Dharavydhyuthi

Que.1. Q is the midpoint of the resistor AB. If 4A current flowed through the resistor when the switch was turned on as shown in the figure, then **[Marks :(6)]**

a) If the point S touches the midpoint Q of AB, what will be the current in the circuit?

b) In the same circuit, if the point A is connected to the point B and S touches the midpoint Q of AB, then what will change the current?

c) If the conductor AB is stretched and doubled in length, will the current in the circuit be changed?

d) Explain your answer

Ans. a) When V / I = R; V / R = I

when S touches the midpoint Q, R is reduced by half, V / R / 2 = I; V / R = 2I The electric current doubles I = 8A

b) The length is half, and the area of cross nsectionis twice I = 4A

when length becomes half R = R / 2 The area of the cross section is twice

R = R / 2 * 2: I = 16A

c) The length is doubled and the area of the cross section is half

R = R * 2 * 2 = 4R: I = 1A

Que.2. Identify the relation in the first pair and complete the second pair

[Marks :(1)]

Current is formed in conductors ; By the flow of free electrons

Current is formed in electrolytes and gases; .....

Ans. By the flow of ions.

Que.3. Which among the following doesn't influence the resistance of a conductors

(length, Area of cross section , density, resistivity) **[Marks :(1)]**

Ans. Density

Que.4. A table related to the resistance of a conductor is given. Complete the table **[Marks :(4)]**

Sl no	Length l (m)	Area of cross section (A)	Resistance(R)
a	1	1	10
b	2	1	.....
c	1	2	.....
d	2	2	.....
e	1	1/2	.....

Ans. a- 20ohm

b-5 ohm

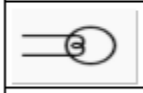
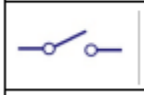
c-10 ohm

d- 20 ohm

Que.5. Instrument used to regulate the current in a circuit by gradually changing the resistance is ------ **[Marks :(1)]**

Ans. Rheostat

Que.6. Some symbols are given in the column A. Find out the suitable names from column B for each one and write against it. **[Marks :(4)]**

Symbol	Name
	Bulb
	Switch
	Rheostat
	Cell
	Resistance

Ans. a. cell b- Resistance, c-Bulb, d- Switch , e- Rheostat

Que.7. The resistance of a bulb is 42Ω. The current passed through the conductor when 230 V supplied is given in the table. [Marks :(3)]

Complete the table

Voltage given to bulb (V)	Current through the bulb (I)	Resistance of the bulb while glowing (R)
230 V	0.44A	.....a).....

b) Will the resistance of the filament be same when the bulb is on and off? What could be the reason?

Ans. a) R=522.7Ω

b) No. When temperature increases the resistance also increases.

Que.8. Find out the relation from the first pair and complete the second pair

kgm/s^2 : N [Marks :(1)]

Volt/ Ampere : .....

Ans. Ohm

Que.9. 0.2 A current is flowing through a soldering iron having resistance 500Ω .Find out the voltage between the ends of the soldering iron. [Marks :(2)]

Ans. According to Ohms law, V = IxR

= 500x0.2= 100v

Que.10. 10A current is flowing through a heater working in 230V. Calculate the resistance of the heating coil. [Marks :(2)]

Ans. According to Ohms Law V/I=R

230/10=23Ω

Que.11. 20 coulomb charge passed in 5 seconds through a circuit when connected to a 12 volt battery. [Marks :(4)]

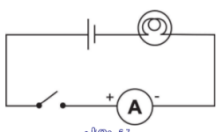
a) What is the intensity of current through the circuit?

b) Which instrument is used to measure the Intensity of current?

c)Draw a circuit by including thid device.

Ans. a) 4A

b) Ammeter

c) 

Que.12. Find the relation from the first pair and complete the second pair

Potential difference : Voltmeter **[Marks :(1)]**

Intensity of current : .....

Ans. Ammeter

Que.13. Find the relation from the first pair and complete the second pair

Potential difference : Volt (V) **[Marks :(1)]**

Intensity of current : .....

Ans. Ampere

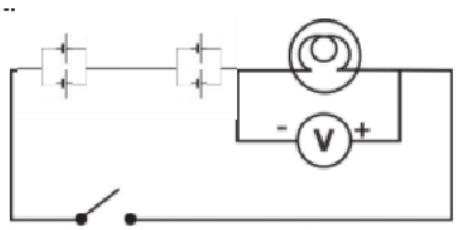
Que.14. Calculate the intensity of current if a charge of 40 coulomb passes through a circuit in 8 seconds. **[Marks :(2)]**

Ans. I = Q/t

I = 40/8 = 5A

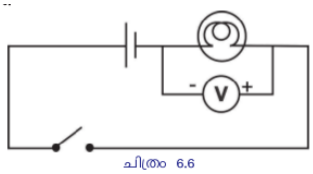
Que.15. Draw a circuit to get an effective voltage of 3V using 4 cells of each 1.5 volt. **[Marks :(2)]**

Ans.



Que.16. Observe the circuit diagram given below and answer the questions.

[Marks :(1)]



ചിത്രം 6.6

a) How are the voltmeter and bulb connected in the circuit?

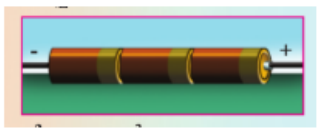
(series/parallel)

b) How will you connect an ammeter in the circuit to measure the current?

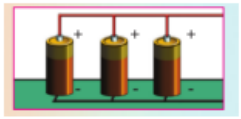
Ans. a) parallel

b) series Marks

Que.17. Cells connected in two different ways are shown below. [Marks :(2)]



(a)



(b)

a) Find out and write how cells are connected in each circuit.

b) what change will happen to the effective voltage in the two arrangements?

Ans. a) series,

b) parallel

b) voltage increases in series

Voltage doesn't change in parallel connection

Que.18. identify the relation from the first pair and complete the second pair

Generator ; Mechanical energy---- Electrical energy [Marks :(1)]

Cell : ....

Ans. Chemical energy .... electrical energy

Que.19. Which among the following are not a source of emf. [Marks :(2)]

(Generator, Electric heater , solar cell, electro chemical cell, Electric motor)

Ans. Electric heater, Electric motor.

Que.20. if 10J work is done while moving 1 coloumb charge from P to Q ,what is the potential between the points [Marks :(1)]

Ans. 10V