

SUMMATIVE ASSESSMENT III 2025-26
CHEMISTRY
ANSWER KEY

Qn No.	Sub Qn.	Value point	Score	Total score
1		B	1	1
2		B	1	1
3		B	1	1
4		B	1	1
5	a	Ethers	1	2
	b	CH ₃ -CH ₂ -O-CH ₂ -CH ₃ , CH ₃ -O-CH ₂ -CH ₂ -CH ₃	1	
6A	a	Calamine	1	2
	b	ZnCO ₃ → ZnO + CO ₂	1	
OR				
6B	a	Electricity	1	2
	b	To reduce the melting point of alumina and to increase the electrical conductivity	1	
7	a	By the electrolysis of molten NaCl	1	2
	b	By the electrolysis of aqueous NaCl solution	1	
8	a	Boyle's law	1	2
	b	Statement of Boyle's law	1	
9A	a	25	1	2
	b	7	1	
OR				
9B	a	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ³ 4s ²	1	2
	b	i) They form coloured compounds ii) They exhibit variable oxidation states (Any two properties of d-block elements)	1	
10	a	CH₃ CH₃ - C - CH₂ - CH₃ CH₃	1	3
	b	C ₆ H ₁₄	1	
	c	2,2-Dimethylbutane	1	
11 A	a	Daniel cell	1	3
	b	Zn	1	
	c	Zn + CuSO ₄ → ZnSO ₄ + Cu / Zn ²⁺ + Cu → Zn + Cu ²⁺	1	
OR				
11 B	a	Aluminium sulphate solution / aqueous solution of any aluminium salt	1	3
	b	Mg to Al	1	
	c	Mg > Al > Cu	1	

12	a	NaOH	1	3
	b	Chlor alkali process	1	
	c	NaOH increases the concentration of hydroxide ions in aqueous solutions	1	
13	a	It dissociates at high temperature to give CaO which acts as flux	1	3
	b	CO/ Carbon monoxide	1	
	c	Pig iron	1	
14A	a	3p - 4s- $n+l = 3+1=4$ $n+l = 4 +0=4$	1	3
	b	4s has more energy because, as both have same $n+l$ values, 4s having higher n value is considered to have higher energy.	2	
OR				
14B	a	3d	1	3
	b	10	1	
	c	5	1	
15	a	$N_2 + 3H_2 \rightarrow 2NH_3 + \text{heat}$	1	3
	b	When pressure is increased, the rate of forward reaction increases	1	
	c	At lower temperatures, the number of molecules having threshold energy will be less and so 450°C is taken as optimum temperature.	1	
16A	a	Molecular mass of $CO_2 = 44$ No of moles of CO_2 in 176 g of $CO_2 = 176/ 44 = 4$ mols Volume of 1 mole CO_2 at STP = 22.4 L Volume of 4 moles of CO_2 at STP = $4 \times 22.4 = 89.6$ L	2	4
	b	$C + O_2 \rightarrow CO_2$ 1 mole of C gives 1 mole of CO_2 For obtaining 4 mols of CO_2 , 4 mols of C should be burnt. Mass of 1 mol of C =12 g Mass of 4 mols of C = $4 \times 12 = 48$ g	2	
OR				
16B	a	32 g	1	4
	b	2 mols of H_2 gives 2 mols of H_2O 1 mol of H_2 gives 1 mol of H_2O Volume of H_2 required to give 22.4 L H_2O at STP = 22.4 L	2	
	c	2 mol H_2 needs 1 mole of O_2 4g of H_2 needs 32 g of O_2	1	
17	a	By the addition of 2 H_2 molecules/ chemical equation	1	4
	b	By the addition of 2 Cl_2 molecules/ chemical equation	1	
	c	By the addition of HCl molecule/ chemical equation	1	
	d	By the addition of HCl molecule followed by polymerisation/ chemical equation.	1	