PHYSICS

BOOKS - LAKHMIR SINGH & MANJIT KAUR

Electric Current And its Effects

Exercise

1. Name the device which is used to 'make' or 'break' an electric circuit.

A. fuse

B. wire

C. switch

D. bulb

Answer: C

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2. Which part of an electrical circuit diagram is represented by straight lines ?

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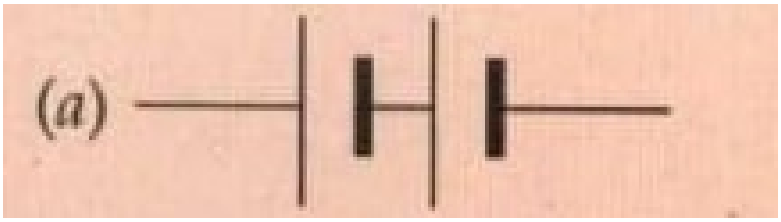
3. Name the electrical components having the following symbols :



A. Battery

B. Resistor

C. Bulb

D. Cell

Answer: A

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4. Which electrical component is represented by a symbol having two parallel lines : one long and thin, and the other short and thick ?

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5. State whether the following statements are true or false :

A battery is made by connecting positive terminal of one cell with the positive terminal of the other cell.

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6. State whether the following statements are true or false :

A car battery is just one big cell.

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7. State whether the following statements are true or false :

When the electric current through the fuse exceeds a certain limit, the fuse wire melts and breaks.

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8. State whether the following statements are true or false :

A compact fluorescent lamp (CFL) has a filament in it.

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9. State whether the following statements are true or false :

MCB works on the heating effect of electric current.

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10. State whether the following statements are true or false :

The heating element of an electric iron is made of tungsten.

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11. State whether the following statements are true or false :

Compact fluorescent lamp (CFL) works on the heating effect of current.

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12. State whether the following statements are true or false :

An electromagnet does not attract a piece of iron.

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13. State whether the following statements are true or false :

An electric bell has an electromagnet.

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14. State whether the following statements are true or false :

An electromagnet is a temporary magnet.

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15. Name two effect produced by electric current.

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16. Which effect of electric current is utilised :

in an electric iron ?

A. Chemical effect

B. Heating effect

C. Magnetic effect

D. Both B and C

Answer: B

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17. Which effect of electric current is utilised :

in an electric bulb ?

A. Heating effect

B. Chemical effect

C. Magnetic effect

D. Both B and C

Answer: A

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18. Name the alloy which is used to make the heating elements of electrical heating appliances like an electric iron.

A. Copper

B. Nichrome

C. Tungsten

D. Zinc

Answer: B

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19. Name the metal which is used to make the filament of an electric bulb.

A. Zinc

B. Nichrome

C. Copper

D. Tungsten

Answer: D

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20. Which effect of electric current is used in the working of an electric fuse?

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21. What is the full form of CFL ?

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22. Name the phenomenon which occurs :

when the two naked wires of electricity supply

line touch each other.

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23. Name the phenomenon which occurs :

when too many electrical appliances are connected to a single socket.

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24. What is the name of a safety device which cuts off the electricity supply during a short

circuit by turning off a switch ?

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25. What is the name of a safety device which cuts off the electricity supply during a short circuit by breaking a thin wire ?

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26. Name the device which is being used increasingly in place of fuse.

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27. Which important discovery was made by Oersted ?

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28. Name the scientist who discovered the magnetic effect of current.

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29. What name is given to the following arrangement ?

A coil of insulated copper wire wrapped around an iron piece and connected to an electric cell.

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30. In an electromagnet, which of the two really becomes a magnet : the piece of iron or the coil of wire ?

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31. Name any two devices in which electromagnets are used.

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32. What is the common name of the magnet made by using current ?

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33. Which of the following material is used for making an electromagnet ?

Iron or Steel

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34. Which effect of electric current is utilised in an electric bell ?

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35. Name one device which works on the magnetic effect of current.

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36. What is the usual name of magnets whose magnetism can be turned on or off as desired ?

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37. Which material is used to make electromagnets and why?

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38. Which of the two is used to load heavy iron girders on to a ship-an electromagnet or a permanent magnet ?

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39. Can we use a U-shaped permanent magnet in making an electric bell ?

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40. Write the full form of MCB.

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41. Fill in the following blanks with suitable words :

The conducting path through the bulb, wires, switch and battery is called _____.

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42. Longer line in the symbol for cell representsits_____terminal.

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43. Fill in the following blanks with suitable words :

The short and thick line in the symbol of a cell represents its _____ terminal.

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44. Fill in the following blanks with suitable words :

The combination of two or more cells is called a _____.

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45. Fill in the following blanks with suitable words :

When current is switched 'on' in a room heater, its element becomes _____.

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46. Fill in the following blanks with suitable words :

The safety device based on the heating effect of electric current is called _____.

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47. Fill in the following blanks with suitable words :

The magnet made by using electric current is called an _____.

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48. Fill in the following blanks with suitable words :

An electric current flowing in a wire produces a _____ effect.

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49. Fill in the following blanks with suitable words :

A current-carrying coil of an insulated wire wrapped around a piece of iron is called _____.

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50. Fill in the following blanks with suitable words :

When an electric current is passed through a coil wrapped around an iron nail, the iron nail behaves like a _____.

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51. What is an electric circuit ? Explain with the help of a diagram.

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52. Give the names and symbols for any two common electrical components.

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53. Give the electrical symbols for :

a cell

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54. Give the electrical symbols for :

a battery of two cells

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55. Give the electrical symbols for :

a battery of three cells

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56. Give the electrical symbols for :

a battery of four cells

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57. Draw the electrical symbols for

a bulb (or lamp) .

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58. Draw the electrical symbols for

an open switch.

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59. Draw the electrical symbols for

a closed switch.

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60. Draw a circuit diagram which includes the following :

A cell, a bulb, a closed switch.

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61. Draw a circuit diagram which includes the following :

A battery of two cells, a bulb, an open switch.

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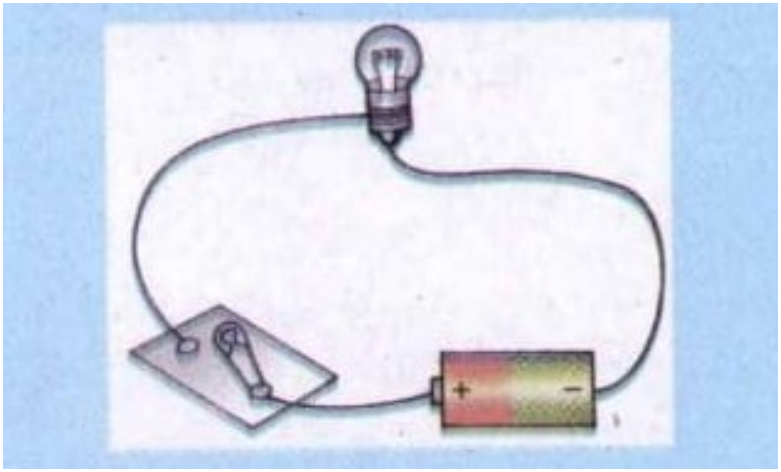
62. Draw the circuit diagram to represent the circuit shown below.



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63. Name five appliances (or devices) in which electric cells are used.

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64. State applications of heating effect of electric current.

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65. When does an electric short-circuit occur?

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66. Explain the importance of using in a household electric circuit (i) fuse, and (ii) earthing wire.

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67. How can overloading in the electric circuit be avoided ?

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68. Explain why, any metal wire or metal strip cannot be used in place of fuse wire.

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69. What type of elastic fuse is used in electrical appliances like car stereos ? Explain with the help of a labelled diagram.

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70. What type of elastic fuse is used in electrical appliances like car stereos ? Explain with the help of a labelled diagram.

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71. What might happen if a fuse is not inserted in household electric wiring ?

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72. What might happen if a fuse is not inserted in household electric wiring ?

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73. Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.

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74. State the uses of electromagnetic radiations.

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75. Why do we use iron for making an electromagnet and not steel ?

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76. What is an electromagnet ? Explain in your own words, how to make an electromagnet.

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77. What type of core is used to make an electromagnet?

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78. What is meant by the heating effect of current ? Name two appliances which work on the heating effect of current.

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79. Explain why, the current that makes the heater element very hot, only slightly warms the connecting wires leading to the heater.

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80. What is meant by a battery ? How will you arrange two cells to make a battery ? Explain with the help of a diagram. Mark the terminals (+ and -) of both the cells.

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81. Name any five electrical appliances in which the heating effect of current is utilised.

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82. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.

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83. 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: C

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84. The filament of an electric bulb is made of a thin wire of :

A. copper

B. aluminium

C. nichrome

D. tungsten

Answer: D

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85. The 'element' of an electric iron is made of

A. iron

B. nickel

C. nichrome

D. tungsten

Answer: C

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86. When electric current is passed through the filament of a bulb, it gives off :

A.Sound

B.Heat

C.Magnetism

D.Light

A. A and B

B. B and C

C. B and D

D. only D

Answer: C

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87. An electric fuse works on the :

A. chemical effect of current

B. magnetic effect of current

C. lighting effect of current

D. heating effect of current

Answer: D

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88. The most suitable material for making the core of an electromagnet is :

A. iron

B. brass

C. aluminium

D. steel

Answer: A

89. Circuit Breaker Device which can be used in place of fuse in domestic electric wiring is called :

A. CBD

B. DCB

C. MCD

D. MCB

Answer: D

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90. Nichrome wire is used in

A. CFL

B. electric fuse

C. hair dryer

D. MCB

Answer: C

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91. In a filament-type bulb, a lot of electric energy is wasted in the form of :

A. magnetism

B. sound

C. light

D. heat

Answer: D

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92. Explain how sound is produced by your school bell ?

A. chemical effect of current

B. heating effect of current

C. magnetic effect of current

D. sound effect of current

Answer: C

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93. Which of the following characteristic is not suitable for a fuse wire?

A. thin and short

B. thick and short

C. low melting point

D. higher resistance than rest of wiring

Answer: B

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94. An MCB which cuts off the electricity supply in case of short-circuiting or overloading works on the :

A. chemical effect or current

B. heating effect of current

C. magnetic effect of current

D. lighting effect of current

Answer: B

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95. The magnetic effect of electric current was discovered by

A. Maxwell

B. Darwin

C. Oersted

D. Newton

Answer: C

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96. Which of the following does not work on the heating effect of current ?

A. electric bulb

B. miniature circuit breaker

C. electric fuse

D. immersion rod

Answer: B

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97. State whether the following statements are true or false :

A compact fluorescent lamp (CFL) has a filament in it.

A. nichrome filament

B. chromium filament

C. tungsten filament

D. no filament

Answer: D

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98. Consider the following materials :

Copper, Tungsten, Chromium, Aluminium, Nichrome, Iron

Which of these is used to make :

heating element of an electric iron ?

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99. Consider the following materials :

Copper, Tungsten, Chromium, Aluminium, Nichrome, Iron

Which of these is used to make :

filament of an electric bulb ?

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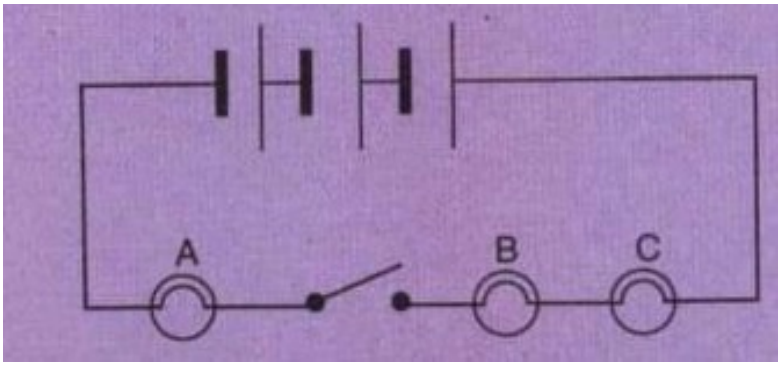
100. In the circuit diagram shown below :

Would any of the bulbs glow when the switch is in the 'off' position ?



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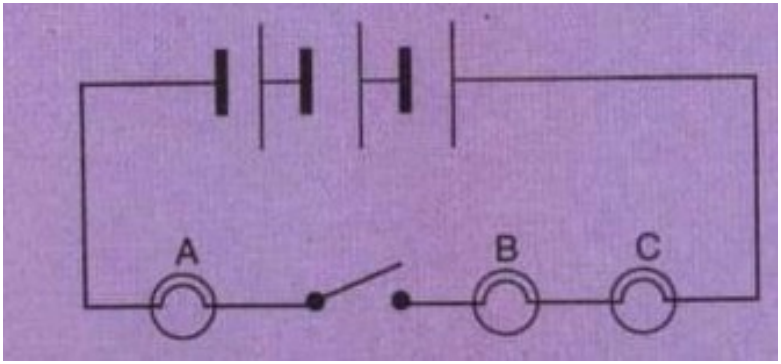
101. In the circuit diagram shown below :

What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'on' position ?



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