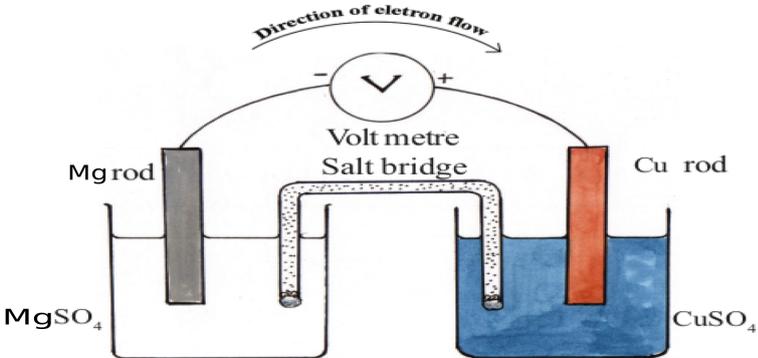


**SSLC EXAMINATION MARCH – 2020**  
**CHEMISTRY - Scoring Key**  
 (English)

Q	Answer / Hint	Score	Total Score				
<b>SECTION A</b>							
1-5	1	2	3	4	5	1 Each	1 Each
	14	Hydrogen(H <sub>2</sub> )	Magnetic separation	Isoprene	22.4 L		
<b>SECTION B</b>							
6	(a) Charles' Law					1	2
	(b) Boyle's Law					1	
7	(a) (ii) / 1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> 3s <sup>2</sup> 3p <sup>6</sup> 3d <sup>5</sup> 4s <sup>1</sup>					1	2
	(b) The configurations with <i>half filled d subshell ( d<sup>5</sup> ) show greater stability.</i>					1	
8	(a) Tin					1	2
	(b) Low melting metal					1	
9	(a) CH <sub>3</sub> -CH=CH <sub>2</sub>					1	2
	(b) CH <sub>3</sub> -CH <sub>2</sub> -C≡CH					1	
10	(a) <i>Ethanol is manufactured by fermenting dilute molasses by adding yeast.</i> Or ( Ethanol is also manufactured from starchy substances like barley, rice, tapioca etc.)					1	2
	(b) <i>Poisonous substances are added to ethanol</i> meant for industrial purposes to prevent its misuse as beverage. This product is known as 'denatured spirit'.					1	
<b>SECTION C</b>							
11	(a) Sodium ions and Chloride ions / Na <sup>+</sup> and Cl <sup>-</sup> ions.					1	3
	(b) Chlorine / Cl gas / Cl <sub>2</sub>					1	
	(c) Na <sup>+</sup> + e <sup>-</sup> → Na					1	
12	(a) Lime stone (CaCO <sub>3</sub> ) and Coke (C)					1	3
	(b) CO / Carbon monoxide					1	
	(c) CaO + SiO <sub>2</sub> → CaSiO <sub>3</sub>					1	
13	(a) 16 g					1	3
	(b) Number of mole molecules = Mass given in grams / Gram molecular mass of the compound = 160 g / 16 g = <i>10 mole molecules</i>					1	
	(c) 80 g					1	
14	(a) Ammonium Chloride (NH <sub>4</sub> Cl) and Calcium hydroxide ( Ca(OH) <sub>2</sub> )					1	3
	(b) It turns <i>blue</i>					1	
	(c) Basic nature					1	

15	(a) Six / 6	1	3															
	(b) 2,4	1																
	(c) 2,4 – Dimethylhexane	1																
<b>SECTION D</b>																		
16	(a) Mg , MgSO <sub>4</sub> , Cu , CuSO <sub>4</sub> , Salt bridge, Connecting wire with voltmeter connected.		4															
	(b) Mg / Magnesium			1														
	(c) $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$			1														
17	(a) BA	1	4															
	(b) AC	1																
	(c) (ii) and (iii) or Both reactants and products co exist. The rates of both forward and backward reaction are equal.	2																
18	(a) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5 4s^2$ or [Ar] $3d^5 4s^2$	1	4															
	(b) 25	1																
	(c) Block = d , Period = 4	$\frac{1}{2}$ $\frac{1}{2}$																
	(d) <i>The difference in energy between the outermost s subshell and the penultimate d subshell is very small. Under suitable conditions , the electrons in d subshell also take part in chemical reactions. Hence it shows variable oxidation states.</i>	1																
19	(a) $\text{CH}_3\text{-CH(OH)-CH}_3$	1	4															
	(b) C <sub>3</sub> H <sub>8</sub> O	1																
	(c) CH <sub>3</sub> -O-CH <sub>2</sub> -CH <sub>3</sub> ( CH <sub>3</sub> -CH <sub>2</sub> - O-CH <sub>3</sub> ) , Methoxy ethane	1,1																
20	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>A Reactants</th> <th>B Products</th> <th>C Name of Reaction</th> </tr> </thead> <tbody> <tr> <td>CH<sub>4</sub>+Cl<sub>2</sub></td> <td>CH<sub>3</sub>Cl +HCl</td> <td>Substitution</td> </tr> <tr> <td>CH<sub>4</sub>+2O<sub>2</sub></td> <td>CO<sub>2</sub>+2H<sub>2</sub>O</td> <td>Combustion</td> </tr> <tr> <td>CH<sub>3</sub>-CH<sub>2</sub>-CH<sub>3</sub></td> <td>CH<sub>2</sub>=CH<sub>2</sub> + CH<sub>4</sub></td> <td>Thermal Cracking</td> </tr> <tr> <td>CH≡CH +H<sub>2</sub></td> <td>CH<sub>2</sub>=CH<sub>2</sub></td> <td>Addition</td> </tr> </tbody> </table>	A Reactants	B Products	C Name of Reaction	CH <sub>4</sub> +Cl <sub>2</sub>	CH <sub>3</sub> Cl +HCl	Substitution	CH <sub>4</sub> +2O <sub>2</sub>	CO <sub>2</sub> +2H <sub>2</sub> O	Combustion	CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>3</sub>	CH <sub>2</sub> =CH <sub>2</sub> + CH <sub>4</sub>	Thermal Cracking	CH≡CH +H <sub>2</sub>	CH <sub>2</sub> =CH <sub>2</sub>	Addition	4	4
	A Reactants	B Products	C Name of Reaction															
	CH <sub>4</sub> +Cl <sub>2</sub>	CH <sub>3</sub> Cl +HCl	Substitution															
	CH <sub>4</sub> +2O <sub>2</sub>	CO <sub>2</sub> +2H <sub>2</sub> O	Combustion															
	CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>3</sub>	CH <sub>2</sub> =CH <sub>2</sub> + CH <sub>4</sub>	Thermal Cracking															
CH≡CH +H <sub>2</sub>	CH <sub>2</sub> =CH <sub>2</sub>	Addition																