MATS UNIVERSITY
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सत्रीय कार्य / Assignment Work – 2019-20

M.Sc.Chemistry (Previous)

Max Marks – 30 **Min Marks-12**

निर्देश : सत्रीय कार्य के प्रत्येक विषय में कुल 30 अंक हैं। सभी प्रश्नों के अंक समान होंगे। सभी प्रश्न हल कीजिए। (Assignment Work of each paper carries 30 Marks. All questions carry equal marks. Attempt all questions.)

Paper-I (Inorganic Chemistry)

1. Describe Imitations of Vsepr Theory.
2. Describe ligand displacement is square planar complexes.
3. What do you know about charge transfer splectra.
4. What do you understand by molecular orbital model.
5. Write General characteristics of Inorganic polymers.

Paper-II (Organic Chemistry)

1- Explain aromaticity on the basis of perturbation molecular orbital theory.
2- What do you understand by plane of symmetry?
3- Explain the stability of cyclopropyl methylcarbocations.
4- Describe Aliphatic electrophonic substitution.
5- Describe Aromatic Nucleophilic substitution.

Paper – III (Physical Chemistry)

1. Describe Heisenberg's uncertainty principle.
2. State the first law of thermodynamics. Give the mathematical statement also.
3. What is meant by driving force of a chemical reaction? What is the nature of this driving force?
4. Explain why the rate of reaction cannot be measured by dividing the total amount of a substance reacted by the total time taken.
5. Describe in detail the collision theory for unimolecular reactions.

Paper – IV (Group Theory Spectroscopy and Diffraction Methods)

1. Discuss omstein and Burger's rule about the intensity ratios of various components of a multiplet.
2. What is the physical significance of wave function?
3. Discuss the periodic table in the light of Pauli's exclusion principle.
4. What are normal and anomalous Zeeman effects? Use classical ideas to explain normal Zeeman effect.
5. Describe types of molecular energy states and associated spectra.

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