

CHEMISTRY — OBJECTIVE
12th Class · 1st Annual 2024 — Group: First

Time: 20 Minutes	OBJECTIVE	Marks: 17
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NOTE: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question.

QUESTION NO. 1

1	Planar triangular shape is associated with which set of hybrid orbitals (A) sp^3 (B) sp (C) sp^2 (D) dsp^2
2	Formula of chloroform is (A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$
3	During nitration of benzene, the active nitrating agent is (A) NO_3 (B) NO_2^+ (C) NO_2 (D) HNO_3
4	When Ethanol ($CH_3 - CH_2 - OH$) is made to react with ethyl magnesium bromide the product formed is (A) CH_4 (B) $CH_2 = CH_2$ (C) C_2H_2 (D) $CH_3 - CH_3$
5	Which compound is called a universal solvent? (A) H_2O (B) CH_3OH (C) C_2H_5OH (D) $CH_3 - O - CH_3$
6	One of the following compounds will react with Tollen's reagent. (A) $CH_3 - C(=O) - H$ (B) $CH_3 - C(=O) - CH_3$ (C) $CH_3 - C(=O) - OH$ (D) $CH_3 - C(=O) - CH_2 - CH_3$
7	One of the following is not a fatty acid (A) Acetic acid (B) Propanoic acid (C) Butanoic acid (D) Phthalic acid
8	Which one of the following enzymes brings about the hydrolysis of fats? (A) Urease (B) Maltase (C) Lipase (D) Zymase
9	Which is not a calcareous material? (A) Lime (B) Clay (C) Marble (D) Marine Shell
10	Disinfection of chlorine is (A) Inexpensive (B) Expensive (C) Rapid (D) Slow
11	Ecosystem is a smaller unit of (A) Lithosphere (B) Hydrosphere (C) Atmosphere (D) Biosphere
12	Select the two normal elements are present in Fifth period (A) Rb , Sr (B) Cs , Ba (C) Fr , Ra (D) La , Hf
13	The mineral ($CaSO_4 \cdot 2H_2O$) has the general name (A) Gypsum (B) Dolomite (C) Calcite (D) Epsom salt
14	One of the element forms an ion with charge 3+ (A) Beryllium (B) Aluminium (C) Carbon (D) Silicon
15	Choose the gas which is obtained by the reaction of Formic acid with conc: H_2SO_4 (A) C_2H_2 (B) C_2H_4 (C) CO_2 (D) CO
16	One of the halogen occurs naturally in a positive oxidation state (A) Fluorine (B) Chlorine (C) Iodine (D) Bromine
17	Group VI – B of transition elements contains (A) Zn , Cd , Hg (B) Cr , Mo , W (C) Fe , Ru , Os (D) Mn , Te , Re

CHEMISTRY — SUBJECTIVE
12th Class · 1st Annual 2024 — Group: First

Time: 2 Hrs 40 Minutes	SUBJECTIVE	Marks: 68
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SECTION-I

QUESTION NO. 2 Write short answers any Eight (8) of the following **16**

i	Why alkali metals are very reactive?
ii	What are the s - block elements and why are they called so?
iii	How do transition elements display colours?
iv	K ₂ CrO ₄ and K ₂ Cr ₂ O ₇ show similar properties. Justify this.
v	How does brown pulp converted into white pulp in paper industry?
vi	Give formula of (i) Dolomite (ii) Natron
vii	What will happen when Lithium Hydride is treated with water.
viii	Starting from (primary) alkyl halide prepare ethylamine
ix	How the molecular mass of polymer is determined?
x	What is starch? Write its two uses.
xi	What are lipids? What is their importance?
xii	How Grignard reagent react with CH ₃ CHO?

QUESTION NO. 3 Write short answers any Eight (8) of the following **16**

i	Why is SO ₃ dissolved in H ₂ SO ₄ and not in H ₂ O?
ii	Write down any four uses of HNO ₃
iii	What are Freons and Teflon?
iv	Write down any four applications of noble gases.
v	What are alicyclic compounds? Give its two examples.
vi	Define knocking. How does it improve?
vii	How formaldehyde is prepared from ethene?
viii	How acetylene is prepared on industrial scale?
ix	Why alkanes are less reactive?
x	Differentiate between oxidizing and reducing smog.
xi	How chlorofluorocarbons destroy ozone?
xii	What is dissolved oxygen?

QUESTION NO. 4 Write short answers any Six (6) of the following **12**

i	What is the Chemistry of Borax - bead Test?
ii	Write down any two uses of Aluminium.
iii	Why are liquid silicones preferred over ordinary organic lubricants?
iv	What are the major products of bromination of the following compounds? (a) Toluene (b) Benzaldehyde
v	Ethanol gives different products with conc H ₂ SO ₄ under different conditions, give reactions.
vi	Write IUPAC names of the following compounds. (a) (CH ₃) ₂ CH - OH (b) (CH ₃) ₂ CHCH ₂ OH
vii	Why formaldehyde does not give aldol condensation reaction?
viii	What is internal salt of amino acids?
ix	Write down the reaction of acetic acid with ammonia and its product on heating.

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5. (A)	Discuss the position of hydrogen in a periodic table with IV A group elements.
(B)	How is sodium prepared commercially by Down's Cell?
Q.6. (A)	Write down four uses of Chlorine in daily life.
(B)	Explain preparation of urea fertilizer on large scale.
Q.7. (A)	Define atomic orbital hybridization. Explain sp hybridization with formation of ethyne.
(B)	Explain the mechanism of S _N 1 reactions.
Q.8. (A)	How will you prepare from ethyne. (i) Acetaldehyde (ii) Oxalic acid (iii) Benzene (iv) chloroprene
(B)	How will you prepare from Acetaldehyde (i) Lactic acid (ii) Acetal
Q.9. (A)	Discuss the nitration of benzene with reaction mechanism.
(B)	How will you identify 1 - propanol, 2 - propanol and 2 - methyl - 2 - propanol? Justify the answer with chemical test.

Notes on this transcription: Objective Q6 prints its four options as displayed structural formulae with the C=O bond drawn vertically; they are set here in line notation with the carbonyl marked (=O). • Spellings are kept exactly as printed by the board (e.g. "calcarious", and "Tollen's"). • Typeset by Tayarri from the original board paper; no answer key included.