

## Worksheet: Current Electricity

Punjab State Board · Class 12 · Physics · 8 questions · 25 marks

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

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

Score: \_\_\_\_\_ / 25

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

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**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]

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**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]

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

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

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**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]*

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

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

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