

VITEEE 2024 Solution

(April 20 and April 21) - (Memory Based Questions)

Ques. Conversion of CHO to COOH in glucose by which reagent?

Solu. Glucose CHO to COOH: Needs an oxidizing agent.

- Strong oxidizers: Break down glucose completely (e.g., conc. nitric acid).
- Milder oxidizers: Convert just the aldehyde (CHO) to a carboxylic acid (COOH) at position 1 (e.g., bromine water, Fehling's solution).

Ques. Number of lone pairs on Xe in XeOF₄?

Solu. The Xenon (Xe) atom in XeOF₄ has 1 lone pair of electrons.

Ques. Rate of hydride extraction in methanol? Between Cl, F, Br, I

Solu. Iodide (I) is fastest for hydride extraction in methanol due to its larger size and lower electronegativity.

Ques. Highest BP in phenol, aniline, benzyl alcohol, Benzylamine

Solu. Out of phenol, aniline, benzyl alcohol, and benzylamine, phenol will have the highest boiling point (BP).

Here's why:

- Hydrogen bonding: Phenol has an OH group that can participate in hydrogen bonding with other phenol molecules. This strong

intermolecular force requires more energy to overcome during boiling, leading to a higher BP.

- Weaker attractions: Aniline (amine group -NH_2), benzyl alcohol (alcohol group -OH), and benzylamine (primary amine -NH_2) have weaker intermolecular forces (either dipole-dipole or hydrogen bonding) compared to the extensive hydrogen bonding network in phenol.

Ques. Questions related to organic reactions

Ques. Questions related to Isomersim RS nomenclature and Chairform

Ques. Questions related to Angle b/w two vectors

Ques. Questions related to Shortest distance between two lines

Ques. Questions related to Identification of pair of straight line

Ques. Questions related to Wheatstone bridge

Ques. Formula based question related to magnetic effect of current chapter