PAPER CODE – 8486

12th CLASS – 1st Annual 2023

CHEMISTRY **TIME: 20 MINUTES**

GROUP : SECOND **OBJECTIVE** **MARKS: 17**

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 Circle. Cutting or filling two or more circles will result in zero mark in that question.

QUESTION NO. 1 DGK-12-2-23

1	Which of the following acid can be use as a catalyst in Friedal - Crafts reaction ? (A) $AlCl_3$ (B) HNO_3 (C) $BeCl_2$ (D) NaCl
2	When CO_2 is made to react with ethyl magnesium iodide, followed by acid hydrolysis, the product is (A) Propane (B) Propanoic acid (C) Propanal (D) Propanol
3	Ethanol can be converted into ethanoic acid by (A) Hydrogenation (B) Hydration (C) Oxidation (D) Fermentation
4	Rectified spirit contains alcohol about (A) 80 % (B) 85 % (C) 90 % (D) 95 %
5	Silver mirror test is given by . (A) Ethers (B) Ketones (C) Aldehydes (D) Alcohols
6	Amino acids are prepared by (A) Kolbe 's method (B) Strecker Synthesis (C) Fittig Reaction (D) William's son synthesis
7	The percentage of nitrogen in urea is (A) 16 % (B) 46 % (C) 56 % (D) 80 %
8	Which one of the following base is not present in DNA? (A) Adenine (B) Uracil (C) Thymine (D) Cytosine
9	The proportion of N_2 in atmosphere is (A) 78 % (B) 21 % (C) 0.9 % (D) 0.03 %
10	Keeping in view the size of atoms, which order is the correct one? (A) Mg > Sr (B) Ba > Mg (C) Lu > Ce (D) Cl > I
11	The oxides of Beryllium are (A) Acidic (B) Basic (C) Amphoteric (D) None of these
12	Which metal is used in thermite process due to its acitivity? (A) Iron (B) Copper (C) Aluminium (D) Zinc
13	Among group V-A elements the most electronegative element is (A) Sb (B) N (C) P (D) As
14	Which of the following Hydrogen halide is the weakest acid in solution? (A) HF (B) HBr (C) HCl (D) HI
15	The colour of transition metal complexes is due to (A) d – d transition of electrons (B) Paramagnetic nature of transition elements (C) ionization (D) Loss of s – electrons
16	The state of hybrindization of carbon atom in methane is (A) sp^3 (B) sp^2 (C) sp (D) dsp^2
17	The formula of chloroform is (A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$

12th CLASS – 1st Annual 2023

CHEMISTRY **SUBJECTIVE** **TIME: 2 HRS 40 MINUTES**

GROUP: SECOND **MARKS: 68**

DGK-12-2-23

SECTION-I

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

i	What are silicates ? Give two examples.
ii	How does H_3BO_3 react with ethyl alcohol ?
iii	Explain why CO_2 is non – polar and acidic in character ?
iv	How is TNT prepared from toluene ?
v	Write structural formula of the following compounds. (a) Naphthalene (b) Acetophenone
vi	Why –OH group is ortho - para directing ?
vii	What is the difference between a glycosidic linkage and a peptide linkage ?
viii	How " pH change " and " radiation " affect the enzyme activity ?
ix	How is soap prepared from triglyceride ? Give reaction.
x	Which chloride of nitrogen is powerful eye irritant and how is it formed from ammonia ?
xi	How are detergents threats to aquatic animal life ?
xii	Why is chlorine used for the disinfection of water ?

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

i	What is Crude Oil ? Give its importance.
ii	Give names and formulas of any four functional groups.
iii	What is Sabatier-Sendem's reaction ?
iv	Discuss the reactivity of Pi (π) bond.
v	Give any two commercial uses of ethyne.
vi	What is meant by fuming nitric acid ?
vii	Give precipitation reactions of H_2SO_4.
viii	How is HNO_2 prepared ? Give one reaction.
ix	Discuss the reactivity of alkyl halides.
x	Define nucleophile , give two examples.
xi	Name essential steps in paper manufacturing process.
xii	Give the importance of nitrogen fertilizers.

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

i	Give the systematic names of following complexes. (a) $K_4[Fe(CN)_6]$ (b) $[PtCl(NO_2)(NH_3)_4]SO_4$
ii	How does the electronic configuration of valence shell affect paramagnetic properties of transition elements ?
iii	Give two methods of preparations of $K_2Cr_2O_7$
iv	How will you distinguish between 1 – propanol and 2 – propanol ?
v	How will you convert formaldehyde into ethyl alcohol ?
vi	How does phenol react with (a) Zn dust (b) Bromine water
vii	Write 2, 4 – DNPH – Test of carbonyl compounds.
viii	Give the mechanism of phenyl hydrazine with acetone.
ix	What is vinegar ?

SECTION-II

Note: Attempt any Three questions from this section 8 x 3 = 24

Q.5-(A)	How do you justify the position of hydrogen at the top of group IA and VII A elements ?
(B)	Describe the peculiar behavior of beryllium.
Q.6-(A)	What are halogens ? Give three application of Bromine and Iodine each.
(B)	What is Paper ? Describe the process of digestion in paper industry.
Q.7-(A)	Define structural isomerism. Discuss its three types.
(B)	Define sulphonation of benzene. Discuss its mechanism.
Q.8-(A)	Starting from ethyne prepare: (1) Acetaldehyde (2) Benzene (3) Chloroprene (4) Glyoxal
(B)	Define nucleophil substitution reaction. Describe in detail S_N1 reactions.
Q.9-(A)	Explain with mechanism Aldol Condensation.
(B)	How Acetic acid is prepared from (i) Grignard reagent (ii) Hydrolysis of Esters (iii) Alkene (iv) Alcohol

D