PHYSICS

BOOKS - BETTER CHOICE PUBLICATION

MAGNETIC DIPOLES AND EARTH'S MAGNETISM

Very short answer type questions

1. Explain three magnetic elements of earth's magnetic field at a given place.

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2. Define angle of magnetic inclination at a plane.

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3. Define magnetic dip at a point

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4. Define magnetic declination at a place.

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5. What is a magnetic dipole? Define magnetic dipole moment. Give its SI unit?

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6. Define the term electric dipole moment. Is it a scalar or a vector quantity?

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7. Name the physical quantity whose unit is Am^2.

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8. Why two magnetic lines of forces never intersect each other?

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Short Answer Type Questions

1. What is probable cause of earth's magnetism?

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2. Define angle of magnetic inclination at a plane.

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3. What happens if a bar magnet is cut into pieces along its length?

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4. What will happen to the dipole moment, if a bar magnet is cut into equal pieces parallel to its length?

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5. Derive an expression for torque acting on a bar magnet placed in a uniform magnetic field.

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6. State four properties of a bar magnet.

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7. Deduce the expression for the magnetic dipole moment of an electron orbitting

around the central nucleus.

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8. Derive an expression for the torque expereinced by a amgnetic dipole suspened in a uniform magneic field.

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9. What is magnetic dipole? Derive an expression for magnetic field intensity at a

point on the equitorial line of a bar magnet.

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10. What is magnetic dipole? Derive an expression for magnetic field intensity at a point on the equitorial line of a bar magnet.

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Long answer type questions

1. Derive an expression for torque acting on a bar magnet placed in a uniform magnetic field.

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2. Obtain an expression for electric field intensity at any point on equitorial line of electric dipole. What is the direction of electric field?

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3. Define magnetic field intensity at a point and derive an expression for it at a point on the axial line of magnetic dipole. Also deduce the expression for small dipole.

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4. What is magnetic dipole? Obtain the an expression for strength of magnetic field at a distance r from its centre on the axial line of the dipole.

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5. Define magnetic field intensity at a point and derive an expression for it at a point on the axial line of magnetic dipole. Also deduce the expression for small dipole.

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6. Derive an expression for the electric potential at a point along the axial line of an electric dipole.

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7. Derive an expression for torque acting on a bar magnet placed in a uniform magnetic field.

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8. Compare the magnetic field of a bar magnet and current carrying solenoid.

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9. Derive an expression for the torque expereinced by a amgnetic dipole suspened in a uniform magneic field.

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10. Define the terms angle of dip. Derive the relation between angle of dip and the resultant magnetic field of earth at a place.

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11. Define the terms magnetic dip and magnetic declination with the help of relevant diagram.

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12. Define parameters of earth's magnetic field.

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13. Explain three magnetic elements of earth's magnetic field at a given place.

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14. Explain three magnetic elements of earth's magnetic field at a given place.

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15. Derive an expression for torque acting on a bar magnet placed in a uniform magnetic field.

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16. What is probable cause of earth's magnetism?

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17. Derive an expression for the magnetic dipole moment of an atom.

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18. What is magnetic dipole? Derive an expression for magnetic field intensity at a point on the equitorial line of a bar magnet.

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Most Expected Questions

1. What do you mean by Neutral Point in a magnetic field?

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2. What do you mean by a pole of a bar magnet?

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3. How does dip angle change when one moves from magnetic equator to pole?

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4. Define magnetic axis, geographic axis, magnetic meridian and geographical meridian.

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5. What is Gauss's law in magnetism?

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6. Why two electric lines of force do not cross each other ?

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7. The angle of dip is θ at a place, where the horizontal and vertical componetns of earth's magnetic fiels are equal . The value of θ is

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8. Define Bohr magneton and write its value.

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