

Time Allowed:- 20 minutes

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 mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q.1

- 1) Vinyl acetylene combines with HCl to form:  
 (A) Polyacetylene (B) Benzene (C) Chloroprene (D) Divinyl acetylene
- 2) Which statement is correct?  
 (A) Metallic Character increases down the group (B) Metallic character increases from left to right along a period (C) Metallic character remains the same from left to right along a period (D) Metallic character remains the same down the group
- 3) Which of the following is not soluble in water:  
 (A) Sodium Sulphate (B) Potassium Sulphate (C) Zinc Sulphate (D) Barium Sulphate
- 4) Boric acid cannot be used:  
 (A) As antiseptic in medicine (B) For washing eyes (C) In soda bottles (D) For enamels and glazes
- 5)  $SO_3$  is not absorbed in water directly to form  $H_2SO_4$  because:  
 (A) The reaction does not go to completion (B) The reaction is quite slow (C) The reaction is highly exothermic (D)  $SO_3$  is insoluble in water
- 6) Bleaching powder may be produced by passing chlorine over:  
 (A) Calcium carbonate (B) Hydrated calcium sulphate (C) Anhydrous calcium sulphate (D) Calcium hydroxide.
- 7) Coordination number of Pt in  $[PtCl(NO_2)(NH_3)_4]$  is:  
 (A) 2 (B) 4 (C) 1 (D) 6
- 8) Absolute alcohol can be obtained by redistillation of rectified spirit in the presence of:  
 (A)  $Na_2O$  (B) CuO (C)  $Ag_2O$  (D) CaO
- 9) Aromatic compounds burn with sooty flame because:  
 (A) They have high percentage of hydrogen (B) They have a ring structure (C) They have high percentage of carbon (D) They resist reaction with air.
- 10) The rate of  $E1$  reaction depends upon:  
 (A) The concentration of substrate (B) The concentration of nucleophile (C) The concentration of substrate as well as Nucleophile (D) The concentration of eliminated group
- 11) Linear shape is associated with which set of hybrid orbital?  
 (A) sp (B)  $sp^2$  (C)  $sp^3$  (D)  $dsp^2$
- 12) Which compound shows maximum hydrogen bonding with water:  
 (A)  $CH_3OH$  (B)  $C_5H_{11}OH$  (C)  $CH_3-O-CH_3$  (D)  $C_6H_5OH$
- 13) Iodoform is prepared by the reaction of Iodine with:  
 (A) Acetic acid (B) Formic acid (C) Acetone (D) Diethyl ether
- 14) Methyl Magnesium bromide combine with  $CO_2$  to form  
 (A) Ethyl alcohol (B) Diethyl ether (C) Acetic acid (D) Acetone
- 15) Oils are glycerol esters which contain higher proportion of:  
 (A) Unsaturated hydrocarbons components (B) Saturated hydrocarbons components (C) Unsaturated fatty acid components (D) Saturated fatty acid components
- 16) Urea is a high quality nitrogeous fertilizer. It contains about:  
 (A) 60% Nitrogen (B) 70% Nitrogen (C) 46% Nitrogen (D) 20% Nitrogen
- 17) Methane has a mean residence time of about years in the atmosphere:  
 (A) 2-5 years (B) 1-2 years (C) 3-7 years (D) 4-6 years

Warning:- Please, do not write anything on this question paper except your Roll No.  
1223 (Inter Part - II) (Session 2019-21 to 2021-23)

Chemistry (Subjective)

(Group I)

Paper (II)

Time Allowed: 2.40 hours


SGD-12-1-23

Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:-

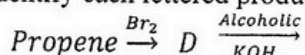
8 × 2 = 16

- (i) Give equation when borax is heated with  $\text{NH}_4\text{Cl}$  (ii) What is COD? Give its significance.  
(iii) Give any four uses of Aluminium. (iv) Give the names and formulas of acids of Boron.  
(v) What is Wurtz-Fittig reaction? (vi) Convert toluene into benzoic acid.  
(vii) Give the importance of Lipids. (Four points). (viii) Complete the reaction:  +  $\text{HOH} \longrightarrow$   
(ix) What are isomerase enzymes? Give one example.  
(x) Differentiate between DNA and RNA. (Two points). (xi) How water is purified by aeration? Discuss.  
(xii) Give the role of atmosphere gases for sustaining life on earth.

3. Answer briefly any Eight parts from the followings:-

8 × 2 = 16

- (i) Why there is no free rotation around a double bond and a free rotation around a single bond?  
(ii) How wood is transformed into coal? (iii) Identify each lettered product in the following reaction.



- (iv) Write the test to check unsaturation in the unsaturated hydrocarbons.  
(v) Give two uses of ethyne. (vi) Why does aqua regia dissolve gold?  
(vii)  $\text{P}_2\text{O}_5$  is a powerful dehydrating agent. Prove it giving two examples.  
(viii) Describe "Ring test" for the confirmation of presence of nitrate ions in solution.  
(ix) What is  $\beta$ -elimination reaction? Give example.  
(x) Give IUPAC names of the following compounds: a)  $(\text{CH}_3)_2\text{CHBr}$  b)  $\text{CH}_2\text{Cl}_2$   
(xi) Name three principle methods of chemical pulping of paper.  
(xii) Write names of four argillaceous raw materials used in manufacture of cement?

4. Answer briefly any Six parts from the followings:-

6 × 2 = 12

- (i) Describe chromyl chloride test. Write its equation.  
(ii) Why does damaged tin plated iron get rusted quickly?  
(iii) What are chelates? Give an example. (iv) Convert acetaldehyde into lactic acid.  
(v) Ethanol gives different products with Conc.  $\text{H}_2\text{SO}_4$  under different conditions. Write equations.  
(vi) How is Bakelite prepared? Give its equation.  
(vii) Write two reactions of ethanol involving the cleavage of O-H bond.  
(viii) What is Fehling's solution test? Write its chemical equation.  
(ix) How does  $\text{CH}_3\text{COOH}$  react with  $\text{NaOH}$  and  $\text{NaHCO}_3$ ?

Section ----- II

(8 × 3 = 24)

Note: Attempt any three questions.

5. (a) What are Halides? Name their types by giving two properties of each type.  
(b) How do carbonates and nitrates of Li differ from those of other Alkali metals.  
6. (a) Write down the construction and working of Beckmann's method for manufacturing of bleaching powder.  
(b) What is meant by "setting of cement". Describe the reactions involved in setting of cement during 1 to 7 days.  
7. (a) What is hybridization? Describe the hybridization to explain the structure of alkynes in detail.  
(b) Describe the mechanism of: (i) Halogenation of benzene. (ii) Sulphonation of benzene  
8. (a) Describe the mechanism of Kolbe's electrolytic method for the preparation of alkyne.  
(b) By using Grignard reagent prepare:  
(i) Primary alcohol (ii) Secondary alcohol (iii) Ter. alcohol (iv) Alkane  
9. (a) Explain the mechanism of the reaction of phenylhydrazine with acetone.  
(b) Write down the mechanism of acetic acid and ammonia.