

❖ Problems

- Q 1. Discuss the classical theory of magnetochemistry in detail.
- Q 2. What is Curie-Weiss law? Does it fit the phenomenon of ferromagnetism and antiferromagnetism?
- Q 3. What are the different classes of magnetic materials? Give a brief comparison of their magnetic susceptibility with special emphasis upon the field strength and temperature.
- Q 4. Discuss Gouy's method for the determination of magnetic susceptibility in detail.
- Q 5. How would you calculate the magnetic moment of transition metal complexes experimentally?
- Q 6. Discuss the relationship between spin-orbital coupling and magnetic moment.
- Q 7. The experimental magnetic moment of Sm^{3+} and Eu^{3+} are different from their spin only value as well as from calculated using total angular momentum quantum number, why?
- Q 8. What are the prerequisites for the orbital contribution to the magnetic moment?
- Q 9. Discuss the ligand field effect on the orbital contribution in octahedral complexes.
- Q 10. What is temperature independent paramagnetism?
- Q 11. Discuss the effect of spin-orbital coupling upon the orbital contribution to the total magnetic moment.
- Q 12. What are the applications of magnetochemistry in the structure determination of inorganic compounds?
- Q 13. Define Curie temperature (T_C) and Neel temperature (T_N).
- Q 14. What is magnetic exchange coupling? Explain in detail with special emphasis on ferrimagnetism.
- Q 15. Explain the phenomenon of spin-state cross-over using suitable examples.

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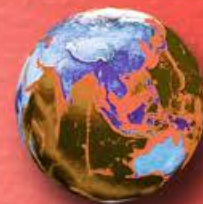
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Volume I

MANDEEP DALAL



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