



Chemistry	(D)	L.K.No. 1309	Paper Code No. 8487
(Objective Type)		Inter - A - 2021	
Note: Four possible choices A, B, C, D to each question are given. Which choice is correct fill that circle in front of that Question No. Use Marker or Pen to fill the circles. Cutting or filling two or more circles will result in Zero Mark in that Question.			

Q.No.1	Mark the correct statement :
(1)	(A) All Lanthanides are present in the same group. (B) All Halogens are present in the same period. (C) All the Alkali Metals are present in the same group. (D) All the Noble Gases are present in the same period.
(2)	Laughing Gas is chemically : (A) NO (B) N <sub>2</sub> O (C) NO <sub>2</sub> (D) N <sub>2</sub> O <sub>4</sub>
(3)	Which Element forms an Ion with charge +3 : (A) Beryllium (B) Aluminium (C) Carbon (D) Silicon
(4)	Which of the following Sulphate is not soluble in water : (A) Sodium Sulphate (B) Potassium Sulphate (C) Zinc Sulphate (D) Barium Sulphate
(5)	Chlorine Heptaoxide (Cl <sub>2</sub> O <sub>7</sub> ) reacts with water to form : (A) Hypochlorous Acid (B) Chloric Acid (C) Perchloric Acid (D) Chlorine and Oxygen
(6)	The State of Hybridization of Carbon Atom in Methane is : (A) sp <sup>3</sup> (B) sp <sup>2</sup> (C) sp (D) dsp <sup>2</sup>
(7)	Which of the given is a typical transition metal : (A) Sc (B) Y (C) Ra (D) Co
(8)	Which one is Chlorous Acid : (A) HClO (B) HClO <sub>2</sub> (C) HClO <sub>3</sub> (D) HClO <sub>4</sub>
(9)	Vinyl acetylene combines with HCl to form : (A) Polyacetylene (B) Benzene (C) Chloroprene (D) Divinyl Acetylene
(10)	Which Compound is called Universal Solvent : (A) H <sub>2</sub> O (B) CH <sub>3</sub> OH (C) C <sub>2</sub> H <sub>5</sub> OH (D) CH <sub>3</sub> -O-CH <sub>3</sub>
(11)	For which Mechanisms, the first step involved is the same : (A) E1 and E2 (B) E2 and S <sub>N</sub> 2 (C) S <sub>N</sub> 1 and E2 (D) E1 and S <sub>N</sub> 1
(12)	Amongst the following, the compound that can be most readily Sulphonated is : (A) Toluene (B) Benzene (C) Nitrobenzene (D) Chlorobenzene
(13)	Acetone reacts with HCN to form a Cyanohydrin. It is an example of : (A) Electrophilic Addition (B) Electrophilic Substitution (C) Nucleophilic Addition (D) Nucleophilic Substitution
(14)	The flavour of Octylacetate is : (A) Orange (B) Apricot (C) Banana (D) Jasmine
(15)	Micro Nutrients are required in quantity ranging from : (A) 4-40 g (B) 6-200 g (C) 6-200 Kg (D) 4-40 Kg
(16)	Aldol Condensation is given by : (A) Acetaldehyde (B) Formaldehyde (C) Benzaldehyde (D) Trimethyl Acetaldehyde
(17)	The solution of which Acid is used for seasoning of food : (A) Formic Acid (B) Acetic Acid (C) Benzoic Acid (D) Butanoic Acid

B



BWP-GI-21



Roll No.	1309 - 18000	Session (2017 - 19) to (2020 - 22)	Inter (Part - II)
Chemistry (Subjective)	Inter - A - 2021	Time 2 : 40 Hours Marks : 68	Group Ist

Part - I

22 x 2 = 44

Q.No.2	(i)	Write essential features of 4 <sup>th</sup> and 5 <sup>th</sup> Period in Periodic Table.	
	(ii)	Describe some families in Periodic Table.	
	(iii)	Write the Chemical Formulae of : (a) Calcite (b) Barite	
	(iv)	Why is the Aqueous Solution of Na <sub>2</sub> CO <sub>3</sub> is Alkaline in Nature?	
	(v)	Write the Chemical Formulae of : (a) Corundum (b) Cryolite	
	(vi)	Write two methods for preparation of Borax.	
	(vii)	Write the chemistry of Borax Bead Test.	
	(viii)	Describe the properties of White Phosphorus.	
	(ix)	Complete and Balance the Equations : (a) Cu + H <sub>2</sub> SO <sub>4</sub> (conc) → (b) Zn + H <sub>2</sub> SO <sub>4</sub> (dil) →	
	(x)	Write the name and uses of Micronutrients used in Growth of Plants.	
	(xi)	What is the function of Nitrogenous Fertilizers for the Growth of Plants?	
	(xii)	Write any four essential features of Good Fertilizers.	
Q.No.3	(i)	Write four factors on which Oxidizing Behaviour of Halogens depend.	
	(ii)	Why is HF weaker acid than other Halogen Acids?	
	(iii)	Write down four uses of Bleaching Powder.	
	(iv)	What are Interstitial Compounds?	
	(v)	Why does Damaged Tin Plated Iron get rusted quickly?	
	(vi)	Write down mechanism for Nitration of Benzene.	
	(vii)	Write down resonance contributing structures for Benzene.	
	(viii)	Write equations for the reactions of Acetaldehyde with : (a) NaHSO <sub>3</sub> (b) HCN	
	(ix)	Write down general mechanism for Acid Catalysed Nucleophilic addition reaction of Carbonyl Compounds.	
	(x)	Write down four uses of Acetic Acid.	
	(xi)	What are Fatty Acids? Give their two examples.	
	(xii)	Convert Acetic Acid into : (a) Ethyl Alcohol (b) Ethane	
Q.No.4	(i)	Why there is no free rotation around a Carbon - Carbon Double Bond?	
	(ii)	What is meant by a Functional Group? Give the general formula of Functional Group of Mercaptanes and Nitriles.	
	(iii)	How will you convert : (a) Acetic Acid to Ethane (b) Methane to Ethane	
	(iv)	Name the following compounds by IUPAC System : (a) CH <sub>2</sub> = CH - C ≡ C - CH = CH <sub>2</sub> (b) CH ≡ C - CH = CH - C ≡ CH	
	(v)	Write down Chemical Equations for the preparation of Propene from : (a) n - Propyl Alcohol (b) iso - Propyl Chloride	
	(vi)	How Tetramethyl Lead and Tetraethyl Lead are prepared?	
	(vii)	Describe Wurtz Synthesis for the preparation of Alky Halides.	
	(viii)	What is the action of given on Phenol : (a) HNO <sub>3</sub> (b) Zn (dust)	
	(ix)	Why the boiling points of Alcohols are higher than Corresponding Alkanes?	

Part - II

Q.No.5	(a)	Define Electron Affinity. Discuss its trends in Periodic Table.	(4)
	(b)	Explain preparation of Sodium by Down's Cell.	(4)
Q.No.6	(a)	Discuss reactions of Sulphuric Acid as a Dehydrating Agent.	(4)
	(b)	Define Corrosion. How Electrochemical Theory explains Corrosion?	(4)
Q.No.7	(a)	Define sp Hybridization. Explain the structure of Ethyne on the basis of sp - Hybridization.	(4)
	(b)	How will you identify Carbonyl Compounds (Aldehyde and Ketones) using any four reactions?	(4)
Q.No.8	(a)	How will you prepare Acetylene from : (i) Vicinal Dihalide (ii) Tetrahalide	(4)
	(b)	What is β - Elimination Reaction? Explain E <sub>1</sub> reaction in detail.	(4)

Q.No.1	Which statement is incorrect :
(1)	(A) All the metals are good conductor of electricity. (B) All the metals are good conductor of heat. (C) All the metals form positive ions. (D) All the metals form Acidic Oxides.
(2)	Chile Saltpetre has the chemical formula : (A) $\text{NaNO}_3$ (B) $\text{KNO}_3$ (C) $\text{Na}_2\text{B}_4\text{O}_7$ (D) $\text{Na}_2\text{CO}_3\cdot\text{H}_2\text{O}$
(3)	Tincal is mineral of : (A) Al (B) B (C) Si (D) C
(4)	Laughing Gas is chemically : (A) NO (B) $\text{N}_2\text{O}$ (C) $\text{NO}_2$ (D) $\text{N}_2\text{O}_4$
(5)	Bleaching Powder may be produced by passing Chlorine over : (A) Calcium Carbonate (B) Hydrated Calcium Sulphate (C) Anhydrous Calcium Sulphate (D) Calcium Hydroxide
(6)	The Bond Angle in $\text{OF}_2$ molecule is : (A) $105^\circ$ (B) $106^\circ$ (C) $107^\circ$ (D) $108^\circ$
(7)	The strength of binding energy of transition elements depends upon : (A) Number of Electron Pairs (B) Number of Unpaired Electrons (C) Number of Neutrons (D) Number of Protons
(8)	A Double Bond consists of : (A) Two Sigma Bonds (B) One Sigma and One Pi Bond (C) One Sigma and Two Pi Bonds (D) Two Pi Bonds
(9)	Vinyl Acetylene combines with HCl to form : (A) Polyacetylene (B) Benzene (C) Chloroprene (D) Divinyl Acetylene
(10)	Amongst the following, the compound that can be most readily Sulphonated is : (A) Toluene (B) Benzene (C) Nitrobenzene (D) Chlorobenzene
(11)	For which Mechanisms, the first step involved is the same : (A) E1 and E2 (B) E2 and $\text{S}_{\text{N}}2$ (C) $\text{S}_{\text{N}}1$ and E2 (D) E1 and $\text{S}_{\text{N}}1$
(12)	Which Compound is called Universal Solvent : (A) $\text{H}_2\text{O}$ (B) $\text{CH}_3\text{OH}$ (C) $\text{C}_2\text{H}_5\text{OH}$ (D) $\text{CH}_3-\text{O}-\text{CH}_3$
(13)	Cannizzaro's Reaction is not given by : (A) Formaldehyde (B) Acetaldehyde (C) Benzaldehyde (D) Trimethyl Acetaldehyde
(14)	Which of the following reagents will react with both Aldehydes and Ketones : (A) Grignard Reagents (B) Tollen's Reagents (C) Fehling's Reagents (D) Benedict's Reagents
(15)	The solution of which Acid is used for seasoning of food : (A) Formic Acid (B) Acetic Acid (C) Benzoic Acid (D) Butanoic Acid
(16)	Which one of these is the formula of Palmitic Acid : (A) $\text{C}_{15}\text{H}_{31}\text{COOH}$ (B) $\text{C}_{16}\text{H}_{31}\text{COOH}$ (C) $\text{C}_{17}\text{H}_{35}\text{COOH}$ (D) $\text{C}_{18}\text{H}_{37}\text{COOH}$
(17)	Which is not a Calcareous Material : (A) Lime (B) Clay (C) Marble (D) Marine Shell

B





Roll No.	1310 - 18000	Session (2017 -19 ) to (2020 - 22)	Inter (Part - II )
Chemistry (Subjective)	Inter - A - 2021	Time 2 : 40 Hours Marks : 68	Group 2nd

22' x 2 = 44

Q.No.2	(i)	What are Periods and Groups?	
	(ii)	Define Electron Affinity. How does it vary in Periodic Table?	
	(iii)	Write down chemical composition of : (a) Dolomite (b) Gypsum	
	(iv)	Complete the given equations : (a) $\text{NaNO}_3 \xrightarrow{\Delta}$ (b) $\text{Be} + \text{NaOH} \rightarrow$	
	(v)	Write uses of Boric Acid.	
	(vi)	Write two methods for the preparation of Borax.	
	(vii)	Write down chemistry of Borax Bead Test.	
	(viii)	$\text{HNO}_2$ acts as Oxidizing as well as reducing agent. Give one reaction in each case.	
	(ix)	What is Aqua Regia? How does it dissolve gold?	
	(x)	What are Micronutrients?	
	(xi)	Write four characteristics of a good fertilizer.	
	(xii)	Name two Calcarious and two Argilacious raw materials for cement.	
Q.No.3	(i)	How Iodine Pentoxide ( $\text{I}_2\text{O}_5$ ) is prepared? Give its reaction with Carbon Monoxide (CO).	
	(ii)	Mention the factors upon which the Oxidizing Power of Halogens depends upon?	
	(iii)	Write down four physical properties of $\text{HClO}_4$ .	
	(iv)	What is the cause of Colour of Transition Element Compounds?	
	(v)	Define Paramagnetism and Diamagnetism.	
	(vi)	Draw the Structural Formulas for : (a) 2, 4, 6 - Trinitrotoluene (b) p - Hydroxybenzoic Acid	
	(vii)	How Aromatic Hydrocarbons are classified?	
	(viii)	How will you convert : (a) Ethyne into Ethanal (b) Ethanol into 2 - Butanone	
	(ix)	Give four uses of Acetaldehyde.	
	(x)	Give four uses of Acetic Acid.	
	(xi)	How Acetic Acid is prepared from Acetylene?	
	(xii)	Give reactions of Acetic Acid with : (a) $\text{Na}_2\text{CO}_3$ (b) $\text{NaHCO}_3$	
Q.No.4	(i)	What are Heterocyclic Compounds? Give one example.	
	(ii)	Define Cis - Trans Isomerism. Give one example.	
	(iii)	Give two physical properties of Alkanes.	
	(iv)	Discuss Catalytic Oxidation of Methane.	
	(v)	What is Hydroxylation? Give one example.	
	(vi)	Define Nucleophile. Give two examples.	
	(vii)	Give two properties of $\text{E}_2$ reactions.	
	(viii)	Define Fermentation. What are its conditions?	
	(ix)	" Lower Alcohols are readily soluble in water " . Justify.	
Part - II			
Q.No.5	(a)	Write down two similarities and two dissimilarities of Hydrogen with Halogens.	(4)
	(b)	Briefly describe the extraction of Sodium by Down's Cell.	(4)
Q.No.6	(a)	Describe manufacture of Nitric Acid by Birkeland and Eyde's Process.	(4)
	(b)	Write note on : (i) Tin Plating (ii) Zinc Coating	(4)
Q.No.7	(a)	Define Four Types of Isomerism with one example each.	(4)
	(b)	Explain with Mechanism the addition of Sodium Bisulphite to Acetone. What is the utility of this reaction?	(4)
Q.No.8	(a)	Give Polymerization Reactions of Ethyne to Prepare : (i) Divinyl Acetylene (ii) Synthetic Rubber (iii) Benzene	(4)
	(b)	What are $\beta$ - elimination Reactions? Differentiate between $\text{E}_1$ and $\text{E}_2$ reactions.	(4)
Q.No.9	(a)	Explain Alkylation and Acylation of Benzene with Mechanism.	(4)
	(b)	How the following compound can be prepared from phenol : (i) Bakelite (ii) Picric Acid (iii) Phenylacetate	(4)

