



TEST PAPER: PHYSICS

Time: 45 Minutes

Class: 10th Board

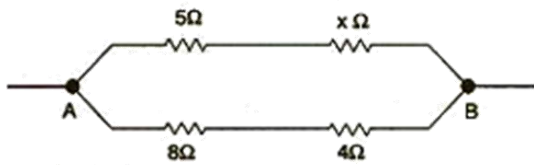
Max. Marks: 30 Marks

Date: 27th June, 2018

Marking Scheme: Three questions carry 10 marks each. Every question has 3 subparts. Subparts A and B carry 3 marks each and subpart C carries 4 marks.

Question 1:

- A. A wire is 1m long, 0.2mm in diameter and has resistance of 10Ω . Calculate its resistivity.
- B. The equivalent resistance between points A and B is 4Ω . Find the value of x.



- C. A bulb is rated at 330V- 110W.
- Find its resistance
 - Three such bulbs burn for 5 hrs at a stretch. What is the energy consumed?
 - Calculate the cost in rupees if the rate is 70 paise per unit?

Question 2:

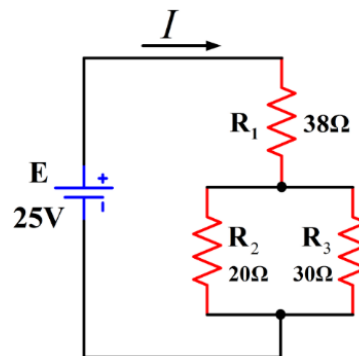
- A. Answer the following questions:

- State the Ohm's Law
- State the commercial unit of electrical energy
- Fill in the blank: "

"When one unit electric charge moves from one point to another point in an electric circuit, then the amount of work done in joules is known as _____"

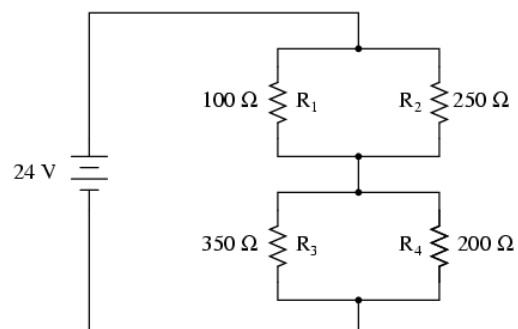
- B. Refer to the circuit given alongside:

- Find: i. Equivalent resistance
ii. Current I



- C. Refer to the circuit given alongside:

- Find: i. Equivalent resistance
ii. Current flowing in the circuit



Question 3:

- A. Mention any three factors on which the resistance of a wire depends. Also state whether it is directly or inversely proportional to each.
- B. An electric heater is rated 500 kVA, 220 V. If the heater is operated for 1 hour, calculate the energy consumed:
- in kWh and
 - in Joule.
- C. i. A charge of 5000 C flows through an electric circuit in 2 hour and 30 minutes. Calculate the magnitude of the current flowing through the circuit.
- ii. 50 coulombs of charge is brought from infinity to a given point in an electric field when 62.5 j of work is done. What is the potential at that point?
- iii. Derive the relation between 1 Joule and 1 Kilo-watt hour