CHEMISTRY

GROUP : SECOND

MARKS :17

OBJECTIVE

~~SGD-2-24~~ DGK-2-24

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

QUESTION NO. 1

1 Which of the following is not a fatty acid ?
(A) Propanoic acid (B) Acetic acid (C) Phthalic acid (D) Butanoic acid

2 A polymeric substance that is formed in a liquid state and then hardened to a rigid solid is called a
(A) Fibre (B) Plastic (C) Varnish (D) Polyamide resins

3 Which is not a calcarious material ?
(A) Lime (B) Clay (C) Marble (D) Marine shell

4 The main pollutant of leather tanneries in the waste water is due to the salt of
(A) Lead (B) Chromium (VI) (C) Copper (D) Chromium (III)

5 The capacity of organic matter in natural water to consume oxygen within a period of five days is called
(A) DO (B) BOD (C) COD (D) PAN

6 Coinage metals are
(A) Ni , Pd , Pt (B) Cu , Ag , Au (C) As , Al , Pd (D) Fe , Si , Sn

7 Which element is deposited at cathode during the electrolysis of brine in diaphragm cell ?
(A) H_2 (B) Na (C) Cl_2 (D) O_2

8 The chief ore of Aluminium is
(A) Na_3AlF_6 (B) $Al_2O_3 . 2H_2O$ (C) Al_2O_3 (D) $Al_2O_3 . H_2O$

9 Nitrous acid reacts with aminobenzene to produce
(A) Urea (B) Phenol (C) Toluene (D) NH_3

10 Which of the following represents the correct electronic configuration of the outermost energy level of an element of zero (VIII A) group in the ground state ?
(A) s^2p^2 (B) s^2p^4 (C) s^2p^5 (D) s^2p^6

11 Coordination number of Pt in $[Pt\,Cl\,(NO_2)\,(NH_3)_4]$ is
(A) 2 (B) 4 (C) 1 (D) 6

12 Select from the following the one which is alcohol
(A) $CH_3 - CH_2 - OH$ (B) $CH_3 - O - CH_3$ (C) $CH_3\,COOH$ (D) $CH_3 - CH_2 - Br$

13 The formula of chloroform is
(A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$

14 During nitration of benzene , the active nitrating agent is
(A) NO_2 (B) NO_2^+ (C) NO_2^- (D) HNO_3

15 Which reagent does not produce ethane by reacting with ethyl magnesium chloride in the presence of dry ether ?
(A) H_2O (B) NH_3 (C) HCHO (D) C_2H_5OH

16 Which compound will have maximum repulsion with water ?
(A) C_6H_6 (B) C_2H_5OH (C) CH_3OCH_3 (D) CH_3CH_2OH

17 Which of the following reagents will react with both aldehydes and ketones ?
(A) Grignard reagent (B) Fehling's reagent (C) Benedict's reagent (D) Tollen's reagent

12th CLASS – 1st Annual 2024

CHEMISTRY		TIME: 2 HRS 40 MINUTES
GROUP : SECOND	SUBJECTIVE PART SECTION – I	MARKS: 68

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

DGK-2-24

i	Why diamond is a non – conductor but graphite is a fairly good conductor ?
ii	Define ionization energy. How does it vary in the periodic table ?
iii	Why 2% gypsum is added to Cement ?
iv	Give the formula of (i) Asbestos (ii) Soapstone (Talc)
v	How does the process of galvanizing or Zinc Coating protect the iron from rusting ?
vi	How is the chromate ions converted into dichromate ions. Give the reaction involved.
vii	Give the two factors which govern the reactivity of alkyl halides.
viii	How propanoic acid is prepared from Ethyl magnesium Bromide ?
ix	What are thermoplastic polymers. Give two examples.
x	Define polysaccharides. Give two examples
xi	How the proteins are denatured ?
xii	Define lignin. Why is it removed from pulp ?

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

i	Why the elements of Group **VIA** other than oxygen shows more than two oxidation states ?
ii	What is meant by Fuming Nitric acid ?
iii	Arrange F^-, Cl^-, I^-, Br^- in order of decreasing size.
iv	Name the Halogen used in water treatment.
v	Draw flow sheet diagram for the formation of Anthracite.
vi	Differentiate between petroleum and crude oil.
vii	How will you synthesize Acetaldehyde from C_2H_2 ?
viii	Compare the reactivity of ethane and ethene.
ix	Describe polymerization of ethene.
x	Define Biochemical Oxygen Demand (BOD) for the quality of water.
xi	Describe how pesticides are dangerous to humans ?
xii	Describe Reprocessing for the Recycling of Plastics.

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

i	What are semiconductors and name elements and compounds act as semiconductors ?
ii	Give four uses of Boric Acid.
iii	Justify that Boric Acid is monobasic Acid.
iv	What objections were raised on Kekule's structure for benzene molecule ?
v	How phenol is converted into Bakelite ?
vi	How Picric Acid is obtained from phenol ?
vii	What is Silver Mirror Test ?
viii	How would you convert acetic acid into acetic anhydride ?
ix	Discuss strecker synthesis for the preparation of amino acid.

SECTION-II

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

Q.5.(A)	What are hydrides ? Name their types. Give properties of ionic hydrides .	1+1+2
(B)	What are general trends of oxides and hydroxides of alkali and alkaline earth metals ?	2+2
Q.6.(A)	What happens when bleaching powder reacts with (i) HCl (ii) NH_3 (iii) H_2SO_4 (Excess) (iv) CO_2	1+1+1+1
(B)	Describe screening and bleaching steps in Neutral sulphite semi chemical process.	1+3
Q.7.(A)	Define sp^3 hybridization. Discuss it with a suitable example along with labeled diagram.	1+1+2
(B)	Define nucleophilic substitution reaction. Explain SN_2 mechanism in detail.	1+3
Q.8.(A)	Discuss oxidation reactions of alkynes. (any two)	4
(B)	Describe disproportionation reaction in benzaldehyde , when it is treated with aqueous solution of 50 % NaOH at room temperature.	4
Q.9.(A)	Give preparation of benzene with any four methods.	4
(B)	Give reactions for the preparation of phenyl acetate , benzene cyclohexanol and picric acid from phenol.	4