

1223 Warning:- Please write your Roll No. in the space provided and sign. Roll No-----

( Inter Part – II)

(Session 2019-21 to 2021-23)

Sig. of Student -----

Chemistry (Objective) *SGD-12-2-23* Group – II

Paper (II)

Time Allowed:- 20 minutes

**PAPER CODE 4488**

Maximum 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 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) An element that has a high ionization energy and tends to be chemically inactive would most likely to be:  
(A) An alkali metal (B) A transition element (C) A noble gas (D) A halogen
- 2) Group VI-B transition elements contains:  
(A) Zn, Cd, Hg (B) Fe, Ru, Os (C) Cr, Mo, W (D) Mn, Te, Re
- 3) In t-butyl alcohol, the tertiary carbon is bonded to:  
(A) Two hydrogen atoms (B) Three hydrogen atoms (C) One hydrogen atom (D) No hydrogen atom
- 4) Keeping in view the size of atoms, which order is the correct one?  
(A)  $Mg > Sr$  (B)  $Ba > Mg$  (C)  $Lu > Ce$  (D)  $Cl > I$
- 5) Which ion will have the maximum value of heat of hydration?  
(A)  $Na^+$  (B)  $Cs^+$  (C)  $Ba^{2+}$  (D)  $Mg^{2+}$
- 6) Which element belongs to Group IV-A of the periodic table?  
(A) Barium (B) Iodine (C) Lead (D) Oxygen
- 7) Laughing gas is chemically.  
(A) NO (B)  $N_2O$  (C)  $NO_2$  (D)  $N_2O_4$
- 8) Formula of chloroform is:  
(A)  $CH_3Cl$  (B)  $CCl_4$  (C)  $CH_2Cl_2$  (D)  $CHCl_3$
- 9) Select the one which is a copolymer?  
(A) Polythene (B) Polystyrene (C) Polyvinyl acetate (D) Nylon-6,6
- 10) Which one is frequently used to disinfect water?  
(A) Sodium chloride (B) Hydrochloric acid (C) Chlorine (D) Sodium hydroxide
- 11) Diammonium phosphate fertilizer contains how much percentage of nitrogen?  
(A) 48% (B) 16% (C) 75% (D) 46%
- 12) During nitration of benzene, the active nitrating agent is:  
(A)  $NO_3$  (B)  $NO_2^+$  (C)  $NO_2$  (D)  $HNO_3$
- 13) 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) None of the above
- 14) Rectified spirit contains ethyl alcohol about  
(A) 80% (B) 85% (C) 90% (D) 95%
- 15) Which one is not an alcohol?  
(A)  $CH_3OH$  (B)  $CH_3CH_2OH$  (C)  $CH_3CH_2CH_2OH$  (D)  $CH_3COOH$
- 16) Primary alcohols are formed when Grignard's reagent reacts with:  
(A) Formaldehyde (B) Acetaldehyde (C) Acetone (D) Water
- 17) Acetic acid exists as \_\_\_\_\_ in benzene:  
(A) A dimer (B) A trimer (C) A monomer (D) A tetramer

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1223 (Inter Part - II) (Session 2019-21 to 2021-23)

Chemistry (Subjective)

(Group II)

Paper (II)

Time Allowed: 2.40 hours

Section ----- I

Maximum Marks: 68

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

8 × 2 = 16

- Give any two points of differences of carbon from its family members.
- Give chemistry of Borax bead test. (iii) What is chemical garden?
- Why -CH<sub>3</sub> group direct the incoming substituent at ortho and para position in toluene.
- What is Wurtz-Fittig reaction for preparation of Alkyl aromatic Hydrocarbon.
- How did Kekulé support his theory about structure of benzene? Give two points.
- What are thermo setting polymers? Give two examples.
- What do you mean by hydrolysis? Support your answer with hydrolysis of lipids.
- What are carbohydrates? Name their types. (x) What are conditions for formation of smog?
- Mention two natural sources for release of methane in air.
- Give difference between primary and secondary pollutants with one example in each case.

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

8 × 2 = 16

- What are heterocyclic compounds? Give two examples. (ii) Why are organic reactions slow?
- What is Markownikov's rule? Give one example (iv) How is acetaldehyde produced from ethyne?
- Why are alkanes called as paraffins? (vi) What is Ring test?
- Write down any four similarities between oxygen and sulphur. (viii) Write down any four uses of HNO<sub>3</sub>.
- How are anti-knocking agents produced from alkyl halides?
- Differentiate between nucleophile and electrophile.
- Differentiate between micro-nutrients and macro-nutrients?
- Enlist different stages for manufacturing of cement by wet process?

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

6 × 2 = 12

- How are chromate ions converted into dichromate ions?
- What will happen when potassium dichromate react with (a) KI (b) FeSO<sub>4</sub>
- Define the co-ordination sphere with one example.
- Write the two reactions of alcohol in which 'O-H' bond is broken.
- What do you know about Williamson's synthesis?
- How will you convert methanol into ethanol.
- Starting from aldehyde prepare Metaformaldehyde and Paraldehyde.
- Write the Fehling solution test. (ix) Write down the mechanism of the reaction of acetic acid and ammonia.

Section ----- II

(8 × 3 = 24)

Note: Attempt any three questions.

- What are hydrides? Discuss their classification.
  - Explain the peculiar behaviour of Lithium (Give eight points).
- Write down the reactions of chlorine with cold and hot NaOH
  - What are fertilizers? Write any four essential qualities of good fertilizer.
- Define orbital hybridization. Explain sp<sup>2</sup> hybridization with the structure of ethene.
  - What is Friedel Crafts acylation? Explain its mechanism.
- Write structural formulae of the following compounds.
    - 3-Ethylpentane. (ii) 2,2,3,4- tetramethyl pentane.
    - 2,2-Dimethylbutane. (iv) 4-Ethyl-3,4-dimethylpentane.
  - Draw eight possible structures that have the molecular formula C<sub>6</sub>H<sub>13</sub>Cl and also classify them.
- Write a detailed note on Cannizzaro's reaction.
  - Give the reaction of CH<sub>3</sub>COOH with SOCl<sub>2</sub>. Also give mechanism.

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