

SIR CV RAMAN COACHING CENTRE IDAPPADI,SALEM**XII -PHYSICS UNIT - II MODEL EXAMINATION TOTAL MARK : 35 M****CURRENT ELECTRICITY -DATE : 27.04.2024****Choose the correct best answer (5 x 1 = 5m)**

1. 1A =

A) 1C s⁻¹. b) 1C s⁻² c) 1C s² d) All2. Practical form of Ohm's law states that $V \propto$

a) Current b) Charge c) Resistance d) All

3. Pure Water is

a) Insulator b) Conductor c) semiconductor d) both a and c

4. The conductors have resistivity

a) highest b) lowest c) both a and b d) none of the above

5. The quantity $1/\sigma A$ is called

A) Resistance b) Resistivity c) Conductivity d) None of the above

PART -B (3 x 2 = 6m)**Answer any THREE Questions**

6. Compute the current in the wire if a charge of 60 C is flowing through a copper wire in 1 minute.

7.. A potential difference across 24 Ω resistor is 24 V. What is the current through the resistor

8. Define Resistivity.

9. State Kirchhoff's first rule

10. In a meter bridge experiment with a standard resistance of 10 Ω in the right gap, the ratio of balancing length is 3:2. Find the value of the other resistance.**PART -B(3 x 3 = 9m)**

Answer any THREE Questions

11. In a meter bridge experiment, the value of resistance in the resistance box connected in the right gap is 10Ω . The balancing length is $l_1 = 55$ cm. Find the value of unknown resistance
12. What is the value of x when the Wheatstone's network is balanced? $P = 500 \Omega$, $Q = 800 \Omega$, $R = x + 400$, $S = 1000 \Omega$
13. State Kirchhoff's Second rule
14. Write short note on superconductor
15. Find the resistance colour code (i) red ,red ,orange (ii) yellow,green,orange , (iii) red ,red ,black

PART -C (3 x 5 = 15m)**Answer any THREE Questions**

16. Obtain the macroscopic form of Ohm's law from its microscopic form and discuss its limitation
17. Explain the equivalent resistance of a series and parallel resistor network
18. Obtain the condition for bridge balance in Wheatstone's bridge
19. The resistance of a wire is 20Ω . What will be new resistance, if it is stretched uniformly 8 times its original length?
20. Two resistors when connected in series and parallel, their equivalent resistances are 15Ω and 56Ω respectively. Find the values of the resistances

PREPARED BY**Dr.G.THIRUMOORTHY,M.Sc,B.Ed,Ph.D (PHYSICS)****GOVT ARTS COLLEGE (AUTONOMOUS) -SALEM- 7****86 105608 10,88836 10465.****"ALL THE BEST"**