

CHEMISTRY

Class 12th (Inter Part-II) — Group-I — For All Sessions

PART - I (OBJECTIVE)

Time: 20 Minutes

Total Questions: 17

Marks: 17

Note: Write answers to the questions on the objective answer sheet provided. Four possible answers A, B, C and D to each question are given. Which answer you consider correct, fill the corresponding circle A, B, C or D given in front of each question with marker or pen ink on the answer sheet provided.

1	The geometry of carbonium ion formed in S_N1 mechanism is:			
	(A) Tetrahedral	(B) Square planar	(C) Triangular planar	(D) Hexagonal
2	Ethanol can be converted into ethanoic acid by:			
	(A) Hydrogenation	(B) Hydration	(C) Oxidation	(D) Fermentation
3	Ketones are prepared by the oxidation of:			
	(A) Primary alcohol	(B) Secondary alcohol	(C) Tertiary alcohol	(D) Long chain primary alcohol
4	Which of the following derivatives cannot be prepared directly from acetic acid?			
	(A) Acetamide	(B) Acetyl Chloride	(C) Acetic Anhydride	(D) Ethyl Acetate
5	Which one of the following elements is NOT present in all proteins?			
	(A) Carbon	(B) Hydrogen	(C) Nitrogen	(D) Sulphur
6	Which is NOT a calcareous material?			
	(A) Lime	(B) Clay	(C) Marble	(D) Marine shell
7	Peroxyacetyl nitrate (PAN) is an irritant to human beings and it affects:			
	(A) Eyes	(B) Ears	(C) Stomach	(D) Nose
8	The main cause of reducing smog is combustion of:			
	(A) Oils	(B) Coal	(C) Natural gas	(D) Gasoline
9	Ionization energy of an atom does not depend on:			
	(A) Magnitude of nuclear charge	(B) Size of atom	(C) Physical state	(D) Shielding effect
10	The oxide of Beryllium is:			
	(A) Acidic	(B) Basic	(C) Amphoteric	(D) Strongly acidic
11	The chief ore of Aluminium is:			
	(A) Na_3AlF_6	(B) $Al_2O_3 \cdot 2H_2O$		
	(C) Al_2O_3	(D) $Al_2O_3 \cdot H_2O$		
12	The oxidation of "NO" in air produces:			
	(A) N_2O	(B) NO_2		
	(C) N_2O_3	(D) N_2O_5		
13	Hydrogen bond is the strongest between the molecules of:			
	(A) HF	(B) HCl	(C) HBr	(D) HI
14	Coordination number of $[Pt(OH)_2(NH_3)_4]SO_4$ is:			
	(A) II	(B) III	(C) IV	(D) VI
15	The state of hybridization of carbon atom in ethane is:			
	(A) sp^3	(B) sp^2	(C) sp	(D) dsp^2
16	Preparation of vegetable ghee involves:			
	(A) Halogenation	(B) Hydrogenation	(C) Hydroxylation	(D) Dehydrogenation
17	Aromatic hydrocarbons are the derivatives of:			
	(A) Normal series of paraffins	(B) Alkenes	(C) Benzene	(D) Cyclohexane

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PART - II (SUBJECTIVE)

Time: 2:40 hours

Marks: 68

SECTION - I

2. Write short answers of any eight parts from the following:

(8 × 2 = 16)

- Define hydration energy. How does it vary from top to bottom in I – A and II – A groups?
- Why do the fluorides show the highest melting and boiling points as compared to other halides?
- What are the products formed when lithium and sodium nitrates are decomposed?
- Why is $Mg(OH)_2$ sparingly soluble in water while $Ba(OH)_2$ most soluble?
- What is the difference between paramagnetic and diamagnetic substances? Give brief description.
- What is meant by co-ordination number and co-ordination sphere?
- How is ethane prepared from ethyl bromide?
- How $CH_3 - CHO$ react with ethyl magnesium bromide followed by acid hydrolysis?
- What is difference between Hydrolases and Lysases?
- Why are lipids important?
- How temperature and radiation affect the enzymes?
- What is an acid rain? Give brief description about its impact on our environment.

3. Write short answers of any eight parts from the following:

(8 × 2 = 16)

- Write down any four similarities between oxygen and sulphur.
- Give two methods of preparation of NO_2 .
- What are Freons and Teflons?
- Give chemical reaction of $NaOH$ and Cl_2 in hot state ($70^\circ C$).
- What is modern definition of organic chemistry?
- Define functional group isomerism with one example.
- Differentiate between saturated and unsaturated hydrocarbons.
- What is catalytic oxidation of CH_4 upto the formation of $HCHO$?
- The reaction of propene with HBr follow Markownikov's rule. Justify the statement by giving reaction.
- Define environmental pollutant.
- Write down any two harmful effects of acid rain.
- How are leather tanneries responsible for pollution of water?

4. Write short answers of any six parts from the following:

(6 × 2 = 12)

- What chemical garden?
- Write down four uses of Sodium Silicate.
- Why is the aqueous solution of Borax alkaline in nature?
- Prepare Glyoxal from benzene.
- How are ethers prepared by Williamson's synthesis?
- Why phenol acidic in nature?
- Give the reactions of Formaldehyde with: (i) HCN (ii) $NH_2 - OH$.
- How is acetamide prepared from acetic acid?
- Give the two reactions in which H-atom of carboxylic acid is involved.

SECTION - II

Note: Attempt any three questions. Each question carries equal marks:

(8 × 3 = 24)

5.

(4)

(a) Write a note on oxides as a periodic relationship in compounds.

(b) Why Lithium shows peculiar behaviour? Give its any seven differences from other alkali metals.

(4)

6.

(4)

(a) Give eight uses of Nobel gases.

(b) How is urea fertilizer is prepared in Pakistan? Describe the process in detail.

(4)

7.

(4)

(a) Discuss structure of methane on the basis of hybridization.

(b) How Propyl Magnesium Bromide reacts with following? (i) CH_3COCH_3 (ii) CO_2 .

(2+2)

8.

(1×4)

(a) How does ethyne react with (i) Hydrogen (ii) Halogen acid (iii) alkaline $KMnO_4$ (iv) $10\% H_2SO_4 + HgSO_4$.

(b) How sodium bisulphite reacts with (i) Formaldehyde (ii) Acetone. Also write the general mechanism.

(4)

9.

(4)

(a) Define Friedel-Crafts acylation alongwith its example and mechanism.

(b) How can you prepare the following from Phenol? (i) Benzene (ii) Cyclohexanol (iii) 2, 4, 6-tribromophenol (iv) sodium phenoxide.

(1×4)