ANSWER KEY

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2023

PART-~~I~~II/III

SUBJECT: CHEMISTRY

CODE NO: 54525 VERSION: Q

60 SCORES 2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1		$Mol\ L^{-1}\ S^{-1}$	1	1
2		Ag OR Ca)	1	1
3		Any 1 example	1	1
4		Finkelstein reaction	1	1
5		C_6H_5-CHO OR Benzaldehyde/structure	1	1
6		Statement of Henry's law / Equation Any one application	1 1	2
7		Correct statement/conditions for ideal solution Any one example for ideal solution	1 1	2
8		$\Lambda^0_m (CH_3COOH) = \Lambda^0_m (HCl) + \Lambda^0_m (CH_3COONa) - \Lambda^0_m (NaCl)$ Correct Substitution OR $\Lambda^0_m (CH_3COOH) = 390.5\ S\ cm^2\ mol^{-1}$	1 1	2
9	(i) (ii)	Statement of pseudo first order reaction Any one example	1 1	2
10	(i) (ii)	Correct explanation / presence of incompletely filled d orbitals Mn	1 1	2

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
11	(a)	Tetraammine aqua bromido cobalt (III) bromide / Tetra ammine aqua bromo cobalt (III) bromide	1	2
	(b)	Potassium trioxalato aluminate (III)	1	
12		Any two differences (1+1)	2	2
13		Explanation of the manufacture of phenol / Preparation of phenol	1	2
		Chemical equation	1	
14		Correct reason	2	2
15		Definition of oligosaccharides	1	2
		Any two example	$\frac{1}{2}+\frac{1}{2}$	
16	(i)	Definition of molar conductivity	1	3
	(ii)	Correct graphical representation	2	
17	(i)	$t_{1/2} = \frac{0.693}{k}$	$\frac{1}{2}$	3
		$t_{1/2} = \frac{0.693}{6.8\times10^{-14}}$		
		OR		
		$t_{1/2} = 0.10191\times10^{14}\ s = 1.0191\times10^{13}\ s$	$\frac{1}{2}$	
	(ii)	$k = \frac{2.303}{t}\log\frac{[R]_0}{[R]}$	1	
		Explanation of any two terms	$\frac{1}{2}+\frac{1}{2}$	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
18		Effect of temperature Effect of catalyst	1½ 1½	3
19		Explanation / Equation for the preparation of $K_2Cr_2O_7$ 3 steps 1 score for each step (1+1+1)	3	3
20	(i) (ii)	Definition of Spectrochemical Series Correct figure Correct labelling (t2g / eg / Δo)	1 1 1	3
21	(i) (ii) (iii)	2,4,6-Tribromophenol / structure Benzene / C_6H_6 / structure 2,4,6-Trinitrophenol / picric acid / structure	1 1 1	3
22	(i) (ii)	Explanation / Equation Explanation / Equation	1½ 1½	3
23	(i) (ii)	Any two nucleophilic addition reactions of aldehyde / explanation / Equation Ethyl alcohol / C_2H_5-OH	1+1 1	3
24	(i) (ii)	Aldehydes Explanation / Equation of any two tests / Name of any two tests	1 1+1	3
25	(i) (ii)	Statement / Equation correct reason	1 2	3

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
26	(i)	Defemition of essential and non-essential amino acids / example	$\frac{1}{2}+\frac{1}{2}$	3
	(ii)	Explanation of amphoteric nature	2	
27	(i)	Statement	1	4
	(ii)	Any 2 colligative property	$\frac{1}{2}+\frac{1}{2}$	
	(iii)	Definition of reverse osmosis	1	
		Any one practical utility	1	
28	(i)	Name of anode and cathode	$\frac{1}{2}+\frac{1}{2}$	4
	(ii)	Reactions at anode / equation	1	
		Reactions at cathode / equation	1	
	(iii)	Explanation / Equation	1	
29	(i)	Correct diagram of Isomers	1+1	4
	(ii)	Correct structure / geometry / hybridisation	1	
		Magnetic property – Diamagnetic	1	
30	(i)	Major product – But-2-ene / structure	1	4
		minor product – But-1-ene / structure	1	
	(ii)	Zaitsev rule	1	
		Statement of the rule	1	
31	(i)	Explanation / chemical equation	2	4
	(ii)	Explanation / chemical equation	1	
	(iii)	Clemmensen's reduction	1	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
		1. Dr. SUJAYA. G 9048892901		
		2. ANIL. D 9447585458		
		3. RAJESH SOMAN 8075649703		
		4. HENA. K. R 9747858100		
		5. SHIBU. K. R. 9447221515		