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TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS (2009-10)

Course: **M.Sc. APPLIED CHEMISTRY** (Previous)

Note: Students are advised to read the separate enclosed instructions before beginning the writing of assignments.

Out of 15 Internal Assignment marks per paper, 5 marks will be awarded for regularity (attendance) to Counseling/ Contact Programme/ Practical classes pertaining to the paper. Therefore, the topics given below are only for 10 marks each paper.

Answer ANY TWO Questions from Each Paper. Each question carries FIVE marks.

Paper I: Analytical and Spectroscopic Techniques.

1. What are significant figures? Explain f-test and t-test.
2. Discuss the theory and instrumentation of TGA (Thermo Gravimetric Analysis).
3. Discuss the theory and application of ESR (Electron Spin Resonance Spectroscopy).

Paper II: Inorganic Chemistry

1. What are silicone polymers? Discuss the preparation properties and application of silicone polymers.
2. Discuss the preparation, bonding and structure of diboranes.
3. What are semiconductors? Explain p-type and n-type semiconductors.

Paper III: Organic Chemistry

1. Explain the formation, stability and any two reactions of carbanion.
2. Discuss the Saytzeff and Hoffmann rules with examples.
3. What is Chirality? Write a note on elements of symmetry.

Paper IV: Physical Chemistry

1. Discuss the application of Radio activity.
2. Explain the physical significance of Entropy.
3. Explain (i) Polarisation (ii) Over-voltage (iii) EMF of a battery (iv) CMC (Critical Micellar Concentration) (v) Fuel Cells (vi) Biosensors.
