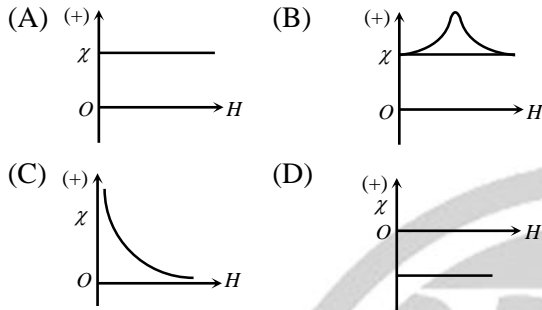


LAKSHYA (JEE)

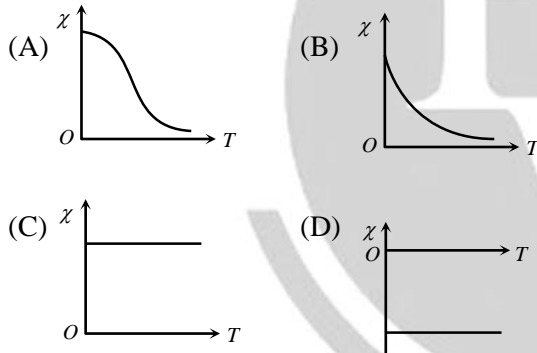
Magnetism and Matter

DPP-05

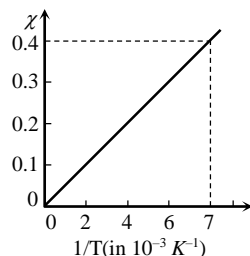
1. The variation of magnetic susceptibility (χ) with magnetising field for a paramagnetic substances is



2. The variation of magnetic susceptibility (χ) with absolute temperature T for a ferromagnetic material is



3. The $\chi - (1/T)$ graph for an alloy of paramagnetic nature is shown in figure. The curie constant is, then



- (A) 57 K
 (B) 2.8×10^{-3} K
 (C) 570 K
 (D) 17.5×10^{-3} K

4. The unit for molar susceptibility is
 (A) m^3 (B) $\text{kg}\cdot\text{m}^3$
 (C) $\text{kg}^{-1} \text{m}^3$ (D) No units

5. Relative permeability of iron is 5500, then its magnetic susceptibility will be
 (A) 5500×10^7 (B) 5500×10^{-7}
 (C) 5501 (D) 5499

6. Susceptibility of Mg at 300 K is 1.2×10^{-5} . The temperature at which susceptibility will be 1.8×10^{-5} is
 (A) 450 K (B) 200 K
 (C) 375 K (D) None of these

7. If the angular momentum of an electron is \vec{j} then the magnitude of the magnetic moment will be

(A) $\frac{eJ}{m}$ (B) $\frac{eJ}{2m}$
 (C) $eJ 2m$ (D) $\frac{2m}{eJ}$

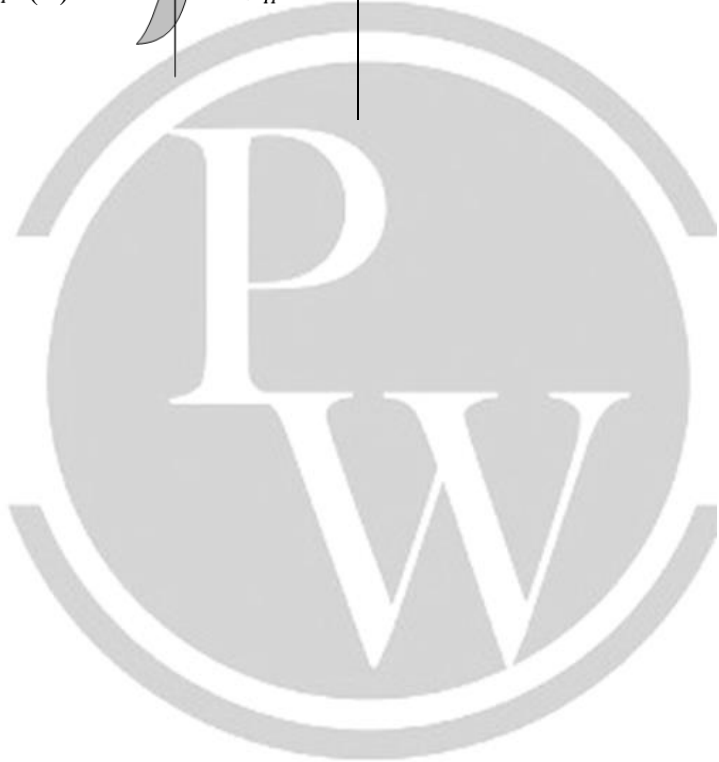
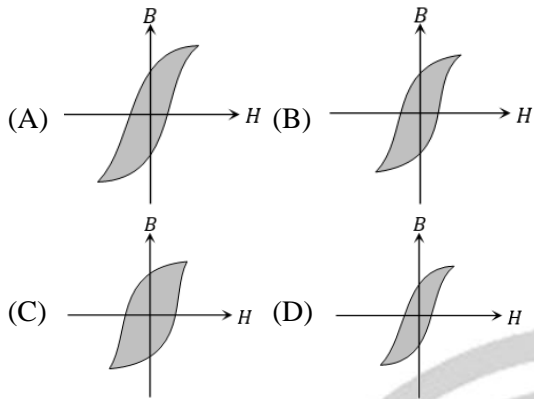
8. For an isotropic medium B , μ , H and M are related as (where B , μ_0 and M have their usual meaning in the context of magnetic material

(A) $(B - M) = \mu_0 H$
 (B) $M = \mu_0 (H + M)$
 (C) $H = \mu_0 (H + M)$
 (D) $B = \mu_0 (H + M)$

9. When a piece of a ferromagnetic substance is put in a uniform magnetic field, the flux density inside it is four times the flux density away from the piece. The magnetic permeability of the material is

(A) 1 (B) 2
 (C) 3 (D) 4

10. For substances hysteresis ($B - H$) curves are given as shown in figure. For making temporary magnet which of the following is the best ?



ANSWER KEY

1. (A)
2. (A)
3. (A)
4. (A)
5. (D)
6. (B)
7. (B)
8. (D)
9. (D)
10. (D)



Note - If you have any query/issue

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