

1224 Warning:- Please write your Roll No. in the space provided and sign. Roll No-----

(Inter Part – II)

(Session 2020-22 to 2022-24)

Sig. of Student -----

Chemistry (Objective)

Group – II

Paper (II)

Time Allowed:- 20 minutes

PAPER CODE 4482

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 metal does not form ionic hydride.
(A) Ba (B) Mg (C) Ca (D) Sr
- 2) The mineral $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ has the general name.
(A) Gypsum (B) Dolomite (C) Calcite (D) Epsom salt
- 3) Which of the following element is not present abundantly in earth's crust?
(A) Silicon (B) Aluminium (C) Sodium (D) Oxygen
- 4) Which catalyst is used in contact process
(A) Fe_2O_3 (B) V_2O_5 (C) SO_3 (D) Ag_2O
- 5) Which halogen will react spontaneously with Au to produce Au^{+3} ?
(A) Br_2 (B) F_2 (C) I_2 (D) Cl_2
- 6) The strength of binding energy of transition elements depends on
(A) Number of electron pairs (B) Number of unpaired electrons (C) Number of neutrons (D) Number of protons
- 7) 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
- 8) Synthetic rubber is made by polymerization of
(A) Chloroform (B) Acetylene (C) Divinylacetylene (D) Chloroprene
- 9) The electrophile in aromatic sulphonation is
(A) H_2SO_4 (B) HSO_3^+ (C) SO_3 (D) SO_3^+
- 10) Ethyl magnesium bromide react with water to form
(A) Ethane (B) Methane (C) Propane (D) Butane
- 11) Rectified spirit contains alcohol about
(A) 80% (B) 85% (C) 90% (D) 95%
- 12) The carbon atom of a carbonyl group is
(A) sp hybrid (B) sp^2 hybrid (C) sp^3 hybrid (D) None of those
- 13) Which of the following is not a fatty acid?
(A) Propanoic Acid (B) Acetic Acid (C) Phthalic Acid (D) Butanoic Acid
- 14) The reaction between fat and NaOH is called
(A) esterification (B) Hydrogenolysis (C) Fermentation (D) Saponification
- 15) Ammonium Nitrate fertilizer is not used for which crop.
(A) Cotton (B) Wheat (C) Sugar cane (D) Paddy rice
- 16) Ecosystem is a smaller unit of
(A) Lithosphere (B) Hydrosphere (C) Biosphere (D) Atmosphere
- 17) Which gas is not a pollutant
(A) SO_2 (B) CO (C) NO_2 (D) CO_2

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Warning:- Please, do not write anything on this question paper except your Roll No.
1224 (Inter Part - II) (Session 2020-22 to 2022-24)

Chemistry (Subjective)

(Group II)

Paper (II)

Time Allowed: 2.40 hours

Maximum Marks: 68

Section ----- I

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

8 × 2 = 16

- What improvements were made in Mendeleev's periodic table?
- The radius of Na is 157 pm while that of Na⁺ is 95 pm. Why?
- What happens when Lithium carbonate and Lithium nitrates are heated?
- Why is calcium important for plant growth? (v) How does acidified KMnO₄ Oxidize FeSO₄ and oxalic acid?
- Why do the transition element show variable valency?
- Why alkyl Iodides are the most reactive among alkyl halides?
- What is leaving group. Give two examples. (ix) Write name of factors which affect the enzyme activity.
- What are the Differences between DNA and RNA? (xi) Define acid number and Iodine number with example.
- Why wet process is favourable for manufacturing of cement in Pakistan?

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

8 × 2 = 16

- NO₂ is a strong oxidizing agent. Prove the truth of this statement giving example.
- Write down any four uses of sulphuric acid. (iii) Why HF is weaker acid than HCl? Justify.
- What are Freons and Teflon? (v) Draw the various isomer of Pentane (C₅H₁₂)
- Why there is no free rotation around a double bond and a free rotation around a single bond. Justify.
- How does ethyne react with (a) Halogen acid (b) Ammonical cuprous chloride
- Write short note on acidity of Ethyne. (ix) Write down any four uses of ethene.
- Mention any two conditions which are required for the formation of smog.
- Is detergents are threat to aquatic life? Justify. (xii) Write short note on dissolved oxygen (DO).

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

6 × 2 = 12

- What is the alkanolic acid. How it is prepared from alkanol?
- Justify the acidic and basic character of amino acids.
- Prepare borax from (a) Colemanite (b) Boric acid
- How "Al" reacts with hydrogen and halogen? (v) Justify "CO₂" is non polar in nature.
- Write the name and structure of two aromatic compounds containing two benzene rings.
- Why phenol is more acidic than alcohol? (viii) Ethanol has highest boiling point than di ethyl ether.
- Write the oxidation reaction of aldehyde with (a) K₂Cr₂O₇ / H₂SO₄ (b) Tollen's reagent

Section ----- II

Note: Attempt any three questions.

(8 × 3 = 24)

- (a) Define periodic table. What improvements are made in Mendeleev's periodic table?
(b) How sodium metal is produced by Down's cell. Sketch labelled Down's cell.
- (a) What are "Disproportionation reactions"? Explain your answer with the reaction of chlorine with hot and cold NaOH.
(b) What do you understand by the term "Setting of cement"? Also discuss the reactions taking place in first 24 hours?
- (a) What are the various sources of organic compounds? Give significance of Coal amongst these sources.
(b) Using ethyl bromide as a starting material how would you prepare the following compounds?
(i) n-butane (ii) Ethyl alcohol (iii) Ethene (iv) Ethane
- (a) Explain the following reactions. (i) Ozonolysis of ethene (ii) Oxidation of ethyne by KMnO₄
(b) What is Cannizzaro's reaction? Write down its mechanism.
- (a) Describe the stability of Benzene molecule by estimating Heats of Hydrogenation.
(b) Explain the following terms using ethyl alcohol as an example.
(i) Oxidation (ii) Dehydration (iii) Esterification (iv) Ether formation

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