

Worksheet: Current Electricity

Tamil Nadu State Board · Class 12 · Physics · 5 questions · 12 marks

Name: _____

Date: _____

Score: _____ / 12

Q1. A 2 m copper wire of area 0.5 mm^2 has resistivity $1.7 \times 10^{-8} \text{ ohm m}$. Find its resistance. [2 marks]

Q2. Find the current through a 10 ohm resistor connected to a 12 V battery of internal resistance 2 ohm. [2 marks]

Q3. In a Wheatstone bridge $R_1 = 2$, $R_2 = 4$, $R_3 = 3$ ohm. Find R_4 for balance. [2 marks]

Q4. A potentiometer wire of length 10 m and resistance 20 ohm is driven by a 2 V cell. Find the potential gradient. [3 marks]

Q5. Two cells $E_1 = 6 \text{ V}$ ($r_1 = 1$) and $E_2 = 4 \text{ V}$ ($r_2 = 1$) oppose across $R = 2$ ohm in a loop. Find the current. [3 marks]
