

Janki Devi Bajaj Government Girls College, Kota

M.Sc Sem. II Chemistry

Monthly Test

Inorganic Chemistry

Paper – I

Max marks : 15

Very short answer type Questions (each mark 1)

- Q.1 What are inert and labile complexes ?
- Q.2 What is trans effect ?
- Q.3 What do you mean by electron transfer reaction ?
- Q.4 Explain Marcus-Hush theory.
- Q.5 What is acid and base hydrolysis ?

Short answer type Questions (2.5 marks)

- Q.6 Write short notes on the kinetic application of VBT.
- Q.7 Explain the energy profile of a reaction.

Long answer type Questions (5 Marks)

- Q.8 Write the factors affecting acid hydrolysis.

Or

Explain the substitution reaction in square planar complex.

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Organic Chemistry

Paper – 2

Max marks : 15

Very short answer type Questions (each mark 1)

- Q.1 Write the name of Different types of free radical reaction.
Q.2 What is auto oxidation?
Q.3 Give the name of one free radical rearrangement reaction.
Q.4 What is neighbouring group participation?
Q.5 Which orientation is favourable in pyrolytic elimination reaction.

Short answer type Questions (2.5 marks)

- Q.6 Write the mechanism of Sandmeyer reaction.
Q.7 Write the mechanism of Mannich reaction.

Long answer type Questions (5 Marks)

- Q.8 Explain the factors affecting the reactivity of various elimination reaction.

Or

Give the description of Sharpless asymmetric epoxidation.

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Physical Chemistry

Paper – 3

Max marks : 15

Very short answer type Questions (each mark 1)

Q.1 Write the statement of zeroth law of thermodynamics.

Q.2 Write the relationship between change in enthalpy & internal energy.

Q.3 What is activity ?

Q.4 What is chemical potential ?

Q.5 What is residual entropy ?

Short answer type Questions (2.5 marks)

Q.6 How does chemical potential change with entropy of the system ? show by graph.

Q.7 Write the significance of second law of Thermodynamics.

Long answer type Questions (5 Marks)

Q.8 Derive the notation of translational partition function in 3D.

OR

Derive the expression of Debye-Huckel theory for activity coefficient of electrolytic solution.