

# ANSWER KEY

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2022

PART-I/II/III

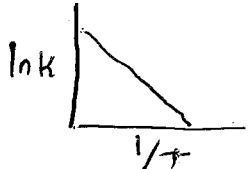
SUBJECT: CHEMISTRY

CODE NO: SY 25

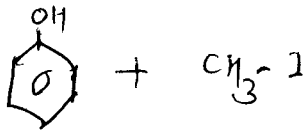
VERSION: R

60 SCORES

2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
A	1	AgBr		1
	2.	Isotonic solutions		1
	3.	Kohlrausch's law		1
	4.	s <sup>-1</sup>		1
	5.	Emulsions		1
	6.	Foam flotation		1
	7.	Sandmeyer's reaction		1
	8	Lucas reagent		1
	9	Fuel cells		1
B	10.	2,4,6-tribromoaniline		1
	11.	-CO-NH		1
	12	Bakelite		1
	13	Aspartame		1
A	14.	F-centres Correct explanation	1 1	2
	15	Statement Any one application	1 1	2
	16	(i) (ii)	1	
		Correct equation  Slope = $-E_a/12$	1/2 1/2	2

C No	Sub Qns	Answer Key/Value Points	Score	Total Score
17		Definition Any one consequence	1 1	2
18		$\text{Co}^{2+}$ $d^4 \rightarrow d^3$ half filled $t_{2g}$ $\text{Mn}^{3+}$ $d^4 \rightarrow d^5$ half filled $d^5$	1 1	2
19		Explanation Equation	1 1	2
20		+I effect of alkyl group -R effect of aryl group	1 1	2
21		Any three differences		3
22		$\Delta T_b = K_b \times \frac{w_2}{m_2} \times \frac{1000}{w_1}$ $= 0.052$ $T_b = T_b^\circ + \Delta T_b$ $= 373.202 \text{ K}$	1 $\frac{1}{2}$ 1 $\frac{1}{2}$	3
23	(i)	Any two factors	$\frac{1}{2} + \frac{1}{2}$	
	(ii)	$k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$ $t_{1/2} = \frac{2.303}{k} \log 2$ $= \frac{0.693}{k}$	1 $\frac{1}{2}$ $\frac{1}{2}$	3
24	(i)	$\text{CH}_3\text{CH}_2\text{Br} + \text{NaI} \rightarrow \text{CH}_3\text{CH}_2\text{I} + \text{NaBr}$	1	
	(ii)	SN1 first order kinetics / take place in two steps / carbocation intermediate / racemisation	1 1	3

C. No	Sub Qns	Answer Key/Value Points	Score	Total Score
25.	(i) (ii)	RMgX   Alkyl magnesium halides Statement Example	1 1 1	3
26.	(i) (ii)	Intermolecular H bonding Acetyl salicylic acid Correction equation / acetylation of salicylic acid	1 1 1	3
27.	(i) (ii)	 Definition Example	1/2 + 1/2 1 1	3
28.	(i) (ii)	Definition Electrode reactions Total cell reactions	1 1+1 1	4
29.	(i) (ii)	Correct distinction Definitions Any one application - Ultramicroscope	1+1 1 1	4
30.	(i) (ii)	3 steps involved in leaching Correct reason	1+1+1 1	4
31.	(i) (ii) (iii)	Definition Example Definition / animal starch Amylose and amylopectin	1 1 1 1+1 1/2 1/2	4

Q. No	Sub Qns	Answer Key/Value Points	Score	Total Score
32	(i) (ii)	Two different of each type chloroprene $\text{CH}_2 = \underset{\text{Cl}}{\text{C}} - \text{CH} = \text{CH}_2$	1+1 1 1	4
33	(i) (ii)	Definition of each Egs of each BHT / BHA	1+1 1/2+1/2 1	4
34	(i) (ii) (iii)	$\text{PCl}_5 \rightarrow \text{PCl}_3 + \text{Cl}_2$ Definition Any two examples Correct 3 steps	1 1 1/2+1/2 1+1+1	6
35	(i) (ii)	Figure of two geometrical isomers Four types of structural isomerism Explanation of suitable example of each isomer.	1+1 4	6
36	(i) (ii) (iii)	$\text{H-COONa} + \text{CH}_3\text{OH}$ Correct explanation / Equation Any correct reagents and conditions. ( $\text{CO}_2/\text{Cl}_2, \text{NaOH}/\Delta$ / $\text{CO}_3, (\text{H}_3\text{CO})_2\text{O}, \text{NaOH}/\Delta$ / $\text{Cl}_2/\text{h}\nu, \text{NaOH}/\Delta$ )	1+1 2 2	6