

JEE MAIN MAGNETISM AND MATTER — MAGNETISATION AND MAGNETIC INTENSITY — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 3 questions

- Q.1** A solenoid has a core made of material with relative permeability 400. The magnetic field produced in the interior of solenoid is 1.0 T. The magnetic intensity in SI units is $\alpha \times 10^5$. The value of α is _____.

 (Free space permeability $\mu_0 = 4\pi \times 10^{-7}$ SI units.)

[JEE Main 2026 (Online) 4th April Evening Shift]

- (1) $\frac{25}{\pi}$ (2) $\frac{1}{16\pi}$ (3) $\frac{1}{\pi}$ (4) $\frac{1}{4\pi}$

 Scan or tap for the
full solution


- Q.2** The percentage increase in magnetic field (B) when space within a current carrying solenoid is filled with magnesium (magnetic susceptibility $\chi_{\text{Mg}} = 1.2 \times 10^{-5}$) is :

[JEE Main 2025 (Online) 7th April Morning Shift]

- (1) $\frac{5}{3} \times 10^{-5}\%$ (2) $\frac{5}{6} \times 10^{-4}\%$
 (3) $\frac{5}{6} \times 10^{-5}\%$ (4) $\frac{6}{5} \times 10^{-3}\%$

 Scan or tap for the
full solution


- Q.3** The relationship between the magnetic susceptibility (χ) and the magnetic permeability (μ) is given by :
 (μ_0 is the permeability of free space and μ_r is relative permeability)

[JEE Main 2025 (Online) 2nd April Morning Shift]

- (1) $\chi = \frac{\mu}{\mu_0} - 1$ (2) $\chi = \frac{\mu_r}{\mu_0} + 1$
 (3) $\chi = \mu_r + 1$ (4) $\chi = 1 - \frac{\mu}{\mu_0}$

 Scan or tap for the
full solution


ANSWER KEY

Ques.	1	2	3								
Ans.	2	4	1								