

Total Marks: 85

CHEMISTRY
 (Part – II)
 (Fresh / New Course)

Time Allowed : 3 Hrs.

Marks: 18

Section "A"

Time : 20 Mins.

NOTE : Section-A is compulsory. All parts of this section to be answered on the questions paper itself. It should be completed in the given time and handed over to the Centre Superintendent. Deleting / Overwriting is not allowed. Do not use lead pencil.

NOTE : Insert the correct option (a, b, c, d) in the empty box opposite to each part.

Q. 1 Insert the correct option (a, b, c, d) in the empty box opposite to each part. Each part carries one mark.

- i- Which one is strong oxidizing agent?
 (a) F_2 (b) Cl_2 (c) Br_2 (d) I_2
- ii- Hydrolysis of Grignard reagent give
 (a) Alkanes (b) Alkenes (c) Alkynes (d) Alcohol
- iii- Oligosaccharides are an important class of
 (a) Protein (b) Carbohydrates (c) Lipids (d) Vitamins
- iv- Friedal-Craft reactions are the characteristic reactions of
 (a) Alkene (b) Ester (c) Benzene (d) Ether
- v- The dry ice is a solid
 (a) CO_2 (b) H_2O (c) SO_2 (d) N_2
- vi- The overlapping of orbitals in benzene is of the type of
 (a) $Sp - Sp$ (b) $Sp^2 - Sp^2$ (c) $Sp - S$ (d) $Sp^3 - Sp^3$
- vii- Ethanol is produced from starch by
 (a) Hydrogenation (b) Decomposition (c) Fermentation (d) Hydrolysis
- viii- The temperature range of troposphere is
 (a) $15-56^\circ C$ (b) $-2-92^\circ C$ (c) $92-120^\circ C$ (d) -56 to $-2^\circ C$
- ix- The functional group of amine is
 (a) $-NH_2$ (b) $-COOH$ (c) $-C \equiv N$ (d) $-CONH_2$
- x- General formula of alkyl halide is
 (a) C_nH_{2n+2} (b) C_nH_{2n-2} (c) C_nH_{2n+x} (d) $C_nH_{2n+1}X$
- xi- Dihydric alcohols are usually called.....
 (a) Glucose (b) Glycols (c) Glycine (d) Glutamate
- xii- Hydrolysis of acetylene in the presence of mercuric sulphate and H_2SO_4 yields
 (a) Ketone (b) Aldehyde (c) Alcohol (d) Alkyl halides
- xiii- Gasoline is an important petroleum product it has chain.
 (a) C_3 to C_4 (b) C_5 to C_6 (c) C_7 to C_{10} (d) C_{10} to C_{14}
- xiv- Bond angle in Sp^3 hybridization is
 (a) 104.5° (b) 107° (c) 109.5° (d) 120°
- xv- $KMnO_4$ is a strong agent.
 (a) Reducing (b) Oxidizing (c) Cooling (d) Helping
- xvi- Photochemical smog is primarily caused by gas.
 (a) CO_2 (b) CO (c) NO_2 (d) O_3
- xvii- The oxidation state of Cr in CrO_2Cl_2 is
 (a) +2 (b) +3 (c) +4 (d) +6
- xviii- In 1, 3-butadiene c-c single bond length is Å.
 (a) 1.48 (b) 1.54 (c) 1.33 (d) 1.37

A

A

B

C

A

B

C

A

A

D

B

B

C

C

B

C

D

A

KT-XII-1601
CHEMISTRY
 (Part – II)
 (Fresh / New Course)

Total Marks : 67

Time Allowed : 2:40 Hrs.

Section – B

Marks : 40

Q.2 Write short answers of any TEN of the following parts. Each part carries equal marks.

- (i) Write the symbol and electronic configuration of Group I-A elements.
- (ii) Explain the shape of $[\text{CO}(\text{NH}_3)_6]^{+2}$ and draw its geometry.
- (iii) How primary, secondary and tertiary alcohols are differentiated?
- (iv) Write a short note on the stability of carbocations.
- (v) Explain bucky ball as an allotrop of carbon.
- (vi) Explain the structure of benzene on the basis of molecular orbital.
- (vii) Describe optical activity briefly.
- (viii) Explain why aldehyde and ketones undergo nucleophilic addition while alkenes undergo electrophilic addition?
- (ix) Briefly explain that acetic acid is sometimes known as glacial acetic acid.
- (x) Write a short note on the nutritional importance of glucose.
- (xi) Define pesticides. Explain their toxicity.
- (xii) What methods are applied for control of SO_2 pollution?
- (xiii) Write down the main functions of I.R, U.V, NMR and Mass spectrometry.

Section – C

Marks : 27

NOTE : Attempt any THREE questions. Each question carries equal marks.

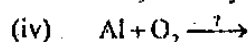
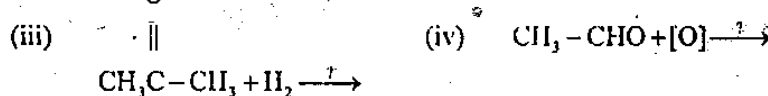
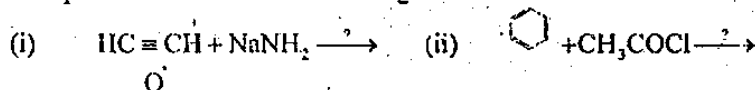
- Q.3** (a) Explain general characteristics of transition elements.
 (b) Write down the chemical reactions of Group II-A elements with the following.

- (i) Water (ii) Nitrogen

- Q.4** (a) Define elimination reaction. Also explain their types with examples.
 (b) Write the chemical reactions of alkenes with the following.

- (i) H_2 (ii) O_3 (iii) HBr (iv) O_2

- Q.5** (a) Complete and balance the following chemical reactions.



- (b) Define synthetic polymer and explain addition polymers in detail.

- Q.6** (a) Write IUPAC names of the following compounds.

