

Chemistry (Objective) **S40-I-21** Group - I

Paper (II)

Time Allowed:- 20 minutes

**PAPER CODE 4485**

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) Which of the following derivative cannot be prepared directly from acetic acid.  
(A) Acetamide (B) Acetylchloride (C) Ethylacetate (D) Acetic anhydride
- 2) For which crop ammonium nitrate fertilizer is not used  
(A) Cotton (B) Wheat (C) Sugar cane (D) Paddy rice
- 3) Mark the correct statement.  
(A) Metallic character increases down the group (B) Metallic character increases from left to right in a period (C) Metallic character remains the same down the group (D) Metallic character remains the same from left to right in a period
- 4) Down's cell is used to prepare  
(A) Sodium carbonate (B) Sodium metal (C) Sodium bicarbonate (D) Sodium hydroxide
- 5) Which element forms ion with charge +3  
(A) Be (B) Al (C) Si (D) C
- 6) Among group VA elements, the most electronegative element is  
(A) Sb (B) N (C) P (D) As
- 7) Which is the strongest acid in aqueous solution  
(A) HClO (B) HClO<sub>3</sub> (C) HClO<sub>2</sub> (D) HClO<sub>4</sub>
- 8) The anhydride of HClO<sub>4</sub> is  
(A) ClO<sub>2</sub> (B) ClO<sub>3</sub> (C) Cl<sub>2</sub>O<sub>3</sub> (D) Cl<sub>2</sub>O<sub>7</sub>
- 9) Which of the following is a non typical transition element  
(A) Cr (B) Mn (C) Zn (D) Fe
- 10) Select from the following the one which is alcohol?  
(A) CH<sub>3</sub>-CH<sub>2</sub>-Br (B) CH<sub>3</sub>-CH<sub>2</sub>-OH (C) H<sub>3</sub>C-O-CH<sub>3</sub> (D) H<sub>3</sub>C-COOH
- 11)  $\beta, \beta'$  - dichloroethyl sulphide is commonly known as  
(A) Mustard gas (B) Laughing gas (C) Phosgene gas (D) Bio-gas
- 12) Which one of the following groups is meta director  
(A) -OH (B) -NH<sub>2</sub> (C) -NO<sub>2</sub> (D) -OCH<sub>3</sub>
- 13) Which one of the following is not a nucleophile?  
(A) H<sub>2</sub>O (B) H<sub>2</sub>S (C) BF<sub>3</sub> (D) NH<sub>3</sub>
- 14) Methyl alcohol is not used as  
(A) A solvent (B) An anti-freezing agent (C) A substitute for petrol (D) Denaturing agent
- 15) Formalin is  
(A) 10 % solution of formaldehyde in water (B) 20 % solution of formaldehyde in water (C) 40 % solution of formaldehyde in water (D) 60 % solution of formaldehyde in water
- 16) Acetone reacts with HCN to form a cyanohydrin is an example of  
(A) Electrophilic addition reaction (B) Electrophilic substitution reaction (C) Nucleophilic addition reaction (D) Nucleophilic substitution reaction
- 17) Which acid is used in the manufacture of synthetic fibre.  
(A) Malonic acid (B) Acetic acid (C) Oxalic acid (D) Phthalic acid

1279 -- 1221 ALP -- 18000 (3)

6/25/19



Warning:- Please, do not write anything on this question paper except your Roll No.  
1221 (Inter Part - II) (Session 2017-19 to 2019-21)

Chemistry (Subjective)  
Time Allowed: 2.40 hours

(Group I)  
**540-I-21**

Paper (II)  
Maximum Marks: 68

Section ----- I

$8 \times 2 = 16$

2. Answer briefly any Eight parts from the followings:-
- The hydration energies of the ions are in the following order. Why?  $Al^{+3} > Mg^{+2} > Na^{+1}$
  - Lanthanide contraction controls the atomic sizes of elements of 6th and 7th periods.
  - What is the effect of heat on  $CaSO_4 \cdot 2H_2O$ ?
  - The reaction of alkali metal oxide with water is an acid-base reaction and not an oxidation reduction reaction, why?
  - How carbon differs from remaining members of group IV-A elements.
  - What are the common properties of group IV-A elements. (vii) Give two uses of Boric acid.
  - Give two reactions for the preparation of Dinitrogen oxide ( $N_2O$ ).
  - Give equation to describe the reaction of  $NO_2$  with  $H_2S$  and  $KI$ .
  - What is meant by prilling? (xi) Describe the composition of a good portland cement.
  - What are essential nutrient elements and why these are needed for plant growth?
3. Answer briefly any Eight parts from the followings:-  $8 \times 2 = 16$
- Why HF is weaker acid than HCl? (ii) Draw Structural formula of  $OF_2$  and  $O_2F_2$ .
  - What is the oxidation state of chlorine in  $HClO_4$  and  $HClO$ ?
  - What is Paramagnetism? Give example. (v) Discuss Cathode Coating.
  - Draw resonance Structures of Benzene. (vii) Convert n-Hexane into Benzene.
  - What is the composition of formalin? (ix) How would you differentiate between methanol and Ethanol?
  - How Acetic Acid is prepared from Acetylene?
  - Name the Esters which produce Jasmine and Pineapple flavours.
  - "Boiling point of Carboxylic Acid is relatively high" Justify.
4. Answer briefly any Six parts from the followings:-  $6 \times 2 = 12$
- Define functional group, Give one example.
  - Differentiate between catalytic and steam cracking.
  - Discuss reactivity of  $\pi$ -bond.
  - Give mechanism of bromination of ethene.
  - Write industrial preparation of ethyne.
  - Write any four differences between  $E_1$  and  $E_2$  reactions.
  - Define electrophile and nucleophile.
  - Discuss the denaturing of alcohol.
  - How is Bakelite prepared? Give reaction.

Section ----- II

$(8 \times 3 = 24)$

Note: Attempt any three questions.

- (a) Define ionization energy, on what factors it depends. Give its periodic trend.  
(b) Describe Commercial preparation of sodium metal by Down's Cell.
- (a)  $H_2SO_4$  is a dehydrating agent and oxidizing agent, prove this truth by giving two examples of each.  
(b) Describe following general characteristics of transition elements.  
(i) Melting and boiling point. (ii) Covalent and ionic radii
- (a) Explain the Structures of Ethane and ethyne based on hybridization.  
(b) What is Cannizarro's reaction? Give its mechanism.
- (a) Give any two methods of preparation of alkene (ethene) and also give two oxidation reactions of ethene.  
(b) Differentiate between  $S_N1$  and  $S_N2$  reactions.
- (a) Explain the comparison of reactivities of Alkanes, Alkenes & Benzene.  
(b) How will you convert phenol into  
(i) Benzene (ii) Picric Acid (iii) Cyclohexanol (iv) Bakelite

1280 -- 1221 ALP -- 18000