#### Test Paper Session 2017-18

CLASS 10

SUBJECT Chemistry Chapter-1 (Equations & Reactions)

#### Ans1 Respiration is considered as enothumic process because heat energy is evolved out during the 1 process of oxidation of food in respiration $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + Heat energy$ Magnesium ribbon be cleaned before burning because magnesium ribbon is covered with a 1 Ans<sub>2</sub> protective layer of basic magnesium carbonate to remove this protective layer ribbon should be cleaned. Balanced equation is a chemical equation in which an equal number of atoms of different elements 1 Ans3 in the reactants and products are present. BHA, BHT and Nitrogen 1 Ans4 Redox reaction is a reaction in which oxidation and reduction takes place simultaneously : 1 Ans5 Eq : CuO + H<sub>2</sub> $\xrightarrow{\text{heat}}$ Cu + H<sub>2</sub>O 2AaCl Sunlight 2Ag + Cl<sub>2</sub> 2 Ans6 When silver chloride is exposed to sunlight. White colur of AgCl changes to grayish white due to formation of silver metal. This reaction can be used in black and white photography. $CuO(s) + H_2(q) \rightarrow Cu(s) + H_2O(l)$ 2 Ans7 Reduced \_\_\_\_\_ CuO Oxidised — $H_2$ Oxidising agenet CuO Reducing Agent H<sub>2</sub>O Ans8 • Displacement Reaction 2 • $CuSO_4 + Zn \longrightarrow Cu + ZnSO_4$ a) Light Green – FeSO47H2O crystals. 2 Ans9 If FeSO47H2O crystals are heated then it changes to white colour due to evaporation of water of crystalisation. $2\text{FeSO}_4(s) \xrightarrow{\text{heat}} \text{Fe}_2\text{O}_3(s) + \text{SO}_2(g) + \text{SO}_3(g)$ Ans10 a) Evolution of gas b) Change in colour 2 $Zn + H_2SO_4$ $ZnSO_4 + H_2(q)$ • In this equation hydrogen gas is evolved out. a) Explain, with example how the physical states f the reactants and products can be shown in 3 Ans11 a chemical equation. b) Balance the equation and add state symbols : $Zn + HCI \longrightarrow ZnCI_2 + H_2$ c) Write balanced equation for : Sodium hydroxide reacts with sulphuric acid to produce sodium sulphate and water. $2H_{2}O_{2}$ $\rightarrow$ 2H<sub>2</sub>O + 2O<sub>2</sub> 3 Ans12 i) Decomposition reaction ii) $4Fe + 3O_2 \longrightarrow 2Fe_2O_3$ **Combination reaction** Al2 $(SO_4)_3$ + 6 NaOH $\rightarrow$ 2Al $(OH)_3$ + 3Na<sub>2</sub>SO<sub>4</sub> iii) Double displacement reaction 3 Ans13 i) $CO_2$ $H_2O$ ii) iii) Sunlight iv) Chlorophyll and Green leaves Zn and Mg – Two metals like X 3 Ans14 a) HCI and H2<sub>s</sub>O<sub>4</sub> – Two acids like Y b) $Z = CO_2$ $Zn + 2HCI \longrightarrow ZnCI_2 + H_2$

Ans15	i)	PbSO <sub>4</sub> lead Sulphate	3
	ii)	Pbl <sub>2</sub> lead lodide	
	iii)	Double displacement reaction	
Ans16	i)	Mg- X	5
		MgO – Y	
	ii)	Oxygen	
	iii)	Mg( OH) <sub>2</sub> It can be used as an acid	
	iv)	$2Mg + O_2 \xrightarrow{heat} 2MgO$	
		MgO + $H_2O \longrightarrow Mg(OH)_2$	
Ans17	i)	A is KClO <sub>3</sub> , potassium Chlorate	5
	ii)	B is KCI, potassium chloride	
	iii)	C is O2, oxygen	
	iv)	X is MNO2 act as catalyst to increase the rate of reaction.	
	v)	Catalyst	
Ans18	i)	X = CuO	5
	ii)	$Y_2 = H_2$	
	iii)	XO = CuO	
	iv)	$XO+Y_2 \longrightarrow X+Y_2O$	
		$CuO + H_2 \longrightarrow Cu + H_2O$	
	v)	Redox reaction	
Ans19	i)	Combination Reaction	5
	ii)	Decomposition Reachtion	
	iii)	Hydrogen gas due to more no of moles of hydrogen	
	iv)	Cathode reaction : $2H^+$ + $2e^- \rightarrow H_2$	
		Anode reaction :	
		$20^{2} \longrightarrow 0_2 + 4e^{-1}$	
Ans20	i)	CuSO <sub>4</sub>	5
	ii)	Blue colour	
	iii)	Double displacement reaction	
	iv)	$CuSO_4 + H_2S \longrightarrow CuS + H_2SO_4$	

#### Test Paper Session 2017-18

	CLASS 10 SUBJECT Chemistry Chapter-2 (Acids Base and Salts )			
Ans1	(0, 4) as released with effervences (14)	1		
	$C_2(N_1) = C_2(N_2)$			
	$\begin{array}{c} cacco_3 + rmo_3 \\ calcium \\ calcium \\ calcium \\ (1/6) \end{array}$			
	Carbonate in end shell Nitrate			
	Fag shell slowly dissolve in HNO <sub>2</sub>			
Ans2	Column A Column B	1		
711132	a) Lactic Acid Curd			
	b) Acetic Acid Vinegar			
	c) Citric Acid Lemon			
	d) Oxalic Acid Tomato $\frac{1}{4}X4 = 1$			
Ans3	Formic acid – HCOOH (½)	1		
	To use mild Buse Like Baking Soda for relif. (½)			
Ans4	a) Fresh milk is slightly acedic, it turns sour easily to become more acedic. In presence at	1		
	baking soda its PH increases and it does not turn into curd easily.			
	b) When the milk set for curd PH decreases i.e., it becomes more acedic. In presence of alkali it			
	does not become more acedic easily.			
Ans5	Strong Acids : Those acids are easily release H <sup>+</sup> in solution.	1		
	Examples : H <sub>2</sub> SO <sub>4</sub> , HCI			
	Strong Base : Those release hydroxide in solution easily.			
	Example : KOH, NAOH			
	Strong Acid : Hydrochlaric acid, sulphuric acid Nitric acid			
	Week acids. Citric acid, Acetic acid,			
Ans6	Lime water become milky. When excess of $CO_2$ is passed clear solution is formed.	1		
	$Ca(COH)_2 + CO_2 \longrightarrow CaCO_3 + H_2O$			
	Lime water Calcium Carbonate Milky Suspension.			
	$(ps)_{a}(-0)H(2s) \longrightarrow (-0)_{a}(-0)H(2s)$			
	Calcium carbonate Calcium bicarbonate (Soluble)			
Ans7	a) Neutral	3		
7 (1157	b) $PH = -Ion [H^+]$	Ŭ		
	$PH = -\log [1x \ 10^{-2}]$			
	$PH = -(-2 \log 1)$			
	PH = 2			
	c) 1 M NaOH has higher PH value.			
Ans8	Copper vessel is tarnished due to copper oxide layer farmed on its surface. Copper oxide is basic in	3		
	nature.			
	$2Cu(s) + \underline{CO_2(g) + O_2(g) + H_2OCI} \longrightarrow$			
	From moist air CuCO <sub>3</sub> . Cu(OH) <sub>2</sub> Basic copper carbonate (Green)			
	Lemon is acedic due citric acid present its it. The basic copper oxide react with this citic acid and			
	form a salt which washed away with water.			
Ans9	a) When metal oxide react. With acid it gives metal salt and $H_2O$ .	3		
	b) MgO + 2HCI $\longrightarrow$ MgCI <sub>2</sub> + H <sub>2</sub> O	-		
Ans10	a) $Zn(s) + H_2SO_4(aq) \longrightarrow ZnSO_4(aq) + H_2 + Cnso_4(aq) + Cnso_4(aq) + H_2 + Cnso_4(aq) +$	3		
	b) $2AI(s) + 3H_2SO_4(aq \longrightarrow AIs(SO_4)_3 + 3H_2 \clubsuit$			
	c) $re(s_ + 2HCI (aq) \longrightarrow reCI_2 (aq) + H_2 \blacktriangle$			

Ans11	i) $CaCO_3 \frac{1}{2} H_2O + \frac{11}{2} H_2O \longrightarrow CaCO_3 .2H_2O$	3	
	Plaster of Paris Gypsum		
	ii) $Zn + 2NaOH \longrightarrow Na_2ZnO_2$		
	Sodium Zincate + H <sub>2</sub>		
	iii) Mg + 2 CH <sub>2</sub> COOH $\longrightarrow$ (CH <sub>3</sub> COO) <sub>2</sub> Mg + H <sub>2</sub> $\bigstar$		
1. 10	Magnesium Acetate.		
Ans 12	In test tube A fizzing occurred more vigorously because HCI is strong acid and it releases H <sup>+</sup> more	3	
	easily therefore fizzing occurred due to dormation of the gas in test tube A immediately.		
	$Vig + 2HCI \longrightarrow VigCL_2 + H_2 \uparrow$		
Ans13	a) Baking nowder (NaHCO3) + tartric and citric acid. On beating NaHCO3 demonsors to give	3	
A11313	out CO2 which causes the bread or case to rise. Na2CO3 is also formed which is neutralized	5	
	by tartric acid. If only NaHCO3 is heated its convert into Na2CO3, which has hitter taste (1)		
	b) Baking Soda can be converted into baking powder by mixing it with appropriate amount of		
	tartric acid or citric acid. (1)		
	c) Tartaric acid neutralizes the Na <sub>2</sub> CO <sub>3</sub> formed on heating NaHCO <sub>3</sub> so that the cake will not		
	taste bitter.		
Ans14	a) CuSO <sub>4</sub> . 5H <sub>2</sub> O and (Blue) (½)	3	
	CuSO <sub>4</sub> (Colourless) (½)		
	b) CaOCl <sub>2</sub> Calcium oxychloride (½)½)		
	c) Na <sub>2</sub> CO <sub>3</sub> .10H <sub>2</sub> O		
Ans15	a) The excess of acid in Stomach by spicy food is neutralized easily by NaHCO3 (due to	3	
	alkaline nature). Hence it is ingredient of ant acid medicine.		
	b) In soda acid fire estinguisher, a solution of NaHCO <sub>3</sub> + H <sub>2</sub> SO <sub>4</sub> Placed in an iron cylinder fitted		
	with a nozzle. When knob is pressed the boHle breaks and acid mixes into NaHCO <sub>3</sub> , that		
	releases $CO_2$ gas for extinguishes fire.		
	c) IN making of certain food stuff such as bread, cake etc. Where softness and fluffiness is		
	which causes the extinguish the fire		
Apc16	a) Alkai : aro biably soluble in water (16)	2	
AIISTO	a) And the my my soluble in water ( $\frac{72}{2}$ ) Eq. NaOH KOH etc. (16.)	3	
	b) Lowering the PH cause of acidic nature of mouth that cause of optimum growth of bacteria		
	and tooth decay (%)		
	Using alkaline toothpaste. (½)		
	c) Bee sting contain formic acid (HCOOH) which cause of irritation. NaHCO <sub>3</sub> neutralize it.		
	hence; rubbing of NaHCO <sub>3</sub> relief sting area.		
Ans17	The solution of NaHCO3 is alkaline due to formation of NaOH due to salt hydrolysis. (½)	3	
	NaHCO <sub>3</sub> + $H_2O \longrightarrow$ NaOH + $H_2CO_3$		
	Sodium Hydroxide Carbonic acid		
	Strong Acid Weak Acid		
	$2NaHCO_3 \longrightarrow Na_2CO_3 + H_2O + CO_2$		
	On heating it gives $Na_2CO_3$ and releases $CO_2$ gas. (1 ½)		
Ans18	X = NaOH		
	Sodium Hydroxide		
	Reactions of Unior-alkali process : 2 NaUI(aq) + $2H_2U \xrightarrow{\circ \cdots}$ 2NaUH + $U_2$ + $H_2$ .		
	Passing electricity		
	occurred which is explosive. Therefore, it is suggested that slowly acid add in water not water in		
	acid		
Ans19	Discussion : The bulb is found to glow in case of acid but in case of glucose and alcohol bulb does	5	
1	set in the set of and set in the of a set in the of a set in the s	<u> </u>	

	not glow.	
	Conclusion : As electric current is curled through the solution by ions, this shows that acids dissociate in solution to produce (H <sup>+</sup> ) ions. But substance like glucose and alcohol do not dissociate to give U <sup>±</sup> ions and hence are not ecidia. Thus, U <sup>±</sup> ions recomposible for the conditionations.	
Ans20	a) A) Eactory Indicator: Inform about reaction completion by small. Eq. Onion. Vanilla essence	Б
AIISZU	A) A) racioly indicator, inform about reaction completion by smell, Eg. Onion, varina essence	5
	b) Organic Acid: CH_COOH	
	c) Blue colour of conner sulphate is due to the presence of hydrated water	
	Cuso, 5H-O	
	One heating hydrated water evaporated and copper sulphate become colourless. $CuSO_4 + 5H_2O \longrightarrow CuSO_4 + 5H_2O$	
A == - 0.1	Colouries	-
Ans2 I	a) Tap water contain minerals that cause of Tonic nature, Hence it conducts electricity	5
	However, tap water do not nave any mineral.	
	b) Dry HCI gas not release H Ion in the absence of moisture without H Ion items not change	
	Its colour.	
	c) Animonia is a Lewis base that have pair of free electron and with water give NH4OH that	
	d) Paking Soda increases DH of milk and it provents surd formation	
	u) Daking Soud increases PH of finik and it prevents curu formation.	
	e) Addition of water in hzso4 is cause of hydrate formation. Which is highly explosive, hence it is suggested that slowly adds acid (H2SO4) in water not water in acid	
Apc22	Compound V is any acid such as HCL H2SO4 or HNO2	Б
AIISZZ	compound x is any actu such as $\pi c_1, \pi c_2 = 0$ or $\pi h c_2$	5
	a) $\log + 2 \operatorname{HC}^{-1} = \log \operatorname{C}^{-1} \operatorname{HC}^{-1}$ b) $\operatorname{H2}^{-1} \operatorname{HC}^{-1} = \operatorname{HC}^{-1} \operatorname{HC}^{-1}$	
	c) $\Lambda 12\Omega_3 + 6\Pi C1 = 2\Lambda 1C13 + 3\Pi O (c)$	
	c) Al2OS + OHCI $\rightarrow$ ZAICIS + SH <sub>2</sub> O (c)	
	Name of A – Magnesium Chloride	
	B Sodium Chlorido	
	C Aluminium Chlorido	
Apc22	C- Aluminium Chloride a) When a acid react with a base it give salt and water which has pH (7). This water which as	Б
AIISZO	a) when a doubleact with a base it give sait and water which has pin – (7). This water which as	5
	NaOH + HCl $\sim$ NaCl + H <sub>2</sub> O	
	PH = 7	
	b) Acidic Salt : Combination of strong acid and weak buse HCLNH, $OH$ NH, $CL + H_{0}O$	
	$\Delta$ ridic salt . combination of strong acid and weak buse. For why one why one why a cidic salt	
	c) Basic Salt : Combination of strong base and weak acid. Having PH slightly more than 7	
	NaOH $CH_2COOH$ $CH_2CONA + H_2O$ Sodium Acetate Basic salt	
	d) Neutral Salt · Combination of strong acid and strong base baying PH 7	
	NaOH +HCI NaCI + H <sub>2</sub> O	
Ans24	a) Tooth decay : The enamel on our teech is desolve due to low PH of mouth (<5.5). Because	5
	enamel formed by calcium phosphate which dissolve by acid produce by bacteria.	
	b) Digestive system : It contain dilute HCI which is not harmful but maintain the PH of	
	stomach 2-3 that helpful in digestion of food.	
	c) Self defense at animal and plant by chemical welfare : Some animal and plant contain some	
	acidic and basic substance in their string which helpful for self defense and cause irritation	
	on human body. Eg: Honey bee or yellow ant for ac id. Netl plant Formic acid.	
	d) Regaining shine at a tarnishing copper vessels : A copper vessel get tarnished due to	
	formation of an oxide layer on its surface. When rub with lemon, the surface inclined due to	
	formation of salt. Because copper oxide layer is basic in nature and lemon contain citric	
	acid.	
Ans25	<7	1
Ans26	Aqua Regia	1
Ans27	C <sub>2</sub> H <sub>5</sub> OH	1

Ans28	Vanilla Essence	1	
Ans29	a) Washing Soda b) Bleaching Powder c) Baking soda d) Slaked Line	1	
	A) (i) & (ii) B) (i), (ii) & (iii) c) (i) & (iii) d) (i), (iii) & (iv)		
Ans30	Water < Acetic Acid < Hydrochloric Acid	1	
Ans31	Baking Soda	1	
Ans32	Lime Juice	1	
Ans33	a) $H_3O^+$ + $CI^-$	1	
Ans34	Corrosive and flammable.	2	
Ans35	When marble (calcium carbonate) react with acid it releases $CO_2$ gas.	2	
	$CaCO_3 + 2HCI \longrightarrow CaCI_2 + H_2O + CO_2$		
	When excess of CO <sub>2</sub> is passed through lime water it again become colourless (dissolved) due to		
	formation of calcium hydrogen carbonate.		
	$CaCO_3 + H_2O + CO_2 \longrightarrow CaCHCO_3)_2$ Soluble.		
Ans36	a) acetic acid should not be inhale due to pugent odour.	2	
	b) It should be prevent from direct touch.		

## Test Paper Session 2017-18

#### <u>CLASS 10</u>

# SUBJECT Chemistry Chapter-3 (Metals and Non-Metals)

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	B siemove Could dissolved air	
Ans10	<ul> <li>a) These metals are inert in nature and existing free form without formation of oxide.</li> <li>b) The metal is highly reactive and immediately react with light element like H, O, N etc. Therefore stored in kerosene oil.</li> <li>c) Aluminium easily combined with oxygen to form a layer of aluminium oxide. This layer</li> </ul>	
Ans11	Zn, Al,Na etc - more reactive than sodium Ag, Au – less reactive than sodium.	
Ans12	<ul> <li>Ag, Au – less reactive than solutin.</li> <li>a) Roasting : That is the heating of ore strongly in the presence of air. The metal sulphide is converted into metal oxide along with evolution of evolution of sulphure dioxide gas Metal sulphide + O<sub>2</sub> <sup>roasting</sup> Metal oxide + SO<sub>2</sub></li> <li>b) Smelting : A process by which a metal is obtained from its ore by heating beyond melting point ordinarily in the presence of oxidizing agents, such as air and reducing agents such as coke.</li> </ul>	
Ans13	<ul> <li>a) Na is more reactive than copper so it gives displacement reaction.</li> <li>b) Fe more reactive than Ag hence it gives displacement reaction.</li> <li>c) Ag more less than copper hence it not gives displacement reaction.</li> </ul>	
Ans14	By Smelting or reduction process applied to obtain metal from metal oxide in this form coke or coal is used. Which react with metal oxide to form carbon monoxide. $Fe_2O_3(s) + 3C(s) \xrightarrow{heat} 2Fe(s) + 3CO(g)$ Ferric oxide Heamatite Coke Iron -ore of Fe ZnO(s) + C(s) $\longrightarrow$ Zn(s) + Co(g) Zinc carbon monoxide	3

Ans15	N) ·	3
a)	$[Nq_{1} \rightarrow 2, 8, 1]$	
	Na Na	
	OB= 276 of rither end	
	Mg12 - 2,8,2	
	lo. mg.	
h)	Pormation of Nasc.	
	Na. Too	
	$O_{\circ} \longrightarrow Nq$	
	Na hat o	
	11-20-De transmission and the cay	
	Portion of Made	
	toporturior of the Cax	
	$m_{2}$ , $O_{\lambda}$ $\longrightarrow m_{2}$ ; $O_{\lambda}$	
	O AN LXX	
c)	In Na <sub>2</sub> O ions present are sodium cation (Na <sup>+</sup> ) and oxide anion (O <sup>2-</sup> ).	
	In MgO ions present are Mg <sup>2+</sup> and O <sup>2+</sup> anion.	
Ans16	a) A can be displace Cu, B can be displace Fe, C can displace Ag, As order of reactivity of Cu, Fe	3
	and Ag.	
	Fe>Cu>Ag Hence B is most reactive.	
	b) As B is more reactive than copper, it will displace Cu from CuSO <sub>4</sub> . Hence blue colour of	
	copper suprate will rade.	
	c) B can displace re, A can displace cu, c can displace Ay and D ca displace none. The order of reactivity will be $B > A > C > D$	
Ans17	a) Allovs · Allovs are homogenous mixture of two or more metal for examples · Steel · 0.05	3
7	carbon. Stainless steel : Iron 74%, Chromium 18% and Nickel 8%.	Ū
	b) Metal such as Au and Pt which Lie below in the activity series are highly un-reactive.	
	Therefore they are not attracted by atmospheric gases and moisture and not corrode.	
Ans18	a) Minerals : The naturally occurring chemical substances in form of which the metal occur in	3
	the earth along with imparities are called minerals.	
	b) Ore : The minerals from which the metal can be extracted conveniently and economically is	
	called an ore.	
	c) Gangue : The earthy, sandy and rocky imparities associated with the mineral are called	
Apo10	gangue or matrix.	-
ANSTA	a) when suppur burnt, it produces suppur dioxide gas. $S(c) + O_1(a) = s = SO_1(a)$	Э
	b) There is no action of dry SO <sub>2</sub> on litmus	
	c) The gas dissolves in water present in moist litmus paper to form sulphurous acid ( $H_2SO_2$ )	
	which turns blue litmus red.	
	$SO_2(g) + H_2O(I) \longrightarrow H_2SO_3(aq)$	
Ans20	Amphoteric Oxide : Oxides which react with both acid and bases to form salt and water are called	5
	Amphoteric Oxide.	
	Ex : Zinc oxide (ZnO)	
	Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	
	$ZnO + 2HCI \longrightarrow ZnCl_2 + H_2O$	
	$ZnO + 2NaOH \longrightarrow Zn(OH)_2 + H_2O$	
	Zinc Hydroxide	

	Al <sub>2</sub> O <sub>3</sub> (s) + 6HCl → 2AICl <sub>3</sub> +	3H <sub>2</sub> O			
	Aluminium Chloride				
	$AI_2 O_3(s) + 2NaOH \longrightarrow 2NaAIC$	0 <sub>2</sub> (aq)			
	Sodium Aluminates			_	
Ans21		Metal	Non Metal	5	
	Nature	Electropositive	Electronegative		
	Nature of oxide				
		$4Na + O_2 \rightarrow Na_2O$	$4Na_2+O_2+2H_2O = 4HNO_3 ACIO$		
	Poaction with water	$Na_2O + \Pi_2O$ = 2NaOH base	Do not react with water		
	Reaction with water	Displace in Itolii watei	evcent		
		For Na K. Ca	flarine		
	Reaction with dilacid	Displace H from acid	Do not react with dil acids		
		$7n + H_2SO_4 \rightarrow 7nSO_4 + H_2$			
	Oxidising and reducing	Reducing agent due to strong	Oxidising agent due to strong		
	behaviour	tendency to donate electron	tendency to accept electron		
		2Na → 2Na <sup>+</sup> + 2e <sup>-</sup>	$CI_2 + 2e^{-2}$ $2CI^{-1}$		
Ans21	a) On dipping in HNO <sub>3</sub> , the	surface of AI is oxidizing to form	an oxide layer at AI2O <sub>3</sub> , which is	5	
	hard and impervious. It a	icts as a protective layer for Al ur	nderneath. Hence, reactivity of Al		
	decreases .				
	b) Na or Mg are highly reac	tive metals. They have greater af	finity for oxygen than for carbon.		
	Hence their oxides are stable to reduce them with carbon, very high temperature is				
	required. At this tempe	rature, these metals react with	a carbon to form corresponding		
	carbides.				
	c) The conduction of electricity is due to movement of ions in the solid state, Na+ and Cl				
	and CL ions are tree to m	ove about and hence conduct ele	ctricity		
	d) Galvanisation means coa	ting of iron articles with layer of	f zinc. Zinc is more reactive than		
	iron Hence it undergoes	s oxidation more rapidly than iror	As a result iron articles remains		
	protected.				
	e) These metals are highly	reactive and react with gases pr	esent in the air. Hence, they are		
	found us compounds in the	ne ores and not in the free state in	n nature.		
Ans22	a) When copper glance (Cu	$\mu_2$ S) an ore of copper, is subject	ted to roasting, it directly gives	5	
	copper according to the f	ollowing reactions :			
	$2Cu2S(s) + 3O_2(g)$	$2 Cu_2O(s) + SO_2$			
	b) Deduction of company	Copper(I) oxide			
	b) Reduction of copper :				
	20020 + 0023	$\rightarrow$ 0Cu + 230 <sub>2</sub>			
	c) Electrolytic Refining · The	process of purifying the impure	(Crude metal) is called refining of		
	metal.	· · · · · · · · · · · · · · · · · · ·	(•••••••••••••••••••••••••••••••••••••		
	d) Electrolytic Refining of Co	opper : The block of impure coppe	er is made the anode. A thin plate		
	of pure copper is made the cathode. A solution of copper sulphate acidified with dilute				
	sulphuric acid is taken as	the electrolyte in the electrolytic	bath. On passing electric current		
	pure copper from the an	ode passes into the solution as C	u <sup>++</sup> ions. An equivalent amount of		
	copper ions form the solu	ition are deposited on the cathod	e as pure copper.		
	At Anode Cu (s)	• $Cu^{2+}$ (aq) + 2e <sup>-</sup>			
	At Cathode Cu <sup>21</sup> (aq) + 2e				
				1	

Ans23A = sodium which burns with golden flame in air. It reacts with chlorine (Z = 17) to form sodium chloride. 2Na + Cl25 $2Na + Cl2 \longrightarrow 2NaCl(s)$ Hence B = Chlorine C = Sodium Cloride 2NaCl (aq) + 2H20 $2NaOH + Cl2 + H2$ Electrolysic 2NaOH + Cl2 + H2 Hence D = NaOH - Sodium Hydroxide1Ans24a) Soft and Dull1Ans25d) Anywhere on the nail1Ans26a) Zince is the most active metal followed by iron and copper.1Ans27d) Iodine1Ans28d) Iodine1Ans30a) Ductility1Ans31c) HNO31Ans32c) Conc. HCI: Conc HNO3331Ans33a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax. b) The wire does not melt even after heating for long time, this show that metal have high melting point.2Ans34a) Mg reacts most vigorously followed by Al, Zn and Fe and copper did not react at all. b) The maximum rise in temperature in case of Mg.2Ans35The order of reactivity with dilute HCl is : M0 > Al> Zn > Fe>Cu2		Andre Charles and	
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Link + Cl22 ExercisesHence B = Chlorine C = Sodium Cloride 2NaCl (aq) + 2H2OElectrolysis 2NaOH + Cl2+ H2 Hence D = NaOH - Sodium Hydroxide1Ans24a) Soft and Dull1Ans25d) Anywhere on the nail1Ans26a) Zince is the most active metal followed by iron and copper.1Ans27d) Zince is the most active metal followed by iron and copper.1Ans28d) lodine1Ans29B) (ii) & (iii)1Ans30a) Ductility1Ans31c) HNO31Ans32c) Conc. HCl: Conc HNO33a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax. b) The wire does not melt even after heating for long time, this show that metal have high melting point.2Ans34a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all. b) The maximum rise in temperature in case of Mg.2Ans35The order of reactivity with dilute HCl is : Mg > AI> Zn > Fe>Cu2			
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2NaCl (aq) + 2H2O       Electrolysis       2NaOH + Cl <sub>2</sub> + H <sub>2</sub> Hence D = NaOH       - Sodium Hydroxide       1         Ans24       a)       Soft and Dull       1         Ans25       d) Anywhere on the nail       1       1         Ans26       a)       Zince is the most active metal followed by iron and copper.       1         Ans27       d) Zince aluminium       1       1         Ans28       d) Iodine       1       1         Ans29       B) (ii) & (iii)       1       1         Ans30       a)       Ductility       1         Ans31       c) HNO <sub>3</sub> 1       1         Ans32       c) Conc. HCl       : Conc HNO <sub>3</sub> 1         Ans33       a)       We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by Al, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al > Zn > Fe>Cu       2		C = Sodium Cloride	
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Ans25       d) Anywhere on the nail       1         Ans26       a) Zince is the most active metal followed by iron and copper.       1         Ans27       d) Zinc & aluminium       1         Ans28       d) Iodine       1         Ans29       B) (ii) & (iii)       1         Ans30       a) Ductility       1         Ans31       c) HNO3       1         Ans32       c) Conc. HCI       : Conc HNO3       1         Ans33       a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al> Zn > Fe>Cu       2	Ans24	a) Soft and Dull	1
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Ans27       d) Zinc & aluminium       1         Ans28       d) Iodine       1         Ans29       B) (ii) & (iii)       1         Ans30       a) Ductility       1         Ans31       c) HNO <sub>3</sub> 1         Ans32       c) Conc. HCI       : Conc HNO <sub>3</sub> 1         Ans33       a) We observe that on heating the wire near the clamp, after some time the pin falls down.       2         Ans33       a) We observe that on heating the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b) The order of reactivity with dilute HCI is :       Mg > AI > Zn > Fe > Cu       2	Ans26	a) Zince is the most active metal followed by iron and copper.	1
Ans28       d) lodine       1         Ans29       B) (ii) & (iii)       1         Ans30       a) Ductility       1         Ans31       c) HNO <sub>3</sub> 1         Ans32       c) Conc. HCI       : Conc HNO <sub>3</sub> 1         Ans33       a) We observe that on heating the wire near the clamp, after some time the pin falls down.       2         Ans33       a) We observe that on heating the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al > Zn > Fe>Cu       2	Ans27	d) Zinc & aluminium	1
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Ans31       c) HNO3       1         Ans32       c) Conc. HCI       : Conc HNO3       1         3       3       1       1         Ans33       a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al> Zn> Fe>Cu       2	Ans30	a) Ductility	1
Ans32       c)       Conc. HCI       :       Conc HNO3       1         3       3       1       1       1         Ans33       a)       We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.       2         b)       The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a)       Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b)       The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCI is : Mg > AI> Zn > Fe>Cu       2	Ans31	c) HNO <sub>3</sub>	1
Ans33       a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.       2         b) The wire does not melt even after heating for long time, this show that metal have high melting point.       2         Ans34       a) Mg reacts most vigorously followed by AI, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al> Zn> Fe>Cu       2	Ans32	c) Conc. HCI : Conc HNO <sub>3</sub> 3	1
Ans34       a) Mg reacts most vigorously followed by Al, Zn and Fe and copper did not react at all.       2         b) The maximum rise in temperature in case of Mg.       2         Ans35       The order of reactivity with dilute HCl is : Mg > Al> Zn> Fe>Cu       2	Ans33	<ul><li>a) We observe that on heating the wire near the clamp, after some time the pin falls down. This shows that heat flows through the wire and melts the wax.</li><li>b) The wire does not melt even after heating for long time, this show that metal have high melting point</li></ul>	2
Ans35       The order of reactivity with dilute HCl is :       2         Mg > Al> Zn> Fe>Cu       2	Ans34	<ul> <li>a) Mg reacts most vigorously followed by Al, Zn and Fe and copper did not react at all.</li> <li>b) The maximum rise in temperature in case of Mg.</li> </ul>	2
	Ans35	The order of reactivity with dilute HCl is :	2

## Test Paper Session 2017-18

Ans1	CH3 CH2 CO CH3 OF H-C+C-C-C-H	1
Ans2	Detergents are reacts hard as well soft water and form leather however soap not form leather with hard water.	1
Ans3		1
Ans4	$\begin{array}{c} (6H) H - H H H H H H H H H H H H H H H H H$	2

Ans5	a) Pentanoic acid (1) b) Butyne (1)		2
Ans6	Suponification : when long chain fatty acids reacts with alkai (like NaCH or KOH) etc, it givessoap and glycerol. Therefore, the process is known as saponification. Eg : RCH <sub>2</sub> COOH + NaOH $\longrightarrow$ RCH <sub>2</sub> COONa + H <sub>2</sub> O Long chain fatty acids		2
Ans7	Hydrocarbon : The compounds contain only hydrogen and carbon are known as hydrocarbons.		
	Saturated		
	a) They contain only single bonds.	<ul> <li>a) They formed multiple bonds – Double or Triple</li> </ul>	
	b) Do not give addition reactions	<ul> <li>b) Give addition reactions with hydrogen and halogens.</li> </ul>	
	c) Eg : CH <sub>4</sub> , C <sub>2</sub> H <sub>6</sub> , C <sub>4</sub> H <sub>10</sub> etc	c) Eg : $C_2H_4$ , $C_3H_6$ , $CH_2$ etc	
Ans8	<ul> <li>a) Oxidation : Addition of oxygen ore remova Eg : 2Mg+ O<sub>2</sub> → 2MgO</li> <li>b) Combustion Reaction : burning of coal or I produce large amount of heat is known as CH<sub>4</sub> + O<sub>2</sub> → CO<sub>2</sub> + 2H2O + Keat C + O<sub>2</sub> → CO<sub>2</sub> + Heat</li> </ul>	al of hydrogen is known as oxidation. nydrocarbon in the presence of air oxygen that combustion.	3
Ans9	a) $CI17 = 2,8,7$ b) Dot structure of chlorine – $CI_2$ and $CO_2$	x + x + x + x + x + x + x + x + x + x +	3
Ans10	a) – iv b) – i c) – ii d) – iii		3
Ans11	$\begin{array}{llllllllllllllllllllllllllllllllllll$	The general formula bet they differ by methylene al behaviour are known as homologus. $\label{eq:24} \begin{split} & \mathcal{L}_2 \\ & \mathcal{L}_2 \\ & \mathcal{L}_2 \\ & \mathcal{L}_4 \\ & \mathcal{L}$	3
Ans12	Micelle Formation : When soap is at the surface of water, its non polar hydrophobic hydrocarbon		
	and win not alsolve in water, instead the soup if	is is survey with any indiring the surrace of watch with	

-							
	their polar hydrophilic heads in water and the non polar hydrophobic hydrocarbon tails protruding out of water. The process is known as micelle formation.						
	3355 Nat Nat Nat						
	2333 0	2 0 +					
		S an Na					
	-063 M2 7 2 2 1 mme						
	Nat nzo ENat						
	micelle formed by soap.						
No, micelle formation does not take place in ethanol because the alkyl chain of soap becomes							
Ans13	$C_3H_6, C_2H_2$ react with Hydrogen because they an	e unsaturated hydrocarbon.	3				
	CZHG, C2H2 Stee	the Ation to					
	Hydrogen abre do be	concle they					
	and incaturated bude	accaban.					
	H ONSATURATE TOTAL	HH					
	H N'I						
	WC=C + H2 -	J H-C-C II					
		M H					
	Ethene.						
	CO T F ja						
	$H-C \equiv C-H + 2H2 \longrightarrow H-C-C-H$						
	Ethyne & 4						
		ethane					
Ans14	Ethanol	Carboxylic Acid	3				
	a) Ethanol does not give litmus test.	a) Carboxylic acid turns blue litmus into					
		hydrogen					
	b) It does not give test with NaHCO3	b) It gives bubbles of $CO_2$ with reaction of					
Ans15	Carbon does not form ionic compounds because :	NaHCO <sub>3</sub> .	3				
	a) It cannot gain 4e- to from C <sup>4-</sup> ion because	e this onion would be highly unstable due to large	U				
	amount of energy required to overcome t	the forces of repulsion between the four electrons					
	being added.						
	b) It cannot lose 4e- to form C <sup>4+</sup> ion because this would be highly unstable due to the large						
	<b>Catenation</b> : The unique property of self linkin	g of carbon atoms through covalent bonds to form					
	long straight or branched chains and rings of c	Jifferent sizes is called catenation.					
	Tetravalency : A carbon atom has four valence	e electron and needs four electrons to form noble					
	gas configuration of Neon, due to this it show mutual sharing. Therefore, carbon forms four						
Ans16	Scum : Soap reacts with Ca++ and Ma++ ions	present in heard water and form curdy white	3				
	precipitates of calcium and magnesium slats of fal	ity acid called scum.	Ŭ				

	$2 C_{14}H_{35}COONa + Ca^{++} \longrightarrow (C_{17}H_{35}COO)_2 Ca + 2Na^{+}$		
	$2C_{17}H_{35}COONa + Mg^{++} \longrightarrow (C_{17}H_{35}COO)_2 Mg + 2Na^+$		
	Magnesium Stearate		
	Advantage of synthetic detergent over soap.		
	Detergents lower the surface tension of water to a greater extent than soaps and hence detergents are better cleansing agent than water		
Ans17	H H H H H C	3	
711517	(i) $H = C - C - C - C - C - OH$	5	
	H H H H OS		
	CH3CH2CH2CH2CH2COOH.		
	y Cl H H O		
	$(m) \cdot 1 + c - c - c - c - H = 0$		
	H CH3H OX		
	CH3 CH(CR) CH(CH3) CH2 CHO		
	THE HAR HAR D		
	(10) $H$ $C$ $ C$ $  C$ $  C$ $  C$ $         -$		
	H H M CH3 CO		
	CH3-CH2CH2COCH(CH3)Ch3		
Ans18	a) Ni is a catalyst. It adsorbs hydrogen molecule on its surface as hydrogen atom then the		
	alpine molecule side by side two hydrogen atoms then adds across the double bond of the		
	alkene to form the addition product i.e. 2,3 dimenthyl butane.	2	
	1 1 03 North Cha	5	
	NI + H2 NI CH2		
	cheyt nc cm		
	he com		
	+ MS C-C-CHO		
	ng h h cho		
	1/		
	TNI		
	b) Since it is an equilibrium reaction, therefore conc. $H_2SO_4$ . Increase the rate of the forward		
	(catalyst) (catalyst)		
	c) Alkaline KMnO₄ acts as an oxidizing agent and oxidizes ethanol to ethanoic acid.		
Ans19	a) When $CO_2$ passed through column of calcium hydroxide solution (tests tube B) i.e. lime	3	
	water, it turns milky due to the formation of insoluble calcium carbonate (CaCO3)		
	Sodium Carbonate Ethanoic acid Sodium ethanoate		
	Tube B : $CaCOH_2 + CO_2 \longrightarrow CaCO_3 + H_2O$		
	Calcium hydriade Calcium Carbonate		
	c) IT ethanol is taken instead of ethanoic acid, no change will occur because ethanol is a very weak acid and hence cannot decompose Na <sub>2</sub> CO <sub>2</sub> to give CO <sub>2</sub> gas		
	$CH_{2}CH_{2}OH + Na_{2}CO_{2} \xrightarrow{X} \rightarrow No Reaction$		
	d) Quick lime (CaO) is added to water in a test tube. Some of it will dissolve to form calcium		
L		1	

	hydroxide (lime water) while majority of it remains suspended. Filter the solution. The clear solution thus obtained is called lime water. CaO(s) + H <sub>2</sub> O(I)> Suspesion> Ca(OH) <sub>2</sub> Lime Water Quick lime	
Ans20	(20).       Isomeons of C3HcO.       Cyclic.       (3).         (i)       CH3-C-CH3       (i)       O-CH2         Propensor.       CH2-CH2       CH2-CH2         (ii)       CH3 CH3 CHO       (ii)       CH2-CH-CH3         (iii)       CH2 = CH-CH2 OH       M       OH         (iv)       CH2 = CH-O CH3       Cyclopoparel         (iv)       CH2 = CH-O CH3       CH2 = CH-O CH3	3
Ans21	<ul> <li>a) Since compound C on compustion forms two moles of CO₂ and 3 moles of H₂O, therefore, compound C must contain two carbon atoms and six hydrogen atoms. Thus compound C must be C₂H<sub>6</sub> (ethane). C₂H<sub>6</sub> + 7/2 O₂ <u>Nickle &amp; heat</u> 2CO₂ + 3H₂O</li> <li>b) Since compound (C) is obtained by addition of 1 mole of H₂ in presence of Ni to compound B. Therefore, (B) must be ethene. CH₂ = CH₂ + H₂ Ni → CH₃ - CH₃ Ethane (B) Ethane (C)</li> <li>c) Since compound (B) is formed by cheating compound (A) with conc. H₂SO₄, therefore, compound (A) must be ethanol. CH₃CH₂OH Conc. H2SO4 Ethanol (A)</li> </ul>	3
Ans22	<ul> <li>a) Since C (MP C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>) contains two oxygen atoms, therefore it may be ethanoic acid (CH<sub>3</sub>COOH)</li> <li>b) Since an acid reacts with base i.e. Na metal to evolve gas which burns with pop up sound along with formation of (R) therefore R is sodium salt of ethanoic acid and H<sub>2</sub> gas evolved. CH<sub>3</sub>COOH + 2Na → 2 CH<sub>3</sub>COONa + H<sub>2</sub></li> <li>c) Since compound (C) on treatment with alcohol A in the presence of an acid forms a sweet smelling compound S (M.P. C3H6O2) therefore, S must an esten.</li> <li>d) Since ester S cotain three carbon atoms and acid C (M.F C2H4O2) contains two carbon atoms, therefore the alcohol A must contain one carbon atom. The only alcohol which contain one carbon atom is CH3OH, Hence (A) must be methanol.</li> <li>CH<sub>3</sub>COOH + CH<sub>3</sub>OH → CH<sub>3</sub>COOCH<sub>3</sub> + H<sub>2</sub>O</li> </ul>	3

	e) The Suggestion that the ester (S) is actually methyl ethanoate is supported by the observation that on treatment with NaOH gives the original acid i.e. ethanoic acid (C) and original alcohol, methanol (A)				
	CF	I₃COOCH₃ + NaOH —	← CH <sub>3</sub> COONa+ CH <sub>3</sub> OH		
Ans23	<ul> <li>a) Ethe este CH<sub>3</sub></li> <li>b) Clea hyd hea</li> <li>c) Der pur this</li> <li>d) Isor pro isor</li> <li>e) Aro are</li> </ul>	erification Reaction: Wher and water is formed, COOH + CH <sub>3</sub> OH ansing agent : Soaps rophobic (water repelli d. hatured Alconals : In i pose, some chemicals I alcohol become colour nerism : If a given mole perties, the phenomen ners. matic Hydrocarbons : The called aromatic compose Benzer	then an acid reacts with an alcohol this is known as esterification reaction $reaction = CH_3COOCH_3 + H_2O$ and detergents are cleansing ing) fat soluble tail and hydrophic industries and labs to prevent the like methanol, pyridine, copper steed, pad smelling ad poisonous, it cular formula represents two or reaction is called isomerism and the he compounds which contain one unds.	in the presence of mineral acid, action. agents because they contain ilic (water loving) water soluble misuse of alcohols as drinking sulphate etc mixed in it. Due to is called denatured alcohol. more structures having different e different structure are called e or more isolated or fused rings	3
Ans24	Ans24 Allotropes : The Phenomenon of existence of an element in two or more forms which have different physical properties but identical chemical properties is called allotropy and the different forms called allotropes.			nore forms which have different opy and the different forms are	3
	(1)	Diamond	Graphite	Buck minsterfullerence	
	Structure	Tetrahedral	Planner Hexayonal sheets	Buckyhall or soccer ball like : (C60)	
	Nature	Extremely hard Insulator, Transparent	Soft Coductor	Dark solid at room temperature	
	Uses	Jewellery Making Cutting and Drilling tools Eye surgery	As a dry lubricant Making lead pencils Making electrodes of dry	Drug delivery system in body In Lubricants As a catalyst.	
	Structuro D/	afor NCEPT nago 61			
Ans25	a) Hyc call CH2	lrogenation : Addition c ed hydrogenation. 2 = CH2 + H2 <u>Ni</u>	of H2 with unsaturated hydrocarb	oons in presence of Ni catalyst is	3
			Ethane		
Ans26	During hydr a) Son b) Son	ogenation two changes ne of the esters of fatt ne is insaturated fatty a	will occur. y acids are converted into ester o cids convert into trans.	of corresponding fatty acids.	1

Ans27	Health Problems: a) Increase the leve of bad cholesterol (LDL) in blood)	1			
	Precautions : a) For cooking purpose olive oil, canola oil should be taken.				
	b) Non vegetarian should eat salmon fish which contain omega – 3 fatty acids.				
Ans28	Ans : (c)Both Mg <sup>2+</sup> and Ca <sup>++</sup>	1			
Ans29	Ans : (c) Red colour will change to green	1			
Ans30	Ans : (c) $C_2H_4OH$	1			
Ans31	Ans : (b) 50% acetic acid	1			
Ans32	Ans c	1			
Ans33	Ans c	1			
Ans34	Procedure : Take 20ml castor oil in beaker adds 30 ml of 20% NaOH solution, heat and continuous				
	stir till thickness the add 5-10g of common salt and allow to coal.				
	Conclusion : Vegetable oils on alkaline hydrolysis give soaps.				
	Soap are sodium or potassium salts of higher fatty acids such as palmitic acid, stearic acid while				
	detergents are ammonium or sulphate salts of long chain hydrocarbon containing 12-18 carbon.				
Ans35	Saponification reaction is useful in soap industry because oils and fats are ester of higher fatty acids				
	with glycerol and their saponificatin produces soap and glycerol.				
	Veg UII + NaUH $\longrightarrow$ $C_{17}H_{35}COUNA + CH_2OH$				
	ChOH				
	Cn <sub>2</sub> OH				
	glycerol				
Ans36	Vinager is 9 5-8% solution of ethanoic acid in H2O. Functional group present in ethanoic acid,	2			
	is carboxylic group – C – O- H. When sodium carbonate is added to ethanoic acid CO2 gas is				
	produced.				
	$2CH_3COOH + Na_2CO_3 \longrightarrow 2CH_3COONa + CO_2 + H_2O$				
	Ethanoic acid. Sod. Carbonate sod. Ethanoate				

#### Test Paper Session 2017-18

CLASS 10
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SUBJECT Chemistry Chapter-5(Periodic Classification of Elements)

Ans1		1				
Ans2	Chloride of Eka – Silicon = Ge	1				
	Chloride of Eka – Aluminium = Ga					
Ans3	Cobalt was placed before nickel so, that cobalt could be in the same column be in the same column as	1				
	rhodium (Rh) which closely resembles it in properties.					
Ans4	X – 12 Magnesium 2,8,2	1				
	Y – 12 Neon 2,8					
	X has the largest radii from Y as it contains 3 shells.					
Ans5	a) Chlorine has the bigger size.	1				
	b) Potassium has the bigger size					
Ans6	a) In Period = 3, Group = 1, as it is sodium (Na)	2				
	b) In Period = 2. Group $-4$ , as it is Carbon (C)					
	c) In Period = 1. Group = 18, as it is Helium					
	d) In Period = 4, Group = 12, as it is Zinc.					
	e) In Period = 2, Group = 13, as it is Boron					
Ans7	a) Neon	2				
	b) Magnesium					
	c) Carbon					
	d) Boron					
Ans8	a) Average atomic masses $-\frac{7+39}{2}$	2				
	$\frac{1}{2}$					
	46					
	$=\frac{1}{2}$					
	= 23					
	b) Because it is the triad formula that 3 elements in order contain the mass of middle term is					
	equal to arithmetic mean of 2 elements.					
	<ul> <li>c) Doberneir Triad</li> <li>d) They are the tridas</li> </ul>					
	d) They are the tridas					
Ans9	A 5 Boron 2,3	2				
	B 7 Nitrogen 2,5					
	C 10 Neon 2,8					
	i) Neon					
	ii) Nitrogen					
	iii) Boron					
	iv) All belong to 2 <sup>nd</sup> period					
Ans10	a) 2	2				
	b) 2					
	c) MgCl2					
Ans11	17 Chlorine 2,8,7	3				
	20 Calcium 2,8,8,2					
	a) X is placed in group = 17, period = 3					
	Y is placed in group = 2 period = 4					
	b) X is non-metal and					
	Y is metal					
	c) 2 Ca + O2 → 2CaO					
	Nature Basic					

Ans12	2,8,2	Magnesium	3	
	a)	Magnesium		
	b)	2,8,2		
	c)	2Mg + O2►2MgO		
	d)	MgO + H2O → Mg(OH)2		
	e)	Mg O		
Ans13	a)	X Nitrogen	3	
		Y NH <sub>3</sub> Ammonia		
		Z (NH4) <sub>2</sub> SO <sub>4</sub> Ammonium Sulphate		
	b)	15		
	c)	2 nd		
	d) Carbon			
	e) Oxygen			
Ans14	a)	Basic	5	
	b)	Yes		
	c)	XY <sub>2</sub>		
	d)	+2		
	e)	2		
Ans15		Y = 2,6 Oxygen	5	
		a) Non metal		
		b) 2		
		c) -2		
		d) Oxygen		
		e) 4Na + O2 → 2Na2O		