

## NCERT/CBSE PHYSICS CLASS 12 textbook

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Answers to NCERT/CBSE PHYSICS Class 12(Class XII)textbook Exercise and Additional exercise

CHAPTER FOUR

MOVING CHARGES AND MAGNETISM

EXERCISES

(For simplicity in numerical calculations, take  $g = 10 \text{ m s}^{-2}$ )

4.8 A closely wound solenoid 80 cm long has 5 layers of windings of 400 turns each. The diameter of the solenoid is 1.8 cm. If the current carried is 8.0 A, estimate the magnitude of B inside the solenoid near its centre.

4.8  $b = 80 \text{ cm} = 80 \times 10^{-2} \text{ m}$

$$B = \mu_0 \frac{n}{b} i = 4\pi \times 10^{-7} \times \frac{5 \times 500}{80 \times 10^{-2}} \times 8.0 = 8\pi \times 10^{-3} \text{ T}$$

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