

CHEMISTRY

Class 12th (Inter Part-II) — Group-II — 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	Which one of the following is NOT present in all proteins?	(A) Carbon	(B) Hydrogen	(C) Nitrogen	(D) Sulphur
2	For which crop, Ammonium Nitrate fertilizer is NOT used?	(A) Cotton	(B) Wheat	(C) Sugarcane	(D) Paddy rice
3	PAN is an irritant to human beings and it affects:	(A) Eyes	(B) Ears	(C) Stomach	(D) Nose
4	In purification of potable water, the coagulant used is:	(A) Nickel Sulphate	(B) Copper Sulphate	(C) Barium Sulphate	(D) Aluminium Sulphate
5	The correct statement is:	(A) $Na^+ < Na$	(B) $Na^+ > Na$	(C) $Cl^- < Cl$	(D) $Cl^- = Cl$
6	The oxide of Be is:	(A) Acidic	(B) Basic	(C) Amphoteric	(D) Neutral
7	The aluminium oxide is:	(A) Acidic	(B) Amphoteric	(C) Basic	(D) Neutral
8	The laughing gas is chemically:	(A) NO	(B) NO ₂	(C) N ₂ O ₄	(D) N ₂ O
9	Which halogen occurs naturally in a positive oxidation state?	(A) I ₂	(B) F ₂	(C) Br ₂	(D) Cl ₂
10	The strength of binding energy of transition elements depends upon:	(A) No. of electron pairs	(B) No. of protons	(C) No. of neutrons	(D) No. of unpaired electrons
11	The chemist who synthesized urea from ammonium cyanate was:	(A) Berzelius	(B) Kolbe	(C) Wholer	(D) Lavoisier
12	Synthetic rubber is made by polymerization of:	(A) Chloroform	(B) Acetylene	(C) Divinyl acetylene	(D) Chloroprene
13	During nitration of benzene, the active nitrating agent is:	(A) NO ₃	(B) NO ₂ ⁺	(C) NO ₂	(D) HNO ₃
14	For which mechanisms, the first step involved is the same:	(A) E ₁ and E ₂	(B) E ₂ and SN ₂	(C) SN ₁ and E ₂	(D) E ₁ and SN ₁
15	Ethanol can be converted into ethanoic acid by:	(A) Hydrogenation	(B) Hydration	(C) Oxidation	(D) Fermentation
16	Ketones are prepared by the oxidation of:	(A) Primary alcohol	(B) Secondary alcohol	(C) Tertiary alcohol	(D) Dimethyl ether
17	Which of the following is not a fatty acid?	(A) Propanoic acid	(B) Acetic acid	(C) Phthalic acid	(D) Butanoic acid

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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)

- What are polymeric hydrides? Give example.
- What are the oxidation states of group VII A, and VIII A?
- What happens when Lithium Hydroxide is heated to red hot?
- Why is the aqueous solution of Na_2CO_3 alkaline in nature?
- Why metal chelates are more stable than metal complexes?
- How Potassium Permanganate oxidizes oxalic acid?
- Give IUPAC names of following compounds: (i) $(CH_3)_2CHBr$ (ii) CH_2Cl_2
- How is carboxylic acid prepared from carbon dioxide and Grignard's reagent?
- What are the reasons for rancidity of oils and fats?
- Write down any two functions of DNA.
- What is the repeating unit of polystyrene and Teflon?
- What are fertilizers? Why do we need them?

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

(8 × 2 = 16)

- Give ring test for the confirmation of the presence of nitrate ion in solution.
- P_2O_5 is a powerful dehydrating agent. Prove it by giving example.
- Why HF is weaker acid than HCl? Justify.
- What are disproportionation reactions? Give example.
- Write short note on steam cracking.
- What are heterocyclic compounds? Give two examples.
- Convert Methyl Magnesium Bromide into methane.
- State Markownikov's rule, give an example.
- Write a short note on acidity of ethyne.
- How is oil spillage affecting the marine life?
- Are detergents are threat to aquatic life? Justify.
- Mention any two conditions which are required for the formation of smog.

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

(6 × 2 = 12)

- What is water glass and how it is prepared?
- Why aluminium is used in making petrol and milk storage tanks?
- How is boric acid dehydrated stepwise when heated strongly?
- Give two objections to Kekule's formula of benzene.
- Why are lower alcohols readily soluble in water?
- How would you prepare Bakelite from phenol?
- Prepare acetaldehyde and acetone by dry distillation method.
- Give two reactions of amino acids.
- Differentiate between complete reduction and partial reduction of acetic acid.

SECTION - II

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

(8 × 3 = 24)

- (a) Write down two similarities and two dissimilarities of hydrogen with Group IA elements. (04)

(b) Give the four points in which Beryllium differs from the other members of its own family. (04)
- (a) Explain relative reactivities of the halogens as oxidizing agent. (04)

(b) Explain the process of setting of cement & give reactions taking place in first 24 hours and 1-7 days. (04)
- (a) Discuss the structure of ethyne on the basis of hybridization. (04)

(b) Discuss two main factors which govern the reactivity of alkyl halides. (2+2=4)
- (a) Explain free radical mechanism for the reaction of chlorine with methane in the presence of sunlight. (04)

(b) How HCN reacts with (i) Formaldehyde (ii) Acetone? Also write down the mechanism. (2+2=4)
- (a) Predict the major products of bromination of the following compounds: (a) Toluene (b) Nitrobenzene (c) Phenol (d) Benzaldehyde (04)

(b) What are the alcohols? Write the reaction of alcohols which show: (i) Oxidation (ii) Dehydration (iii) Substitution (04)