FSD

Roll No. : _____

Objective
Paper Code
8483

Intermediate Part Second FBD-91-21

CHEMISTRY (Objective) GROUP - I

Time: 20 Minutes 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 the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.**

S.#	Questions	A	B	C	D
1	During the manufacturing process of cement the temperature of decomposition zone goes up to:	600°C	900°C	1000°C	1200°C
2	Carboxylic acids on reduction with HI and red phosphorus gives:	Alkanes	Alcohols	Aldehydes	Ketones
3	Which acid is used in the manufacture of synthetic fiber?	Formic acid	Oxalic acid	Carbonic acid	Acetic acid
4	The compound used in the processing of anti-polio vaccine is:	Acetaldehyde	Formaldehyde	Acetone	Ethylbromide
5	Formalin is _____ solution of Formaldehyde in water.	10%	20%	40%	60%
6	Which compound will have maximum repulsion with H_2O?	C_6H_6	C_2H_5OH	$CH_3CH_2CH_2OH$	CH_3-O-CH_3
7	Which is not a nucleophile?	H_2O	H_2S	BF_3	NH_3
8	The electrophile in aromatic sulphonation is:	H_2SO_4	HSO_4^-	SO_3	SO_3^+
9	Formula of chloroform is:	CH_3Cl	CCl_4	CH_2Cl_2	$CHCl_3$
10	A double bond consists of:	Two sigma bonds	One sigma and one pi bond	One sigma and two pi bonds	Two pi bonds
11	The colour of transition metal complexes is due to:	d-d transition of electrons	Paramagnetic nature of transition elements	Ionization	Loss of S-electrons
12	The anhydride of $HClO_4$ is:	ClO_3	ClO_2	Cl_2O_5	Cl_2O_7
13	Which halogen is a solid at room temperature and pressure?	F_2	Cl_2	Br_2	I_2
14	Among group VA elements, the most electronegative element is:	Sb	N	P	As
15	Tincal is a mineral of:	Al	B	Si	C
16	Chile Saltpeter has the chemical formula:	$NaNO_3$	KNO_3	$Na_2B_4O_7$	$Na_2CO_3 \cdot H_2O$
17	Mark the correct statement:	Metallic character increases down the group	Metallic character increases from left to right along a period	Metallic character remains the same from left to right along a period	Metallic character remains the same down the group

FSD

Intermediate Part Second

Roll No. _____

CHEMISTRY (Subjective) GROUP - I

Time: 02:40 Hours Marks: 68 FSD-41-21

SECTION – I

2. **Write short answers to any EIGHT parts.** 16

(i) Why anionic radius is greater than parent atom?
(ii) Diamond is a non-conductor while graphite is a good conductor. Give reason.
(iii) Complete and balance the equations: (a) $LiNO_3 \xrightarrow{heat}$ (b) $NaNO_3 \xrightarrow{heat}$
(iv) Describe two problems during manufacturing of NaOH by diaphragm cell.
(v) Convert Boric acid into tetra boric acid.
(vi) Write the reaction of H_3BO_3 with (a) NaOH (b) Na_2CO_3
(vii) Write any two uses of boric acid.
(viii) Write two methods for preparation of nitrogen oxide (NO).
(ix) Write any two reactions of H_2SO_4 as an oxidizing agent.
(x) How diammonium phosphate is prepared?
(xi) Define cement.
(xii) Which types of raw material is used in cement? Give their names.

3. **Write short answers to any EIGHT parts.** 16

(i) Write equations for the reactions of chlorine with hot and cold NaOH.
(ii) Give four uses of bleaching powder.
(iii) Arrange the oxy acids of halogen in increasing order of their acidic strength.
(iv) What is sacrificial corrosion?
(v) What are interstitial compounds?
(vi) Write mechanism for nitration of benzene.
(vii) Convert benzene into (a) Hexachlorocyclohexane (b) Benzene sulphonic acid.
(viii) What is Tollen's test?
(ix) Write general mechanism for the acid catalysed nucleophilic addition reactions of carbonyl compounds.
(x) Write four uses of acetic acid.
(xi) Convert acetic acid into (a) Ethane (b) Ethyl alcohol.
(xii) Write structural formulae of (a) Malonic acid (b) Phthalic acid.

4. **Write short answers to any SIX parts.** 12

(i) Define heterocyclic compounds and give two examples with names.
(ii) What is metamerism? Give one example.
(iii) Write the structural formulas for these compounds. (a) 3-n-propyl-1, 4-pentadiene (b) But-1-en-3-yne
(iv) How will you convert? (a) Ethene into ethyl alcohol (b) Ethene into ethyne.
(v) Define Markownikov's rule and give one example.
(vi) Define allyl halide, which is the best method of preparing allyl halide.
(vii) Give IUPAC names of following compounds:
(a) $(C_2H_5)_2CH-CH_2-\underset{Cl}{CH}-CH_3$ (b) $(CH_3)_2CH-CH_2-CH(C_2H_5)CH_2Cl$
(viii) How phenol is prepared from sodium salt of benzene sulphonic acid?
(ix) Give uses of ethanol. Only four.

SECTION – II Attempt any THREE questions. Each question carries 08 marks.

5. (a) Describe variation of melting point and boiling point in periods and groups of modern periodic table. 04
(b) Describe peculiar behaviour of Be. 04

6. (a) Write preparation and two reactions of HNO_2. 04
(b) Write a note on these properties of transition elements: (i) Binding energies (ii) Oxidation state 04

7. (a) Explain geometrical isomerism with suitable examples. 04
(b) What is Cannizzaro's reaction? Explain with mechanism. 04

8. (a) Describe any four methods for the preparation of alkenes. 04
(b) What is B-Elimination reaction? Explain E_2 reaction in detail. 04

9. (a) What are Friedel and Craft's reactions? Give one example in each case with mechanism. 04
(b) How will you obtain pure ethanol by fermentation of starch. 04