Worksheet: Current Electricity

ISC · Class 12 · Physics · 8 questions · 25 marks

Name: _____ Date: _____ Score: _____ / 25

Q1. A wire of resistivity 1.7 x 10^-8 ohm metre has length 2.0 m and cross-section 1.0 x 10^-6 m squared. Find its resistance. *[2 marks]*

Q2. A cell of emf 1.5 V and internal resistance 0.5 ohm is connected to a 2.5 ohm resistor. Find the current. *[2 marks]*

Q3. A battery of emf 6 V drives 1.5 A through an external resistance of 3.5 ohm. Find the internal resistance and terminal voltage. *[3 marks]*

Q4. A wire has resistance 10 ohm at 20 degrees Celsius and 12 ohm at 120 degrees Celsius. Find alpha. *[3 marks]*

Q5. Three resistors of 2, 3 and 6 ohm are connected in parallel across a 12 V supply. Find the total current. *[3 marks]*

Q6. Two cells of emf 2 V and 4 V with internal resistances 1 ohm and 2 ohm are connected in parallel across a 4 ohm resistor. Find the current through the resistor. *[4 marks]*

Q7. A copper wire of cross-section 1.0 x 10^-6 m squared carries 1.5 A. If n = 8.5 x 10^28 per cubic metre, find the drift velocity. *[4 marks]*

Q8. In a Wheatstone bridge P = 10 ohm, Q = 20 ohm and R = 15 ohm at balance. Find S. *[4 marks]*