the bulb is 0.1 A . Find the power of the bulb.

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187. A bulb of 100 w is connected across a source of 220 v. Find the current drawn by it.

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188. A bulb of 60 w is connected across a source of 240 v . Find the resistance of the bulb.

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189. If the current passing through a bulb is 0.15 A and the power of the bulb is 30 w, find the voltage applied across the bulb.

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190. An electric appliances of rating 800 w is used 4 hours per day in the month of december. Find the number of units consumed.

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191. An electric appliances rated 400 w is used 5 hours per day in the month of june. If the cost of a unit is Rs 3.00 find the energy bill for june.

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192. An electric bulb rated 60 w is used 10 hours per day for 20 days. If the cost of a unit is Rs 3.00 find the energy bill.

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193. Two electric bulbs rated 60 w and 40 w respectively. are used 5 hours per day for 20 days . If the cost of a unit is Rs 4.00 find the cost of the energy used.

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194. Find the heat produced in joule if a current of 0.1 A is passed through a coil of resistance 25 ohm for one minute.

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195. Calculate the heat produced in calorie when a current of 0.1 A is passed through a wire of resistance 41.8 ohm for 5 minutes.

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196. Calculate the heat produced in calorie when a current of 0.2 A is passed through a wire of resistance 41.8 ohm for 10 minutes

 Watch Video Solution

197. Find the heat produced in calorie when a current of 0.2 A is passed through a wire of resistance 20.9 ohm for 10 minutes

 Watch Video Solution

198. A potential difference of 100 v is applied across a wire of resistance 50 ohm for one minute. Find the heat produced in joule.

Watch Video Solution

199. A potential difference of 100 v is applied across a wire for two minutes. If the current through the wire is 0.1 A , find the heat produced in joule.

Watch Video Solution

200. A potential difference of 100 v is applied across a wire for 6 minutes and 58 seconds . If the current through the wire is 0.1 A . Find the heat produced in calorie.

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