Worksheet No :   Name of the student :
Resource person : Sujisha Sumith
Date :   Class : X

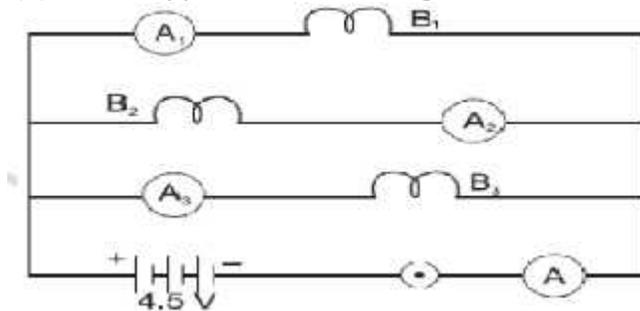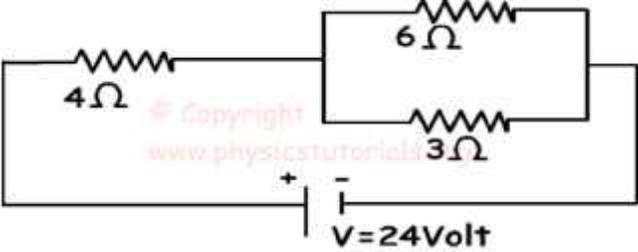|	
	One mark questions
1.	There are two electrical bulbs (i) marked 60W, 220 V and (ii) marked 100 W, 220 V. Which one of them has higher resistance?
2.	Why an ammeter is always connected in series in a circuit?
3.	On what factors does the resistivity of a material depend?
4.	Should a fuse wire be connected in series or in parallel in the main circuit? Why?
	Two mark questions
5.	B1, B2 and B3 are three identical bulbs connected as shown in the figure. When all the three bulbs glow, a current of 3A is recorded by the ammeter A. (i) What happens to the glow of the other two bulbs when the bulb B1 gets fused? (ii) (ii) What happens to the reading of A1, A2, A3 and A when the bulb B2 gets fused?
6.	A small bulb has a resistance of 2Ω when cold. It takes up a current of 0.4 A from a source of 4V and then starts glowing. (i) Find the resistance of the bulb when it is glowing. ii) Elaborate on the reason for the difference in resistance?
7.	Give reason: i) Tungsten metal used in bulbs but not in fuse wires. ii) Coils of electric toaster and electric iron made of an alloy rather than a pure metal.
8.	Calculate the area of cross section of a wire of length 2m, its resistance is 25Ω and the resistivity of material of wire is 1.84×10^{-6} Ωm.
9.	Given *n* resistors each of resistors R. How will you combine them to get: (i) maximum and (ii) minimum effective resistance? What is the ratio of the maximum to minimum resistance?

10.	A wire of length L and resistance R is stretched so that its length it's doubled. What will be the change in its : (a) Resistance (b) Resistivity
11.	An electric circuit is shown below: Find a) total current passing through the circuit. b) Potential difference between 4Ω.
	Three mark questionsquestions
12.	A bulb is rated at 330V- 110W. What do you think is its resistance? Three such bulbs burn for 5hrs at a stretch. What is the energy consumed? Calculate the cost in rupees if the rate is 7 rupees per unit?

13.	A piece of wire having a resistance R is cut into five equal parts.
	      (i) How will the resistance of each part of the wire compare with the original resistance?
	      (ii) If the five parts of the wire are placed in parallel, how will the resistance of the combination compare with the resistance of the original wire? Find the ratio.

14.	i) State and explain Ohm's law with the help of apropriate circuit diagram. ii) Draw the circuit consisting of a battery of five 2V cells, a plug key and three resistors 5 Ω, 10 Ω and 15 Ω are connected in series. Calculate the current passing through the circuit when key is closed.
	Five mark questions
15.	With the help of neat circuit, derive the expression for the equivalent resistance of 3 resistances connected in : a) Series b) Parallel

16.	a)Define Joul's law of heating.
	 b) Write its mathematical expression.
	 c) A household uses the following electric appliances :
	     (i) Refrigerator of rating 400W for ten hours each day.
	     (ii) Two electric fans of rating 80W each for twelve hours each day.
	     (iii) Six electric tubes of rating 18W each for 6 hours each day.
	 Calculate the electricity bill of the household for the month of June if the cost per unit of electric energy is Rs. 3.00.