Paper Code Number: 4483	2024 (1^{st}-A) INTERMEDIATE PART-II (12^{th} Class)	Roll No: _____
CHEMISTRY PAPER-II GROUP-I MTN-1-24		
TIME ALLOWED: 20 Minutes	OBJECTIVE	MAXIMUM 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 bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.**

S.#	QUESTIONS	A	B	C	D
1	Formula of chloroform is:	$CH_3C\ell$	$CC\ell_4$	$CH_2C\ell_2$	$CHC\ell_3$
2	Benzene cannot undergo reaction like:	Elimination	Addition	Oxidation	Substitution
3	Which of given is electrophile?	NH_3	H_2O	BF_3	$C\ell_2$
4	Which compound shows strong hydrogen bonding?	C_2H_6	C_2H_4	$C_2H_5-O-C_2H_5$	C_2H_5OH
5	Which of the given compound will react with Tollen's reagent?	$CH_3-\overset{\overset{O}{\|}}{C}-OH$	$CH_3-\overset{\overset{O}{\|}}{C}-H$	$CH_3-\overset{\overset{O}{\|}}{C}-CH_3$	CH_3-O-CH_3
6	Which of given is not fatty acid?	Propanoic acid	Acetic acid	Phthalic acid	Butanoic acid
7	Which of these polymers is synthetic polymer?	Polyester	Starch	Animal fat	Cellulose
8	Temperature of decomposition zone during manufacturing of cement goes upto:	$600^\circ C$	$800^\circ C$	$1000^\circ C$	$1200^\circ C$
9	To avoid the formation of toxic compounds with chlorine which substance is used for disinfecting water?	$KMnO_4$	Chloramines	Alums	O_3
10	In water the concentration of dissolved O_2 should be:	1 – 3 ppm	2 – 4 ppm	4 – 8 ppm	8 – 12 ppm
11	Which statement is correct?	Na atom is smaller than Na^+	Na atom is larger than K atom	F atom is smaller than F^-	F atom is larger than F^-
12	Chile saltpetre has the chemical formula:	$NaNO_3$	KNO_2	$Na_2B_4O_7$	$Na_2CO_3.H_2O$
13	Which element belongs to group IV-A of the Periodic table?	Barium	Sodium	Lead	Oxygen
14	Elements of group VI-A also called:	Halogens	Chalogens	Chalite	Halite
15	An element having high ionization energy and tends to be chemically inactive is:	An alkali metal	Halogen	Noble gas	Transition element
16	Which is the correct formula of Tetraammine Chloro-nitro-Platinum(IV) sulphate?	$[PtC\ell(NO_2)(NH_3)_4]SO_4$	$[Pt(NO_2)C\ell(NH_3)_4]SO_4$	$[Pt(NH_3)_4C\ell(NO_2)]SO_4$	$[Pt(NH_3)_4(NO_2)C\ell]SO_4$
17	A double bond consists of:	Two sigma bonds	Two Pi bonds	One sigma and one Pi bond	One sigma and two Pi bonds

INTERMEDIATE PART-II (12th Class)	2024 (1st-A)	Roll No: _____
CHEMISTRY PAPER-II GROUP-I		
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68

NOTE: Write same question number and its parts number on answer book, as given in the question paper.

SECTION-I

MTN-1-24

2. Attempt any eight parts. **8 × 2 = 16**

(i)	Define ionization energy with an example.
(ii)	Write down any two dissimilarities of Hydrogen with group 1-A elements.
(iii)	How is gypsum converted into Plaster of Paris?
(iv)	Write down the formulas of (i) Dolomite (ii) Halite
(v)	How chromate ions are converted into dichromate ions?
(vi)	Why does damaged tin plated iron get rusted quickly?
(vii)	Elaborate the mechanism of S_N2 reactions.
(viii)	Define nucleophile with an example
(ix)	Draw the structure of cholesterol.
(x)	How vinyl acetate converted into polyvinyl acetate.
(xi)	Write down the name of any four classes of enzymes.
(xii)	Mention the role of Phosphorus in early growth of plant.

3. Attempt any eight parts. **8 × 2 = 16**

(i)	How alkene is converted into epoxide? What is its application?
(ii)	Prepare the cyclic polymer of ethyne.
(iii)	How good quality polythene is obtained from ethene?
(iv)	How does H_3PO_3 act as a reducing agents?
(v)	Give four uses of H_2SO_4
(vi)	Write the names and examples of two compounds containing carbonyl functional group.
(vii)	Name two types of the isomerism shown by alkene with example.
(viii)	Justify that bleaching powder is oxidizing agent.
(ix)	What are Freon and Teflon?
(x)	What chemical reaction takes place in stratosphere with ozone?
(xi)	What is Smog? Give its types?
(xii)	What are leachates?

4. Attempt any six parts. **6 × 2 = 12**

(i)	Why CO_2 is gas while SiO_2 is solid?	2
(ii)	Write down any two uses of Al.	1+1=2
(iii)	What is the chemistry of borax bead test?	2
(iv)	Define resonance. Write down Kekule's structures of benzene.	1+0.5+0.5=2
(v)	What is denaturing of alcohol?	2
(vi)	Why is Phenol acidic in nature?	2
(vii)	What is formalin? Give its two uses.	1+0.5+0.5=2
(viii)	Write down the structures of: (a) Malonic acid (b) Phthalic acid	1+1=2
(ix)	What is strecker synthesis?	2

SECTION-II

NOTE: Attempt any three questions. **3 × 8 = 24**

5.(a)	Write down the point of similarities and difference of hydrogen with IA and IVA groups. (any two of each)	4
(b)	Describe with diagram the manufacture of sodium by Down's Cell.	4
6.(a)	Give any eight applications of Noble gases.	4
(b)	How do Diammonium phosphate and Potassium nitrate prepared? Give their properties and uses.	4
7.(a)	What is Cracking of petroleum? Discuss its three types.	1+3=4
(b)	Explain two main factors which govern the reactivity of alkyl halides.	4
8.(a)	Describe both Linear Polymerization and Cyclic polymerization of Acetylene by means of chemical reaction.	4
(b)	Write a note on Aldol condensation reaction of carbonyl compounds with mechanism.	4
9.(a)	Describe structure of benzene on the basis of atomic orbital treatment.	4
(b)	How ethyl alcohol is prepared by the fermentation of: (i) Molasses (ii) Starch	4

Paper Code Number: 4484	2024 (1^{st}-A) INTERMEDIATE PART-II (12^{th} Class)	Roll No: _____
CHEMISTRY PAPER-II GROUP-II MTN-2-24		
TIME ALLOWED: 20 Minutes	OBJECTIVE	MAXIMUM 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 bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.**

S.#	QUESTIONS	A	B	C	D
1	The fibre which is made from acrylonitrile as monomer:	PVC	Rayon fibre	Acrylic fibre	Polyester fibre
2	For which crop, ammonium nitrate fertilizer is not used?	Cotton	Wheat	Sugar cane	Paddy rice
3	Which of following is better to disinfect water?	$C\ell_2$	O_2	O_3	$KMnO_4$
4	The main pollutant of leather tanneries in the waste water is due to the salt of:	Lead	Chromium(VI)	Copper	Chromium(III)
5	Zn, Cd, Hg in Mendeleev's periodic table, were placed with:	Noble metals	Alkaline earth metals	Inner transition metals	Coinage metals
6	Down's cell is used to prepare:	Sodium carbonate	Sodium hydroxide	Sodium bicarbonate	Sodium metal
7	Boric acid cannot be used:	As antiseptic in medicine	For washing eyes	In soda bottles	For enamels and glazes
8	An element that has a high ionization energy and tends to be chemically inactive would most likely to be:	A noble gas	A transition element	An alkali metal	A halogen
9	Formic acid on reaction with dehydrating agent give:	CO_2, CO, H_2O	CO, OH^-	CO, H_2O	CO and CO_2
10	The strength of binding energy of transition elements depends upon:	Number of electron pairs	Number of unpaired electrons	Number of neutrons	Number of protons
11	The state of hybridization of carbon atom in alkane is:	sp^3	sp^2	sp	dsp^2
12	$H_2C=CH-C\equiv CH$ and conc $HC\ell$ on reaction give:	Polyacetylene	Benzene	Chloroprene	Divinyl acetylene
13	Amongst the following, the compound that can be most readily sulphonated is:	Toluene	Benzene	Nitrobenzene	Chlorobenzene
14	Which one is more reactive alkyl halide?	$R-F$	$R-C\ell$	$R-Br$	$R-I$
15	Methyl alcohol is not used:	As a solvent	As a substitute for petrol	As an anti-freezing agent	For denaturing of ethyl alcohol
16	Acetone reacts with HCN to form a cyanohydrin, it is an example of:	Electrophilic addition	Electrophilic substitution	Nucleophilic addition	Nucleophilic substitution
17	Which acid is used in the manufacturing of synthetic fibre?	Formic acid	Oxalic acid	Carbonic acid	Acetic acid

INTERMEDIATE PART-II (12th Class)	2024 (1st-A)	Roll No:
CHEMISTRY PAPER-II GROUP-II	MTN-2-24	
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68

NOTE: Write same question number and its parts number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. **8 × 2 = 16**

(i)	Why are the ionic radii of negative ions larger than the size of their parent atoms? Give example.
(ii)	Why does the oxidation state of noble gases usually zero?
(iii)	Give reactions of lithium with oxygen and carbon dioxide.
(iv)	What are the products formed when magnesium reacts with nitrogen and sulphur?
(v)	Why does damaged tin plated iron get rusted quickly?
(vi)	How does the process of galvanizing protect from rusting
(vii)	Give reaction of ethyl magnesium bromide with formaldehyde followed by acid hydrolysis.
(viii)	Give reaction for the preparation of ethyl alcohol from ethyl bromide. Also mention reaction conditions.
(ix)	Define lipids. Give difference between fats and oils.
(x)	Briefly describe the term "Specificity" of enzyme.
(xi)	What is the difference between simple lipids and compound lipids?
(xii)	Why are nitrogeneous fertilizers supplied to the plants or soil?

3. Attempt any eight parts. **8 × 2 = 16**

(i)	NO_2 is strong oxidizing agent. Prove the truth of this statement giving two examples.
(ii)	Complete and balance the given equations: (i) $P + NO \rightarrow ?$ (ii) $HNO_2 + CO(NH_3)_2 \rightarrow ?$
(iii)	Why HF is weaker acid than $HC\ell$?
(iv)	How does iodine pentoxide (I_2O_5) react with H_2O and CO?
(v)	What is Catenation?
(vi)	What is Catalytic cracking?
(vii)	Write down structural formulas of 1, 3 – Butadiene and 2 – methyl – 2 – butene.
(viii)	Differentiate between clemmensen and wolf-Kishner reduction giving chemical reactions.
(ix)	How would you prepare trans alkene from alkyne?
(x)	What is ecosystem?
(xi)	How do oxides of sulphur adversely affect the environment?
(xii)	How is value of COD determined?

4. Attempt any six parts. **6 × 2 = 12**

(i)	What are Silicones? How are they prepared?
(ii)	What is Borax? Give its commercial preparation.
(iii)	What is importance of oxides of Lead in Paints?
(iv)	What were objections to Kekule's formula for Benzene?
(v)	Ethyl alcohol is a liquid while methyl chloride is a gas. Why?
(vi)	Water has higher boiling point than Ethanol. Justify.
(vii)	How will you distinguish between Methanal and Ethanal?
(viii)	What happens when Sodium formate is heated with Soda lime?
(ix)	What are Essential and Non-essential Amino-Acids?

SECTION-II

NOTE: Attempt any three questions. **3 × 8 = 24**

5.(a)	Discuss the improvements made in the Mendeleev's Periodic Table and also discuss defects in the Mendeleev's Periodic Table.	4
(b)	Explain commercial preparation of Sodium metal by Down's cell and also give advantages of Down's cell.	4
6.(a)	How bleaching powder is prepared by Hasenclever's method?	4
(b)	What is paper? Describe the process of digestion in paper industry.	1+3=4
7.(a)	Define with example: (i) Tautomerism (ii) Metamerism (iii) Position isomerism (iv) Functional group isomerism	1+1+1+1=4
(b)	What do you understand by the term Nucleophilic substitution? Explain S_N2 mechanism in detail.	1+3=4
8.(a)	Define Markownikov's rule. Predict the structures of the alcohol obtained by the addition of the acid to the given compounds: (i) Propene (ii) 1–Butene (iii) 2–Butene	4
(b)	How does acetaldehyde react with (i) $NaHSO_3$ (ii) Conc. $NaOH$ (iii) HCN (iv) NH_2OH	4
9.(a)	Define aromatic nitration along with example and its mechanism.	1+1+2=4
(b)	How ethanol is prepared from molasses and starch?	2+2=4