

## Worksheet: Moving Charges and Magnetism

IB · Class 12 · Physics · 5 questions · 13 marks

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

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

Score: \_\_\_\_\_ / 13

**Q1.** A long straight wire carries 5 A. Find B at 10 cm from the wire. *[2 marks]*

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**Q2.** A solenoid has 1000 turns/m and carries 2 A. Find B inside. *[2 marks]*

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**Q3.** A proton ( $m = 1.67 \times 10^{-27}$  kg,  $q = 1.6 \times 10^{-19}$  C) moves at  $2 \times 10^6$  m/s perpendicular to a 0.5 T field. Find the radius. *[3 marks]*

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**Q4.** A galvanometer ( $G = 50$  ohm, full scale at 5 mA) is converted to a 5 A ammeter. Find the shunt. *[3 marks]*

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**Q5.** Two parallel wires carry 3 A and 4 A in the same direction, 5 cm apart. Find force per unit length. *[3 marks]*

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