

CHEMISTRY — OBJECTIVE

Intermediate Part-II · 1st Annual 2025 — Group: II

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 the relevant question number. Use marker or pen to fill in the circles. Cutting or filling of two or more circles will result zero mark in that question.

QUESTION NO. 1

1	The electrophile in aromatic sulphonation is (A) H_2SO_4 (B) HSO_4^- (C) SO_3 (D) SO_3^+
2	Group VIB of transition element contains (A) Zn, Cd, Hg (B) Fe, Ru, Os (C) Cr, Mo, W (D) Mn, Te, Re
3	The presence of a double bond in a compound is the sign of (A) Saturation (B) Unsaturation (C) Substitution (D) None of these
4	Phosphorus helps the growth of (A) Root (B) Leave (C) Stem (D) Seed
5	The fibre which is made from acrylonitrile as monomer? (A) PVC (B) Rayon fibre (C) Polyester fibre (D) Acrylic fibre
6	Ethanol can be converted into ethanoic acid by (A) Hydrogenation (B) Hydration (C) Fermentation (D) Oxidation
7	Down's Cell is used to prepare (A) Na_2CO_3 (B) NaHCO_3 (C) Na metal (D) NaOH
8	Hydrogen bond is the strongest between the molecule (A) HF (B) HCl (C) HBr (D) HI
9	Which metal is used in the Thermite Process because of its activity (A) Iron (B) Copper (C) Aluminium (D) Zinc
10	Newspaper can be recycled again and again by how many times? (A) 5 (B) 3 (C) 4 (D) 2
11	Which reagent is used to reduce a Carboxylic Group to an alcohol? (A) H_2/Ni (B) H_2/Pt (C) NaBH_4 (D) LiAlH_4
12	The state of hybridization of Carbon atom in methane is (A) sp^3 (B) sp^2 (C) sp (D) dsp^2
13	Fungicides are the pesticides which (A) Control the growth of fungus (B) Kill insects (C) Kill plants (D) Kill herbs
14	Among group VA elements, the most electronegative element is (A) Sb (B) N (C) P (D) As
15	Keeping in view the size of atoms, which order is the correct one? (A) $\text{Mg} > \text{Sr}$ (B) $\text{Ba} > \text{Mg}$ (C) $\text{Lu} > \text{Ce}$ (D) $\text{Cl} > \text{I}$
16	Which of the following reagents will react with both aldehydes & ketones? (A) Grignard Reagent (B) Tollen's Reagent (C) Fehling's Reagent (D) Benedict's Reagent
17	For which mechanism, the first step involved is the same (A) E1 and E2 (B) E2 and $\text{S}_{\text{N}}2$ (C) $\text{S}_{\text{N}}1$ and E2 (D) E1 and $\text{S}_{\text{N}}1$

CHEMISTRY — SUBJECTIVE

Intermediate Part-II · 1st Annual 2025 — Group: II

Time: 2.40 Hours	SUBJECTIVE	Marks: 68
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SECTION - I

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

QUESTION NO. 2 Write short answers to any EIGHT (8) questions:

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i	Ionic radius of negative ion is larger than the size of parent atom. Justify.
ii	Define Ionization Energy. Write down the Ionization Energy value of Sodium.
iii	How is gypsum converted into Plaster of Paris? Also write down its equation.
iv	Write down the formula of a) Epsom Salt b) Barite
v	What are Alicyclic Compounds? Give an example.
vi	Define Functional Group. Name any one Functional Group containing Nitrogen.
vii	How Methane is converted into formaldehyde by using Catalytic Oxidation?
viii	Write down any two uses of Ethene.
ix	What are Aromatic Hydrocarbons? Give any two examples.
x	Name the following compound according to IUPAC [Figure: two benzene rings — (a) a ring bearing an -NH ₂ group and a -CHO group; (b) a ring bearing a -COOH group and an -OH group.]
xi	Write down the reaction of Sodium Lead Alloy with a) Methyl Chloride b) Ethyl Chloride
xii	Convert Ethyl Magnesium Bromide into 1-Butanol

QUESTION NO. 3 Write short answers to any EIGHT (8) questions:

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i	How Aluminium reacts with a) HCl b) NaOH
ii	What is the Chemistry of Borax Bead Test?
iii	How Phosphorus forms PCl ₃ and PCl ₅ ?
iv	Write down two reactions in which H ₂ SO ₄ acts as dehydrating agent.
v	What is Williamson's synthesis of ethers?
vi	Give the reaction of Diethyl Ether with i) HI ii) PCl ₅
vii	How Acetaldehyde is prepared industrially?
viii	Prepare Aldehyde and Ketone from alcohols.
ix	Define essential and non-essential amino acids.
x	Give important uses of Acetic Acid.
xi	How PVC is prepared?
xii	How nylon 6, 6 is prepared?

QUESTION NO. 4 Write short answers to any SIX (6) questions:

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i	What is "Iodized Salt"?
ii	Why HF is weaker acid than HCl?
iii	Why does damaged tin plated iron get rusted quickly?
iv	How does the process of galvanizing protect from rusting?
v	Write down the name of any two methods of chemical pulping.
vi	Write down Raw material for cement.
vii	What is Ecosystem?
viii	How is value of COD determined?
ix	Write down two conditions for smog formation.

SECTION - II

Q.5 (a)	Define ionic radius. Explain its trends in periodic table.	4
(b)	Give four properties of Alkali Metal Hydroxides.	4
Q.6 (a)	Define isomerism with one example. Explain the following in detail. i) Metamerism ii) Tautomerism	4
(b)	Write a note on stability of Benzene.	4
Q.7 (a)	Prepare Alkane from: i) Alkene ii) Alkyl Halide iii) Grignard Reagent iv) Acetone	4
(b)	Write down mechanism of the reaction of any one ammonia derivative with Carbonyl group.	4
Q.8 (a)	What is fermentation? How ethanol is prepared by fermentation of molasses and starch in Pakistan?	4
(b)	Write down the mechanism of reaction between acetic acid and ethanol.	4
Q.9 (a)	What happens when bleaching powder reacts with: i) dil. H ₂ SO ₄ ii) Conc. H ₂ SO ₄ iii) NH ₃ iv) HCl	4
(b)	What are the main causes of Corrosion? Write down two methods to prevent the corrosion.	4

included.