



Chemistry	(B)	L.K.No.1309	Paper Code No. 8483
Paper II	( Objective Type )	Inter - A - 2022	( Group Ist )
Time :	20 Minutes	Inter ( Part II )	
Marks :	17	Session (2018 - 20) to (2020 - 22)	

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.

B20P-C, 1-22

Q.No.1	The pH range of the Acid Rain is :
(1)	(A) 7 - 6.5 (B) 6.5 - 6 (C) 6 - 5.6 (D) less than 5
(2)	Peroxyacetylnitrate is an irritant to human beings and it affects : (A) Eyes (B) Ears (C) Stomach (D) Nose
(3)	Which three elements are needed for the healthy growth of plants (A) N, S, P (B) N, Ca, P (C) N, P, K (D) N, K, C
(4)	Which of these Polymers is an Addition Polymer : (A) nylon - 6, 6 (B) Polystyrene (C) Terylene (D) Epoxy Resin
(5)	Acetic Acid is manufactured by : (A) Distillation (B) Fermentation (C) Ozonolysis (D) Esterification
(6)	Which of the following will have the highest boiling point : (A) Methanal (B) Ethanal (C) Propanal (D) 2 - Hexanone
(7)	Which compound shows Hydrogen Bonding : (A) C <sub>6</sub> H <sub>6</sub> (B) C <sub>2</sub> H <sub>5</sub> Cl (C) CH <sub>3</sub> - O - CH <sub>3</sub> (D) C <sub>2</sub> H <sub>5</sub> - OH
(8)	In Primary Alkyl Halides, the Halogen Atom is attached to a Carbon which is further attached to how many Carbon Atoms : (A) 2 (B) 3 (C) 1 (D) 4
(9)	Benzene Molecule contains : (A) Three Double Bonds (B) Two Double Bonds (C) One Double Bond (D) Delocalized $\pi$ - electron charge
(10)	Preparation of Vegetable Ghee Involves : (A) Halogenation (B) Hydrogenation (C) Hydroxylation (D) Dehydrogenation
(11)	The state of Hybridization of Carbon Atom in Methane is : (A) sp <sup>3</sup> (B) sp (C) sp <sup>2</sup> (D) dsp <sup>2</sup>
(12)	Which of the following is a non - typical transition element : (A) Cr (B) Mn (C) Zn (D) Fe
(13)	Which of the following Hydrogen Halide is the weakest acid in solution : (A) HF (B) HBr (C) HI (D) HCl
(14)	Out of all the elements of Group VA, the highest Ionization energy is possessed by : (A) N (B) P (C) Sb (D) Bi
(15)	Tincal is a mineral of : (A) Al (B) B (C) Si (D) C
(16)	Which one of the following is not an Alkali Metal (A) Francium (B) Caesium (C) Rubidium (D) Radium
(17)	Mark the correct statement : (A) The Ionization Energy of Calcium is lower than that of Barium. (B) The Ionization Energy of Calcium is lower than that of Magnesium. (C) The Ionization Energy of Calcium is higher than that of Beryllium. (D) The Ionization Energy of Calcium is lower than that of Strontium.





Roll No.	1309-15000	Inter (Part II)	Session (2018-20) to (2020-22)
Chemistry (Subjective)	Inter - A - 2022	Time 2 : 40 Hours	Marks : 68 (Group Ist)

Note: It is compulsory to attempt any (8-8) Parts each from Q.No. 2, Q.No.3 and attempt any (6) Parts from Q.No.4. Attempt any (3) Questions from Part - II. Write same Question No. and its Part No. as given in the Question Paper.

BOP-G1-22

Make Diagram where necessary.

Part - I

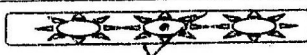
22 x 2 = 44

Q.No.2	(i)	Give two defects of Mendeleev's Periodic Table.
	(ii)	Why Negative Ion is larger than Parent Atom?
	(iii)	Give the Chemistry of Borax Bead Test.
	(iv)	Why 2% Gypsum is added in the Cement?
	(v)	Give four uses of Borax.
	(vi)	What is Chemical Garden?
	(vii)	Give the name and formula of two Oxides of Nitrogen.
	(viii)	Give reaction of <b>Zn</b> with <b>dil</b> and <b>conc. HNO<sub>3</sub></b>
	(ix)	What are Typical and Non-Typical Transition Elements?
	(x)	Why Transition Metal show variable Oxidation State?
	(xi)	What are the essential qualities of Good Fertilizer?
	(xii)	Enlist non-woody raw material for the manufacturing of paper.
Q.No.3	(i)	How <b>XeF<sub>6</sub></b> reacts with : (a) <b>H<sub>2</sub>O</b> (b) <b>SiO<sub>2</sub></b>
	(ii)	What are Freons and Teflon?
	(iii)	Explain how Octane number of Gasoline is improved by reforming?
	(iv)	What is Knocking? How can we reduce it?
	(v)	How will you synthesize the following compounds starting from Ethyne : (a) Acetaldehyde (b) Methyl Nitrile
	(vi)	Convert Ethane to Ethyne.
	(vii)	Write a note on the Acidity of Ethyne.
	(viii)	How is Acetylene prepared on industrial Scale?
	(ix)	How will you convert $\text{CH}_3\text{COOH} \longrightarrow \text{CH}_3\text{CH}_2\text{COOH}$
	(x)	Define Iodine Number.
	(xi)	What are Steroids? Draw the general structural formula of a Steroid.
	(xii)	Write down the structure of Cholesterol.
Q.No.4	(i)	Describe the Catalytic Oxidation of Benzene.
	(ii)	What information do we get from x-ray analysis of Benzene?
	(iii)	Write down four uses of Ethanol.
	(iv)	How Ethers are prepared by Williamson's Synthesis?
	(v)	Describe the reactivity of Carbonyl Functional Group.
	(vi)	How Alkanenitriles are prepared? Convert them to Carboxylic Acid.
	(vii)	What are essential and non-essential Amino Acids?
	(viii)	Name four components of Environment.
	(ix)	How Chlorofluorocarbons destroy the Ozone Layer?

Part - II

3 x 8 = 24

Q.No.5	(a)	Explain similarities of Hydrogen with Halogens and dissimilarities with Alkali Metals.	(4)
	(b)	Write a note on Aluminium Silicate.	(4)
Q.No.6	(a)	What will happens when : (i) Lithium Carbonate is heated (ii) Lithium Hydroxide is heated (iii) Lithium reacts with Nitrogen (iv) Lithium burns in air	(4)
	(b)	Give two methods for the preparation of : (i) Potassium Chromate (ii) Potassium Dichromate	(4)
Q.No.7	(a)	Define Functional Group. Write names of three functional groups that have Nitrogen Atom.	(4)
	(b)	How does Ethyl Magnesium Bromide react with followings : (i) $\text{CO}_2$ (ii) $\text{H}_2\text{O}$ (iii) $\text{CH}_3\text{CHO}$ (iv) Cyanogen Chloride	(4)
Q.No.8	(a)	Describe the Kolbe's Electrolytic Method for the preparation of Ethyne.	(4)
	(b)	What is Cannizzaro's Reaction? Give its mechanism.	(4)
Q.No.9	(a)	What are Symmetrical and Non-Symmetrical Ethers? Give any two preparation reactions of Ethers.	(4)
	(b)	Give the reaction Mechanism of Friedel - Craft : (i) Alkylation (ii) Acylation	(4)





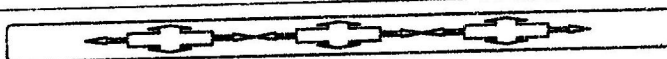


<b>Chemistry</b>	<b>(D)</b>	<b>L.K.No.1310</b>	<b>Paper Code No. 8488</b>
<b>Paper II</b>	<b>( Objective Type )</b>	<b>Inter - A - 2022</b>	<b>( Group 2nd )</b>
<b>Time :</b>	<b>20 Minutes</b>	<b>Inter ( Part II )</b>	
<b>Marks :</b>	<b>17</b>	<b>Session (2018 - 20) to (2020 - 22)</b>	

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.

BWP 92-22

Q.No.1	Keeping in view the size of Atoms , which order is the correct one :
(1)	(A) Mg > Sr (B) Ba > Mg (C) Lu > Ce (D) Cl > I
(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 metal is used in the Thermite process because of reactivity : (A) Iron (B) Copper (C) Aluminium (D) Zinc
(4)	Which one of the following does not belong to Alkaline Earth Metals : (A) Be (B) Ra (C) Ba (D) Rn
(5)	Hydrogen Bond is strongest between the Molecules of : (A) HF (B) HCl (C) HBr (D) HI
(6)	Formula of Chloroform is : (A) CH <sub>3</sub> Cl (B) CCl <sub>4</sub> (C) CH <sub>2</sub> Cl <sub>2</sub> (D) CHCl <sub>3</sub>
(7)	Which set of Hybrid Orbitals has planar triangular shape : (A) sp <sup>3</sup> (B) sp (C) sp <sup>2</sup> (D) dsp <sup>2</sup>
(8)	Which of the given is a typical transition metal : (A) Sc (B) Y (C) Ra (D) Co
(9)	Which of the following Acid can be used as a Catalyst in Friedel - Crafts reactions : (A) AlCl <sub>3</sub> (B) HNO <sub>3</sub> (C) BeCl <sub>2</sub> (D) NaCl
(10)	Cannizaro's Reaction is not given by : (A) Formaldehyde (B) Acetaldehyde (C) Benzaldehyde (D) Trimethyl Acetaldehyde
(11)	Which compound is more soluble in water : (A) C <sub>2</sub> H <sub>5</sub> OH (B) C <sub>6</sub> H <sub>5</sub> OH (C) CH <sub>3</sub> COCH <sub>3</sub> (D) n - Hexanol
(12)	Elimination Bimolecular Reactions involves : (A) First Order Kinetics (B) Second Order Kinetics (C) Third Order Kinetics (D) Zero Order Kinetics
(13)	Which Acid is used in the manufacture of Synthetic Fibre : (A) Formic Acid (B) Oxalic Acid (C) Carbonic Acid (D) Acetic Acid
(14)	Ozone Layer is present in range of : (A) 0 --- 5 Km (B) 10 --- 15 Km (C) 15 - 25 Km (D) 25 - 28 Km
(15)	Phosphorus helps the growth of : (A) Root (B) Leaves (C) Stem (D) Seed
(16)	The Fibre which is made from Acrylonitrile as monomer : (A) PVC (B) Rayon Fibre (C) Acrylic Fibre (D) Polyester Fibre
(17)	Major source of Acid Deposition in atmosphere is : (A) SO (B) SO <sub>2</sub> (C) SO <sub>3</sub> (D) N <sub>2</sub>



Note: It is compulsory to attempt any (8 - 8) Parts each from Q.No. 2, Q.No.3 and attempt any (6) Parts from Q.No.4. Attempt any (3) Questions from Part - II. Write same Question No. and its Part No. as given in the Question Paper.

Ans - 9 2 22

Make Diagram where necessary.

Part - I

22 x 2 = 44

Q.No.2	(i)	The Hydration Energies of the Ions are in the given order : $Al^{3+} > Mg^{2+} > Na^+$ give reason.
	(ii)	Ionic Character of Halides decreases from left to right in a period, comment.
	(iii)	Why is the Aqueous Solution of $Na_2CO_3$ Alkaline in nature ?
	(iv)	Give decomposition reaction of Lithium Carbonate and Lithium Nitrate.
	(v)	Give the Chemistry of Borax Bead Text.
	(vi)	How does Orthoboric Acid react with : (a) Sodium Hydroxide (b) Ethyl Alcohol
	(vii)	How does Nitrogen differ from other elements of its group ?
	(viii)	Write any four uses of Sulphuric Acid.
	(ix)	Write down any two uses of $KMnO_4$
	(x)	Define Paramagnetism and Diamagnetism.
	(xi)	What are Nitrogenous Fertilizers ? Give one example
	(xii)	Write down any four Calcareous material used for manufacture of Cement.
Q.No.3	(i)	What are Freons ? Write down their uses.
	(ii)	Write down the names and formulas of two Oxyacids of Chlorine.
	(iii)	Define Functional Group. Write name of functional group present in Aldehydes.
	(iv)	Why there is a no free rotation around a Carbon - Carbon Double Bond ?
	(v)	Why are Alkanes called Paraffins ?
	(vi)	What is Mustard Gas ? How it can be prepared ?
	(vii)	How is Acetylene prepared on Industrial Scale ?
	(viii)	How will you convert Ethyl Bromide into : (a) Ethylamine (b) Ethyl Acetate
	(ix)	Grignard reagent is considered as the most reactive compound. Justify it.
	(x)	Define Saponification. Give an example.
	(xi)	What is Acid Number ?
	(xii)	What are Trisaccharides ? Give an example.
Q.No.4	(i)	Write down the mechanism of Sulphonation of Benzene.
	(ii)	Write any four Ortho - para Directing Groups.
	(iii)	Ethyl Alcohol is liquid while Methyl Chloride is Gas . Give reason.
	(iv)	Why Absolute Alcohol can not be prepared by Fermentation Process ?
	(v)	What is Silver Mirror Test ?
	(vi)	What are Essential and Non - Essential Amino Acids ?
	(vii)	Give reaction of Acetic Acid with HI and $SOCl_2$ .
	(viii)	Write down four harmful effects of Acid Rain.
	(ix)	Define Biochemical Oxygen Demand ( BOD ).

Part - II

3 x 8 = 24

Q.No.5	(a)	Discuss four blocks in Modern Periodic Table.	(4)
	(b)	What are Silicones ? How are they produced ? Give properties.	(4)
Q.No.6	(a)	Mention the problems faced during the preparation of NaOH by diaphragm cell . Also give their solution.	(4)
	(b)	Briefly explain the given terms by giving example : (a) Chelates (b) Ligands	(4)
Q.No.7	(a)	Define Hybridization. Explain $sp^3$ Hybridization.	(4)
	(b)	Write any four methods of preparation of Alkylhalides.	(4)
Q.No.8	(a)	Describe the Kolbe's Electrolytic Method for the preparation of Alkanes along with mechanism.	(4)
	(b)	Explain Aldol Condensation reaction with the help of mechanism of Acetaldehyde.	(4)
Q.No.9	(a)	How Benzene can be prepared from : (i) Cyclohexane (ii) n - Hexane (iii) Sodium Benzoate (iv) Phenol	(4)
	(b)	Write a note on Acidic behaviour of Phenol .	(4)

