

B.Sc. Semester - 3 (NEP-2020) Examination

OCT/NOV-2024

CHE: Intermediate Chemistry-205 (Major-5)

Time: 2:00 Hours

Marks: 50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que-1 Answer the following (Any Two) (10)

- a) Explain the magnetic properties of first transition series of elements.
- b) Give the Atomic number, Name, Symbol, Electronic configuration and oxidation state of Lanthanide elements.
- c) Give the uses of lanthanides

Que-2 Answer the following (Any Two) (10)

- a) Write note on Hinsberg Reaction.
- b) Explain benzyne mechanism for aryl halide in detail.
- c) Give two synthesis of Phenol.

Que-3 Answer the following (Any Two) (10)

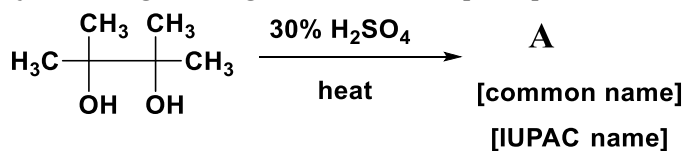
- a) Write short note on Azeotropes.
- b) Explain Sulphur System with phase diagram.
- c) Explain Temperature–Composition curve of ideal and non-ideal solution.

Que-4 Answer the following (Any Two) (10)

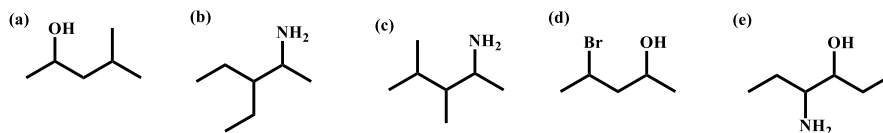
- a) Write principle, mechanism and examples of Reimer Tiemann Reaction.
- b) Draw and explain structural features of XeO_3 and XeF_6 using VSEPR theory.
- c) Derive thermodynamics derivation of Nernst distribution law and write limitations of Nernst partition law.

Que-5 Answer the following (Any Two) (10)

- a) Write a note on misch metal.
- b) Identify following rearrangement then write principle, mechanism and examples.



- c) Give the IUPAC Name of following compounds.



- d) Explain phase diagram of Simple Eutectic System (Pb-Ag System).
