

Question Bank: Spin magnetic moment and Larmor precession

1. Explain spin magnetic moment? Write its eigenvalue.
2. Arrive at the expression for potential energy stored in a magnetic field when subjected to uniform magnetic field.
3. Arrive at the expression for rate of revolution of the magnetic spin about the uniform magnetic field when subjected to uniform magnetic field.
4. How is magnetisation related to Larmor frequency if H-nuclei is subjected to applied magnetic field B?
5. When a magnetic dipole is placed in the external field it is found to precess about the magnetic field. The angle of precession also depends on the field strength.

Then define

- (i) Larmor precession
- (ii) Larmor frequency
- (iii) Induced magnetic moment
- (iv) Diamagnetic susceptibility due to induced magnetic moment