Model Question Paper 3

Magnetism 3

11th Standard

Physics

Reg.No. : | | | | | | |

Answer all the Questions

Time : 00:45:00 Hrs

Total Marks : 35

Part A

10 x 1 = 10

1) In 1100 BC, the property of the magnet was known to.....

(a) Chinese (b) Americans (c) Japanese (d) Russians

2) The direction of magnetic moment is from.....

(a) South pole to south pole (b) South pole to north pole (c) North pole to south pole (d) North pole to north pole

3) Pieces of iron or steel that acquires magneticproperties when it is rubbed with a magnet are called.....

(a) natural magnet (b) artificial magnet (c) electromagnet (d) bar magnet

4) Magnetic moment of the magnet (M)=.....

(a) lm (b) $\frac{lm}{2}$ (c) $2l$ (d) $m \times 2l$

5) Magnetic flux density is the other name is.....

(a) Magnetic moment (b) Magnetic field (c) Magnetic induction (d) Magnetic flux

6) If a magnetic pole of strength (m) placed at a point in a magnetic field experiences a force F, the magnetic induction at that point is.....

(a) $B = \frac{m}{F}$ (b) $B = \frac{F}{m}$ (c) $B = F \times m$ (d) $B = F - m$

7) The unit of magnetic flux is.....

(a) Ampere metre (b) Weber metre^{-2} (c) Tesla (d) Weber

8) Magnetic induction at a point along the axial line due to magnetic dipole (B)=.....

(a) $B = \frac{\mu_\circ}{4\pi} \frac{2Md}{(d^2-l^2)^2}$ (b) $B = \frac{4\pi}{\mu_\circ} \frac{2Md}{(d^2-l^2)^2}$ (c) $B = \frac{\mu_\circ}{4\pi} \frac{2md}{(d^2-l^2)^2}$ (d) $B = \frac{4\pi}{\mu_\circ} \frac{2md}{(d^2-l^2)^2}$

9) Magnetic induction at a point along the equatorial line due to a short bar magnet(B)=.....

(a) $B = \frac{\mu_\circ}{4\pi} \frac{M}{d^3}$ (b) $B = \frac{\mu_\circ}{4\pi} \frac{2M}{d^3}$ (c) $B = \frac{4\pi}{\mu_\circ} \frac{M}{d^3}$ (d) $B = \frac{4\pi}{\mu_\circ} \frac{2M}{d^3}$

10) The Susceptibility (X_m) of bismuth is.....

(a) +0.00002 (b) 200,000 (c) -0.00017 (d) -00077

Part B

10 x 2 = 20

11) What is magnetic line of force?

12) What is magnetic flux? Give its unit.

13) What is magnetic flux density? Give its unit.

14) What is meant by non-uniform magnetic field?

15) Define unit pole.

16) What is meant by magnetising field or magnetic intensity? Give its unit.

17) Define relative permeability.

18) What is meant by remanance?

19) What is meant by coercivity?

20) What is meant by hysteresis?

Part C

1 x 5 = 5

21) The intensity of magnetization of an iron bar of mass 72 g, density.$7200 \quad kg \quad m^{-1}$ Calculate the magnetic moment

Given data.

Mass of iron bar =72g

Density of iron bar $= 7200 \quad kgm^{-3}$

Intensity of magnetization $I = 0.72 \quad Am^{-1}$

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