

## Worksheet: Magnetism and Matter

Rajasthan State Board · Class 12 · Physics · 5 questions · 12 marks

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

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

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

**Q1.** A bar magnet ( $m = 2 \text{ A m}^2$ ) is at 30 degrees to a 0.5 T field. Find the torque. [2 marks]

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**Q2.** At a place  $B_H = 0.3 \text{ G}$  and dip = 60 degrees. Find the total field. [2 marks]

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**Q3.** Why are soft magnetic materials used in transformer cores? [2 marks]

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**Q4.** A paramagnet has susceptibility  $3 \times 10^{-4}$  at 300 K. Find it at 600 K. [3 marks]

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**Q5.** A solenoid with  $n = 500 \text{ turns/m}$ ,  $I = 2 \text{ A}$  and an iron core ( $\mu_r = 2000$ ). Find the magnetisation  $M$ . [3 marks]

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