SAMAGRA SHIKSHA , KERALA

SECOND TERMINAL EVALUATION 2018

CHEMISTRY

Answer key

SSLC

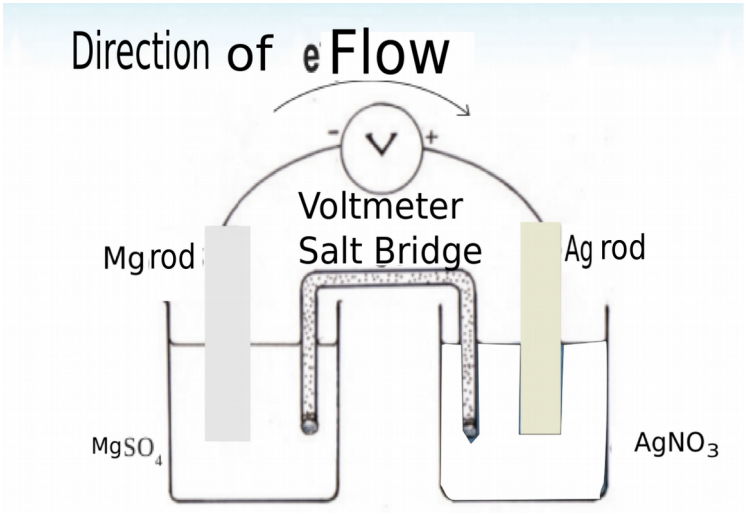
Q	Answer/ Hint	Score	Total Score	
1	Mg	1	1	Any Four
2	PVC / Poly Vinyl Chloride	1	1	
3	Vanadium Pentoxide	1	1	
4	Keto Group	1	1	
5	Hydrogen / H_2	1	1	

6	**a)** Activity 2/ Zn rod dipped in $FeSO_4$ solution	1	2	Any Four
	b) $Zn^0_{(s)} + Fe^{2+}SO_4^{2-}{}_{(aq)} \rightarrow Zn^{2+}\ SO_4^{2-}{}_{(aq)} + Fe^0_{(s)}$	1		
7	**a)** Test tube A/ The heated one	1	2	
	b) Sulphur / S	1		
8	**a)** CH_3-COOH	1	2	
	b) Ethanoic acid	1		
9	***Metal*** / ***Ore*** / ***Mode of Concentration***		2	
	Zinc / Zinc Blende (ZnS) / **(a) Froth floatation**	1		
	Tin / Tin stone (SnO_2) / **(b) Magnetic Separation**	1		
10	**a)** Copper / Cu	1	2	
	b) $2Cl^- \rightarrow Cl_2 + 2$ è	1		

11	**a)** Rate of forward reaction increases	1	3	11-15 Any Four
	b) Rate of forward reaction increases	1		
	c) Rate of forward reaction decreases	1		
12	**a)** Hex	1	3	
	b) Methyl	1		
	c) 3- Methyl hexane	1		

13	**a)** Electrical energy is converted into chemical energy	**1**	**3**	
	b)Hydrogen gas / H_2	**1**		
	c) Purification of metals / Electroplating/ Production of chemicals / Production of metals and non metals.	**1**		
14	**i)** B / $2\,ZnS + 3\,O_2 + Heat \rightarrow ZnO + CO_2$	**1**	**3**	
	ii) Calcination is the process of heating the concentrated ore at a temperature below its melting point to remove the volatile impurities. When subjected to calcination, impurities like water, organic matter and other volatile impurities are expelled from the ore. **Metal carbonates and hydroxides decompose to form oxides. Oxygen will not take part in the reaction.** **Roasting is the process of heating the concentrated ore** at a temperature below its melting point in a current of air. During roasting, the ore gets converted into its oxide. When the concentrated ore is subjected to roasting, the water present in it is removed as vapour. Other impurities like sulphur, phosphorus and organic matter are oxidised and expelled. **The sulphide ore combines with oxygen to form oxide.Oxygen will take part in the reaction.**	**1** **1**		
15	**a)** Alkene	**1**	**3**	
	b) $\mathbf{CH_3\text{-}CH_2\text{-}CH{=}CH\text{-}CH_3}$ or $CH_3\text{-}CH_2\text{-}CH_2\text{-}CH{=}CH_2$	**1**		
	c) Pent-2- ene or **Pent-1- ene**	**1**		

16	<table><tr><th></th><th>A</th><th>B</th></tr><tr><td>1</td><td>$CH_2{=}CH_2 + H_2 \rightarrow CH_3\text{-}CH_3$</td><td>Addition Reaction</td></tr><tr><td>2</td><td>$CH_3\text{-}CH_2\text{-}CH_3 \rightarrow CH_2{=}CH_2 + CH_4$</td><td>Thermal cracking</td></tr><tr><td>3</td><td>$CH_4 + Cl_2 \rightarrow CH_3Cl + HCl$</td><td>Substitution reaction</td></tr><tr><td>4</td><td>$n\,CH_2{=}CH_2 \rightarrow$ $-[\,CH_2\text{-}CH_2\,]_n-$</td><td>Polymerisation</td></tr></table>	**4**	**4**	**16-20 Any Four**
17	**a)** Leaching	**1**	**4**	
	b) Cryolite is added to alumina to reduce its melting point and increase its electrical conductivity.	**1**		
	c) Carbon lining	**1**		
	d) During electrolysis, oxygen is liberated at the carbon anode.It combines with the carbon blocks to form carbon dioxide. In this way the carbon blocks get destroyed.	**1**		
18	**a)** A , C / $CH_3\text{-}O\text{-}CH_2\text{-}CH_3$, $CH_3\text{-}CH_2\text{-}CH_2\text{-}OH$	**1**	**4**	
	b) Functional Isomerism	**1**		
	c) $CH_3\text{-}\underset{\displaystyle OH}{\underset{|}{CH}}\text{-}CH_3$ Propan-2-ol	**1** **1**		

19	**a) Mg rod in $MgSO_4$ solution // Ag rod in $AgNO_3$ solution**  Diagram is not necessary.	**1**	**4**	
	b) Mg rod	**1**		
	c) $Ag^+ + \bar{e} \rightarrow Ag$	**1**		
	d) Mg rod	**1**		
20	**a)** Haematite / Fe_2O_3	**1**	**4**	
	b) Carbon monoxide/ CO	**1**		
	c) The calcium carbonate ($CaCO_3$) decomposes at high temperature. $CaCO_3$ (s) → CaO (s) + CO_2 (g) The calcium oxide (CaO) formed here combines with silicon dioxide (SiO_2) , the main impurity of the ore in the hot lower region of the furnace to form calcium silicate ($CaSiO_3$).	**1**		
	d) Calcium silicate ($CaSiO_3$)	**1**		

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