

CHEMISTRY	Intermediate Part- II (12th) (1st A 425)	Paper: II	First Group
Time: 2:40 Hours	SUBJECTIVE	Marks: 68	

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

SECTION – I

2. Write short answers to any EIGHT (8) questions.

(2×8 = 16)

- Ionization energy of Mg^{+2} is always greater than Mg^{+1} . Write down reason.
- Oxides of non-metals are acidic in nature. Write down reason.
- Write down formulae of the minerals: i) Natron ii) Gypsum
- What happens when i) Lithium Carbonate is heated ii) Lithium Hydroxide is heated to red hot
- Draw hybridization structure of ethane.
- What are aromatic compounds? Write down two examples.
- Discuss the reactivity of a π -bond.
- What is Raney Nickel? How is it prepared? Write down its use.
- Write down ozonolysis reaction of Benzene.
- Convert nitrobenzene into m-Chloronitrobenzene.
- Define nucleophile by giving two examples of nucleophiles.
- Convert ethyl bromide into Diethylamine.

3. Write short answers to any EIGHT (8) questions.

(2×8 = 16)

- What is chemical garden?
- Impure clay is fused easily, justify.
- Write down the action of $Con.HNO_3$ on H_2S and HI .
- What happens when H_3PO_4 is subjected to heat?
- How will you prepare Phenol by using Dow's Method?
- Write down structural formula of Methoxy Benzene and Tartaric Acid.
- Write down Chemistry of Fehling's Solution Tests.
- Write down two uses of Formaldehyde.
- What are essential and non-essential amino acids?
- Write down structural Formula of Melonic Acid and Phthalic Acid.
- What is Glycogen?
- How can you denature Protein?

4. Write short answers to any SIX (6) questions.

(2×6 = 12)

- Write down any two uses of CO_2 .
- Why Iodine has metallic luster?
- How does the process of galvanizing protect iron from rusting?
- Define coordination sphere. Write down an example.
- Discuss the reactions taking place in first 24 hours of setting of cement.
- What are macro-nutrients? Write down their requirement per acre.
- Write down the names of components of the environment.
- What are leachates?
- How acid rain affects our environment?

SECTION – II

5 - (a) What are halides? Classify different types of halides with trend in the Periodic Table.

(1+3=4)

(b) Explain peculiar behaviour of Beryllium with other members of its family by four ways.

(4)

6 - (a) Write down any four methods for the preparation of C_6H_6 .

(4)

(b) Define cracking and discuss its different types.

(4)

7 - (a) Convert the following:

(2+2=4)

i) Ethane into Methane ii) Acetic Acid into Ethane

(b) Explain Cannizzaro's Reaction along with Mechanism and one example.

(4)

8 - (a) What do you know about Phenol? Write reactions of Phenol in which "OH" group is involved.

(1+3=4)

(b) Starting from Carboxylic Acid prepare:

(1×4=4)

i) Acid anhydride ii) Alkane iii) Ester iv) Amide

9 - (a) Write down the commercial uses of Halogens and their compounds. (Any eight)

(4)

(b) Explain the Bessemer's process for the manufacturing of steel.

(4)

Roll No. of Candidate : _____

CHEMISTRY		Intermediate Part- II (12 th) (1 st A 425-I)		Paper: II	Second Group
Time: 20 Minutes		OBJECTIVE Code: 8482		Marks: 17	
Q. No. 1	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.				
S. #	Questions	A	B	C	D
1	Keeping in view the size of atoms, which order is the correct one?	Mg > Sr	Ba > Mg	Lu > Ce	Cl > I
2	Down's Cell is used to prepare	Na ₂ CO ₃	NaHCO ₃	Na metal	NaOH
3	Which metal is used in the Thermite Process because of its activity	Iron	Copper	Aluminium	Zinc
4	Among group VA elements, the most electronegative element is	Sb	N	P	As
5	Hydrogen bond is the strongest between the molecule	HF	HCl	HBr	HI
6	Group VIB of transition element contains	Zn, Cd, Hg	Fe, Ru, Os	Cr, Mo, W	Mn, Te, Re
7	The state of hybridization of Carbon atom in methane is	sp ³	sp ²	sp	dsp ²
8	The presence of a double bond in a compound is the sign of	Saturation	Unsaturation	Substitution	None of these
9	The electrophile in aromatic sulphonation is	H ₂ SO ₄	HSO ₄ ⁻	SO ₃	SO ₃ ⁺
10	For which mechanism, the first step involved is the same	E1 and E2	E2 and S _N 2	S _N 1 and E2	E1 and S _N 1
11	Ethanol can be converted into ethanoic acid by	Hydrogenation	Hydration	Fermentation	Oxidation
12	Which of the following reagents will react with both aldehydes & ketones?	Grignard Reagent	Tollen's Reagent	Fehling's Reagent	Benedict's Reagent
13	Which reagent is used to reduce a Carboxylic Group to an alcohol?	H ₂ /Ni	H ₂ /Pt	NaBH ₄	LiAlH ₄
14	The fibre which is made from acrylonitrile as monomer?	PVC	Rayon fibre	Polyester fibre	Acrylic fibre
15	Phosphorus helps the growth of	Root	Leave	Stem	Seed
16	Newspaper can be recycled again and again by how many times?	5	3	4	2
17	Fungicides are the pesticides which	Control the growth of fungus	Kill insects	Kill plants	Kill herbs

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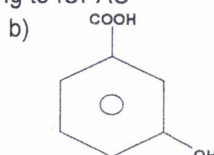
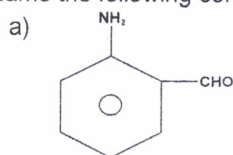
Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

SECTION – I

2. Write short answers to any EIGHT (8) questions.

(2x8 = 16)

- Ionic radius of negative ion is larger than the size of parent atom. Justify.
- Define Ionization Energy. Write down the Ionization Energy value of Sodium.
- How is gypsum converted into Plaster of Paris? Also write down its equation.
- Write down the formula of a) Epsom Salt b) Barite
- What are Alicyclic Compounds? Give an example.
- Define Functional Group. Name any one Functional Group containing Nitrogen.
- How Methane is converted into formaldehyde by using Catalytic Oxidation?
- Write down any two uses of Ethene.
- What are Aromatic Hydrocarbons? Give any two examples.
- Name the following compound according to IUPAC



- Write down the reaction of Sodium Lead Alloy with a) Methyl Chloride b) Ethyl Chloride
- Convert Ethyl Magnesium Bromide into 1-Butanol

3. Write short answers to any EIGHT (8) questions.

(2x8 = 16)

- How Aluminium reacts with a) HCl b) NaOH
- What is the Chemistry of Borax Bead Test?
- How Phosphorus forms PCl_3 and PCl_5 ?
- Write down two reactions in which H_2SO_4 acts as dehydrating agent.
- What is Williamson's synthesis of ethers?
- Give the reaction of Diethyl Ether with i) HI ii) PCl_5
- How Acetaldehyde is prepared industrially?
- Prepare Aldehyde and Ketone from alcohols.
- Define essential and non-essential amino acids.
- Give important uses of Acetic Acid.
- How PVC is prepared?
- How nylon 6, 6 is prepared?

4. Write short answers to any SIX (6) questions.

(2x6 = 12)

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

SECTION – II

- Define ionic radius. Explain its trends in periodic table. (4)
 - Give four properties of Alkali Metal Hydroxides. (4)
- Define isomerism with one example. Explain the following in detail: (1+3=4)
 - Metamerism
 - Tautomerism
 - Write a note on stability of Benzene. (4)
- Prepare Alkane from: (4)
 - Alkene
 - Alkyl Halide
 - Grignard Reagent
 - Acetone
 - Write down mechanism of the reaction of any one ammonia derivative with Carbonyl group. (4)
- What is fermentation? How ethanol is prepared by fermentation of molasses and starch in Pakistan? (2+1+1=4)
 - Write down the mechanism of reaction between acetic acid and ethanol. (4)
- What happens when bleaching powder reacts with: (4)
 - dil H_2SO_4
 - Conc. H_2SO_4
 - NH_3
 - HCl
 - What are the main causes of Corrosion? Write down two methods to prevent the corrosion. (4)