

CHEMISTRY Part-II

Swat 2025

Time: 20 Minutes Marks: 18

Multiple Choice Questions
01 Mark for each

P-370

Paper Code

Roll No. of the Student

Serial No. Of the Answer Book

SECTION-A

Note:

- 1) Attempting all MCQs is compulsory. This paper along with the OMR sheet must be returned to the superintendent after due time.
- 2) Fill the circle (A) (B) (C) (D) which one is correct with blue or black ball point in separate OMR Sheet like ●
- 3) If more than one circle in the OMR sheet is filled then no credit will be given to such answer.

- I. Down the group in periodic table, reducing power of alkali metals.
 - (A) Zero (B) Decreases (C) Increases (D) Constant
- ii. Due to inert pair effect, tin and lead can show oxidation states of
 - (A) Zero (B) +2 (C) +4 (D) +6
- iii. Heterolytic Fission of a covalent bond forms
 - (A) Molecules (B) Atoms (C) Ions (D) Free Radicals
- iv. In which oxidation state, vanadium is colorless.
 - (A) V^{+2} (B) V^{+3} (C) V^{+4} (D) V^{+5}
- v. An element that can't be detected in an organic compound is
 - (A) Nitrogen (B) Sulphur (C) Chlorine (D) Oxygen
- vi. A substituent which O/P directing but de-activating is
 - (A) $-CH_3$ (B) $-OH$ (C) $-NH_2$ (D) $-Br$
- vii. The relatively more stable alkane is:
 - (A) I-Butane (B) Iso-butylene (C) Cis-2-butane (D) Trans-2-butane
- viii. The most reactive alkyl halide of the following is:
 - (A) R-F (B) R-Cl (C) R-Br (D) R-I
- ix. An alcohol that will readily react with hydrogen halides, is:
 - (A) Methanol (B) Ethanol (C) 2-Propanol (D) 2-methyl-2-Propanol
- x. A compound that is oxidized by Fehling's solution, is:
 - (A) CH_3CHO (B) $CH_3COOC_2H_5$ (C) $(CH_3)_2CO$ (D) $(C_6H_5)_2CO$
- xi. Stereoisomer's which are non-superimposable mirror images of each other, are:
 - (A) Metamers (B) Tautomers (C) Enantiomers (D) Diastereomers
- xii. All acid derivatives can be converted back into corresponding carboxylic acids by:
 - (A) Alcoholysis (B) Ammonolysis (C) Hydrolysis (D) Hydrogenolysis
- xiii. Proteins which hydrolyze into simple amino acids or their derivatives, are:
 - (A) Simple (B) Conjugated (C) Complex (D) Derived
- xiv. The coldest region of atmosphere is:
 - (A) Troposphere (B) Stratosphere (C) Mesosphere (D) Exosphere
- xv. The number of NNDR-Protons in butanoic acid is:
 - (A) 2 (B) 4 (C) 6 (D) 8
- xvi. Acetaldehyde forms 2-butanol with
 - (A) C_2H_5MgBr (B) C_3H_7MgBr (C) C_4H_9MgBr (D) CH_3MgBr
- xvii. Nylon is a condensation polymer of dicarboxylic acids with
 - (A) Diols (B) Diamines (C) Diamides (D) Diols
- xviii. Diazonium salts can be produced by the reaction of $NaNO_3$ and dilute HCl with:
 - (A) Primary amines (B) Secondary amines (C) Tertiary amines (D) Acid amines

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CHEMISTRY Part-II

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Note: Time allowed for section B and C is 2 hours and 40 minutes.

SECTION "B"

Marks: 40

II. Attempt any Ten Parts out of the following. Each Part carries equal marks.

- i. Define ionization energy? Why ionization energy of nitrogen is higher than oxygen?
- ii. Why Cu^{+1} is diamagnetic and Cu^{+2} is Paramagnetic in nature?
- iii. How CO_2 and SiO_2 reacts with water and sodium hydroxide?
- iv. What is Lindlar's catalyst? How it catalyses the hydrogenation of acetylene?
- v. What is stereochemistry of SN^1 and SN^2 reaction of alkyl halides?
- vi. What is Lucas Test? How it helps to distinguish alcohols?
- vii. How ethers can be prepared by williamson's synthesis?
- viii. What are clemmenson and wolf-Nishner reduction reaction?
- ix. Why aldehydes are more reactive than Ketones?
- x. How amides can be hydrolyzed and reduced?
- xi. Write any four uses of polyvinyl chloride?
- xii. State Beer-Lambert Law? Write its mathematical form.
- xiii. Define Green house effect? Name Green House gases.

SECTION "C"

Marks: 20

Note: Attempt any Three questions of the following. Each question carries equal Marks.

- III. Explain the shapes of complex ions with co-ordination number 2, 4 and 6?
- IV. What is stereo isomerism? Discuss in detail optical and geometrical isomerism?
- V. Describe SN^1 and SN^2 mechanisms of alkyl halides?
- VI. Explain the different methods of preparation of alcohols?