

## Worksheet: Current Electricity

Uttar Pradesh State Board · Class 12 · Physics · 5 questions · 12 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 12

**Q1.** A 2 m copper wire of area  $0.5 \text{ mm}^2$  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]