MAGNETISM AND MATTER

1. The vertical component of earth s magnetic field at a place is √3 times the horizontal component. What is the value of angle of dip at that place?

2. What is the unit and direction of magnetic dipole moment?

3. What is the basic difference between magnetic lines of force and electric lines of force ?

4. Why two magnetic lines of force do not cross each other?

5 . Horizontal component and vertical component of earth's magnetic field at a place are equal. What is the angle of dip at this place?

6. What happens when a diamagnetic substance is placed in a varying magnetic field?

7. Soft iron is used to make electromagnets. Why?

8. Calculate the work done in rotating a bar magnet of magnetic moment 3 J/T through an angle of 60^0 from its position along a magnetic field of strength 0.34×10^{-2} T.

9. An electron in an atom revolves around the nucleus in an orbit of radius 0.5 A^0 .Calculate the equivalent magnetic moment if the frequency of revolution of electron is 10^{10} M Hz.

10. A magnetized needle of magnetic moment 4.8×10^{-2} T Is placed at 30^0 with the direction of uniform magnetic field of magnitude 3×10^{-2} T. Calculate the torque acting on the dipole.