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TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS: 2017-18
Course: M.Sc. CHEMISTRY (Previous)

Important Notes: (1) Students are advised to read the separate enclosed instructions before beginning the writing of assignments. (2) Out of 15 Internal Assignment marks per paper, 5 marks will be awarded for regularity (attendance) to Counseling/ Contact Programme classes pertaining to the paper. Therefore, the topics given below are only for 10 marks each paper.

Answer ANY ONE Question (1 or 2) from Each Paper. Each question carries TEN marks.

Paper I: Analytical Chemistry

1. a) Explain theory of Indicators with suitable examples.
b) Discuss the theory of Gel permeation chromatography.
2. a) Discuss the principles involved in gravimetric analysis.
b) With a neat diagram describe the working principle of FID (Flame Ionisation Detector) and thermal conducting detector in gas chromatography.

Paper II: Inorganic Chemistry

1. a) Explain the preparation, structure and bonding in Phosphazenes.
b) Discuss the d-orbital splitting in square-planar complex.
2. a) Discuss the Band theory of solids.
b) Briefly discuss about various defects in crystals.

Paper III: Organic Chemistry

1. a) Discuss the structural elucidation of sucrose.
b) Write a note on primary and secondary structure of proteins.
2. a) Discuss the mechanism of aromatic nitration and halogenation.
b) Discuss the aromaticity of cyclopentadienyl anion and cyclopropenyl cation.

Paper IV: Physical Chemistry

1. a) Discuss the Bohr's theory of hydrogen spectrum and give its applications.
b) Explain the importance and limitations of thermodynamics.
2. a) State and explain the laws of thermodynamics.
b) Explain the mechanism of kinetics of enzyme catalysed reaction.
