



DPP – 3 (Magnetism & Matter)

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https://physicsaholics.com/home/courseDetails/74

Video Solution on YouTube:-

https://youtu.be/_48YAjetnWM

Written Solution on Website:-

https://physicsaholics.com/note/notesDetalis/56

- Q 1. The permanent magnet is made from which one of the following substances
 - (a) Diamagnetic

(b) Paramagnetic

(c) Ferromagnetic

- (d) Electromagnetic
- Q 2. The magnetic susceptibility is (Symbols have their usual meaning)

(a)
$$\chi = \frac{I}{H}$$

(c) $\chi = \frac{M}{V}$

(b)
$$\chi = \frac{B}{H}$$

(c)
$$\chi = \frac{M}{V}$$

(d)
$$\chi = \frac{H}{H}$$

- The magnetic susceptibility is negative for Q 3.
 - (a) paramagnetic material only
 - (b) ferromagnetic material only
 - (c) paramagnetic and ferromagnetic materials
 - (d) diamagnetic material only
- Magnetic permeability is maximum for Q 4.
 - (a) Diamagnetic substance
- (b) Paramagnetic substance
- (c) Ferromagnetic substance
- (d) All of these
- The moment of a magnet (15cm×2cm×1cm) is 1.2 Am^2 . What is its intensity of Q 5. magnetization?
 - (a) $4 \times 10^4 A/m$

(b) $2 \times 10^4 A/m$

(c) $10^4 A/m$

- (d) None of these
- The magnetic susceptibility of a paramagnetic substance is 3×10^{-4} Is placed in a Q 6. magnetising field of 4×10^{-4} A/m. Then the intensity of magnetisation in the units of A/m is
 - (a) 1.33×10^8

(b) 0.75×10^{-8}

(c) 12×10^{-8}

- (d) 14×10^{-8}
- Relative permeability of iron is 5500. What is its magnetic susceptibility? Q 7.
 - (a) 5551

(b) 5491

(c) 5499

- (d) 5501
- A rod of ferromagnetic material with dimension $10 \times 0.5 \times 0.2$ cm³ is placed in a Q 8. magnetic field of strength 0.5×10^4 Am⁻¹ as a result of which a magnetic moment of $5Am^2$ is produced in the rod. The value of magnetic induction will be
 - (a) 0.358 T

(b) 0.54 T



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(c) 6.28 T

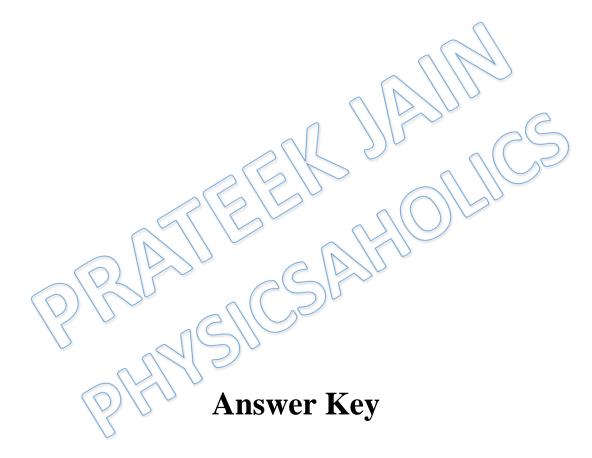
(d) 2.5129 T

- The mass of iron rod is 110 gm, its magnetic moment is 20 Am^2 . The density of iron Q 9. is $8 \text{gm/}cm^3$. The intensity of magnetization is nearly (a) $2 \times 10^5 \ Am^{-1}$ (b) 2.26×10^6

(b) $2.26 \times 10^6 Am^{-1}$ (d) $1.4 \times 10^6 Am^{-1}$

(c) $1.7 \times 10^6 Am^{-1}$

- Q 10. The relative permeability of a substance X is slightly less than unity and that of substance Y is slightly more than unity then –
 - (a) X is paramagnetic and Y is ferromagnetic
 - (b) X is diamagnetic and Y is ferromagnetic
 - (c) X and Y both are paramagnetic
 - (d) X is diamagnetic and Y is paramagnetic



Q.1 c	Q.2 a	Q.3 d	Q.4 c	Q.5 a
Q.6 c	Q.7 c	Q.8 c	Q.9 d	Q.10 d