

FIRST MIDTERM EXAMINATION 2023 - 24

Max. Marks : 20

Std. X

PHYSICS

Time : 45 Mts.

1. If the current in a conductor is doubled, how much will be the increase in the heat produced? (1)
2. Which effect of electric current is used in a soldering iron? (1)
3. In which way are two resistors connected in a circuit for the current in it to decrease? (1)
4. Which is not included in the list given below? (1)
(VI , V^2t/R , Pt , IRt)
5. What are the things to be noticed while installing the fuse? (2)
6. What are the 2 main features of Nichrome? (1)
7. Classify the following statements about combination of resistors in to series and parallel (2)
 - a) Resultant resistance will decrease
 - b) The resistors cannot be separately controlled using differential switches. ✓
 - c) Different current through each resistor ✓
 - d) All resistors will have different potential difference.
8. What are the advantages of using LED lamps? (2)
9. What is the law that describes the magnetic field around a conductor? (2)
State that rule
10. Choose the correct answer for column A from column B and C and rewrite the column ABC (3)

	A	B	C
i	Heater	Tungsten	low melting point
ii	The fuse	Nichrome	will emit white light
iii	Bulb	Tin-Lead alloy	is not easily oxidised

11. You are given a heater of 1150 W power operating at 230 V.
 - a) What is the current flowing through the circuit when this heater is operating? (1)
 - b) How much heat does this heater produce in 5 minutes? (1)
 - c) What is the effective resistance? (1)
 - d) How much power will this heater produce if we try to operate it at 115 V? (1)