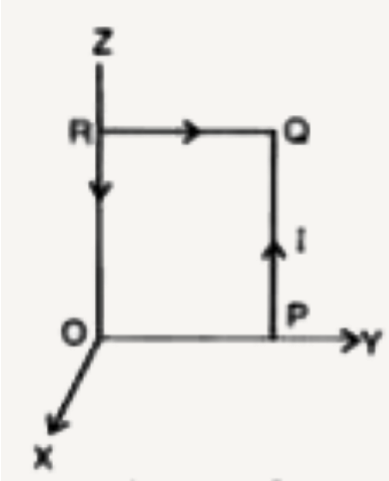
PHYSICS

BOOKS - OSWAAL PUBLICATION PHYSICS (KANNADA ENGLISH)

MAGNETISM & MATTER

Topic 1 Magnetic Dipole Very Short Answer Type Question

1. A square coil OPQR of side 'a' carrying a current I, is placed in the Y-Z plane as shown here. Find the magnetic moment associated with the coil.



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Topic 1 Magnetic Dipole Short Answer Type Question I

1. A rectangular coil of sides 'l' and 'b' carrying a current I is subjected to a uniform magnetic field $\overrightarrow{B}$, acting perpendicular to its plane. Obtain the expression for the torque acting on it.

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2. Write the expression for the magnetic moment due to an electron circulating around the nucleus of an atom.

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3. A circular coil of N turns and radius R carries a current I. It is unwound and rewound to make another coil of radius R/2, current I remaining the same. Calculate the ratio of the

magnetic moments of the new coil and the original coil.

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Topic 1 Magnetic Dipole Short Answer Type Question Ii

1. Derive an expression for the magnetic moment $\left(\vec{\mu}\right)$ of an electron revolving around the nucleus in terms of its angular momentum $\left(\vec{l}\right)$. What is the direction of the magnetic

moment of the electron with respect to its angular momentum ?

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Topic 2 Magnetism Very Short Answer Type Questions

1. What is ment by magnetic declination ?

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2. Define magnetic permeability of a substance.

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3. Relative permeability of a material, $\mu, = 0.5$. Identify the nature of the magnetic material and write its relation to magnetic susceptibility.

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4. What are permanent magnets ? Give any one practical application of permanent magnets.

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5. Where on the surface of Earth is the vertical component of earth's magnetic field zero ?

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6. The permeability of a magnetic material is 0.9983.

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7. Where on the surface of the earth is the angle of dip 90° ?

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Topic 2 Magnetism Short Answer Type Questions I

1. The given graphs show the variation of intensity of magnetization I with strength of applied magnetic field H for two magnetic materials P and Q.

(i) Identify the materials P and Q.

(ii) For material P,plot the varition of intensity of magnetisation with temperature. Justify your answer.

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2. State, briefly, an efficient way of making a permanent magnet.

Write two properties to select suitable materials for making permanent magnets.

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3. Which are the two properties required for a material to be used as a core of electromagnets.

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Topic 2 Magnetism Short Answer Type Questions Ii

1. Write any two differences between diamagnetic and paramaganetic substances.

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2. What are

i. Magnetic declination

ii. Magnetie dip

iii. Horizontal component of earth.s magnetic field at a place?

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3. Write three properties of paramagnetic substance.

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