

SSLC EXAMINATION , MARCH -2019
CHEMISTRY
 (English)

Answer any four from each part

Q No	Answer / Hint	Score	Total Score
1	Propene	1	1
2	Flint glass / Optical glass / Lead glass	1	1
3	14 g Nitrogen	1	1
4	Froth Floatation	1	1
5	Magnesium oxide (MgO)	1	1

6	(a) $1s^2 2s^2 2p^6 3s^2 3p^3$	1	2
	(b) Period = 3 , Group = 15	$\frac{1}{2}$, $\frac{1}{2}$	
7	(a) <i>Copper</i> gets deposited on the iron nail / Becomes copper nail	1	2
	(b) $Fe \rightarrow Fe^{2+} + 2e^-$	1	
8	(a) Molarity of a solution = Number of moles of Solute / Volume of solution in litres <i>Number of moles of NaOH = Mass in grams / GMM</i> $= 4g / 40 g$ $= 0.1$ Volume = 1 litre <i>Molarity = 0.1mol/1g</i> $= 0.1g/L$	1	2
	(b) To prepare 1 molar 1 litre(1000 mL) of NaOH , mass needed = GMM =40g . Here we have 4 g of NaOH. Hence the volume needed 100 ml. Procedure : Take 4 g of NaOH in a beaker .Add a little of water to dissolve it. Then add enough water till the total volume of the solution becomes 100 mL <p style="text-align: center;">OR</p> Molarity of a solution = Number of moles of Solute / Volume of solution in litres Molarity = 1 , Number of moles = 0.1 Hence volume of the solution = 0.1 litres . Procedure : Take 4 g of NaOH in a beaker .Add a little of water to dissolve it. Then add enough water till the total volume of the solution becomes 0.1 litres (100 mL) <p style="text-align: center;">OR</p> Prepare a 100 mL solution with 4 g of NaOH	1	
9	(a)Roasting is the process of heating the concentrated ore at a temperature below its melting point in a current of air.	1	2
	(b)Impurities like sulphur, phosphorus and organic matter becomes their oxides (are oxidised) and expelled	1	

10	(a) Ethanoic acid is manufactured by treating methanol with carbon monoxide in the presence of a suitable catalyst.	1	2
	$\text{CH}_3\text{-OH} + \text{CO} \xrightarrow{\text{Catalyst}} \text{CH}_3\text{-COOH}$ <p><i>Methanol</i> <i>Ethanoic acid</i></p>		
	(b) In the manufacture of rayon / In the rubber industry/ In the silk industry/ For making vinegar / For making ester (Perfumes) (Any One)	1	

11	(a) 2 each Total Number of moles of Reactants = 2 Total Number of moles of Products = 2 (Total Number of moles of reactants and Products = 2+2 = 4) !	1	3
	(b) Pressure has no role in this reaction. The total number of moles of gaseous reactants is equal to the total number of moles of gaseous products (2 moles each).	1, 1	
12	(a) 5 (Five) , Pent	½ , ½	3
	(b) Branch = Methyl (CH ₃) , Position = 3 (Third carbon)	½ , ½	
	(c) 3 – Methyl pentane	1	
13	(a) 1 mole N ₂ + 3 moles of H ₂ → 2 moles of NH ₃	1	3
	(b) 3 moles of H ₂ = 3x 2g = 6 g	1	
	(c) 1 mole(22.4 L) N ₂ → 2 moles of NH ₃ = 44.8 L	1	
14	(a) Cu , Mg	½ , ½	3
	(b) Anode : Mg , Cathode : Cu	½ , ½	
	(c) Mg + Cu ²⁺ → Mg ²⁺ + Cu	1	
15	(a) Cryolite is added to alumina to reduce its melting point and to increase its electrical conductivity .	1	3
	(b) Aluminium (Al ³⁺) , Oxide (O ²⁻)	½ , ½	
	(c) Al ³⁺ + 3e ⁻ → Al	1	

16	(a) The test tube which contains Zinc Powder	1	4
	(b) When solids are made into small pieces or powder, their surface area increases . As a result the number of molecules undergoing effective collisions also increases . Hence the rate of reaction increases.	2	
	(c) Firewood burns faster when cut into small pieces / Powdered solutes (eg: salt , sugar) dissolves faster (or any other relevant one)	1	
17	(a) C ₄ H ₁₀ O	1	4
	(b) Functional isomerism	1	
	(c) Compounds having same molecular formula, but having a difference in their functional groups , are known as Functional Isomers. This phenomenon is called functional isomerism	1	

	<p>(d) $\text{CH}_3\text{-CH}_2\text{-CH-CH}_3$</p> <p style="text-align: center;"> </p> <p style="text-align: center;">OH</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">$\text{CH}_3\text{-CH-CH}_2\text{-CH}_3$</p> <p style="text-align: center;"> </p> <p style="text-align: center;">OH</p>	1						
18	(a) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$	1	4					
	(b)	<table border="1" style="margin: auto;"> <tr> <td style="padding: 2px;">Group = 1</td> <td style="padding: 2px;">Period = 4</td> <td style="padding: 2px;">Block = s</td> <td style="padding: 2px;">Oxidation State = +1</td> </tr> </table>		Group = 1	Period = 4	Block = s	Oxidation State = +1	½ ½ ½ ½
	Group = 1	Period = 4		Block = s	Oxidation State = +1			
(c) Low ionization energy/ Low electro negativity/Metallic nature/ Lose electrons in chemical reactions/Compounds are mostly ionic/Oxides and hydroxides are basic in nature/Highest atomic radius in the respective periods/Reactivity increases down the group. (Any One)	1							
19	<p><u>A</u></p> <p>(a) $\text{H} \text{---} \text{C} \text{---} \text{Cl}$</p> <p style="text-align: center;"> </p> <p style="text-align: center;">Cl</p> <p style="text-align: center;">-----</p> <p><u>B</u></p> <p>$\text{---} [\text{CH}_2\text{-CH}]_n$</p> <p style="text-align: center;"> </p> <p style="text-align: center;">Cl</p> <p style="text-align: center;">OR $\text{CH}_2\text{-Cl}_2$ OR Dichloro methane</p>	½	4					
	(b) Substitution reaction	1						
	(c) Poly Vinyl Chloride (PVC) , for making <i>pipes</i>	1,1						
		½						
20	(a) Anti pyretics - Medicines used <i>to bring down body temperature (in the treatment of fever)</i>	1,1	4					
	Anti biotics - Medicines used <i>to destroy the disease causing micro organisms and prevent their growth</i>	1,1						
	(b) Self treatment / Irregularity in using medicines as per the timings prescribed by the doctors/ Taking medicines even after the prescribed period /Taking medicines prescribed for another person (Any two)	2						
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