ANSWER KEY

IMPVT

FIRST YEAR HIGHER SECONDARY EXAMINATION Oct 2022

PART ~~I/II~~/III

SUBJECT: CHEMISTRY H/L

CODE NO: FY 864 VERSION: D

60 SCORES 2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1.		Number of protons — 35 Number of neutrons — 45	1 1	2
2.		Principal quantum number Azimuthal quantum number Magnetic quantum number Spin quantum number (Any two - 2 score)	1 1 1 1	2
3.		Bond order of He_2 is zero. Hence cannot exist	2	2
4.	a	(i) Octahedral		
	b	(i) sp^3	1 1	2
5.		H_2S is oxidised and chlorine is reduced (Any one - 2 score)	1 1	2
6.		NaH — Ionic hydride H_2O — Covalent hydride	1 1	2
7.	a	Solvay process		
	b	Al (Any one - 2 score)	1 1	2
8	a.	Graphite		
	b.	$CO + H_2$	1 1	2

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
9.		Butane or n-Butane	1	2
		2-Chlorobutane	1	
10.		HS^- – Nucleophile	1	2
		Cl^+ – Electrophile	1	
11.		CO_2, CH_4, O_3, CFC, water vapour – (Any two gases)	2	2
12.	a	Law of multiple proportion	1	3
	b	Statement	2	
13.	a	The reactant which gets consumed first is called limiting reagent	2	3
	b	(d) 3	1	
14.	a	Statement	2	3
	b	Ununbium / Uub / Copernicium / Cn	1	
15.	a.	With increase in atomic number, atomic radius decreases in a period	2	3
	b.	Ionisation enthalpy increases from left to right in a period	1	
16.	a.	$PV = nRT$	2	3
	b.	Low pressure and high temperature	1	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
17.	(a)	Boyle's law	1	
	(b)	P | V 2 | 10 1 | 20 4 | 5	2	3
18		Mass — Extensive Volume — Extensive Density — Intensive Viscosity — Intensive (Any three)	1 1 1 1	3
19		Common ion effect - Statement Example	2 2	3
20	(a)	Fe (II) O	2	
	(b)	(i) −1	1	3
21.	(a)	Treatment with washing soda, Calgon's method, Ion exchange method and synthetic resins method — (Any one method — 2 score)	2	
	(b)	H_2O_2 decomposes on exposure to light or $2H_2O_{2(l)} \longrightarrow 2H_2O_{(l)} + O_{2(g)}$	1	3

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
22.	(a)	A – Staggered	1	
		B – Eclipsed	1	
		(Any one correct answer – 2)		3
	(b)	A or Staggered	1	
23.		(a) — (ii)	1	
		(b) — (iii)	1	3
		(c) — (i)	1	
		(Any 2 correct answer – 3 score)		
24.	(a)	Any one postulate – 2 score	2	
	(b)	Statement	2	4
25	(a)	BeF_2 – Linear	2	
		CH_4 – Tetrahedral	2	
	(b)	Hydrogen bonding – explanation	2	4
		Hydrogen bonding – example	2	
26.	(a)	Statement or mathematical expression	2	
	(b)	Statement	2	4
27	(a)	Conjugate acid-base pair – Explanation	2	
		Conjugate acid-base pair – Example	2	4
	(b)	Buffer solutions – Statement or example	2	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
28.	(a)	True	1	
	(b)	True	1	4
	(c)	False	1	
	(d)	True	1	
29.		(a) — (iii)	1	
		(b) — (i)	1	
		(c) — (iv)	1	4
		(d) — (ii)	1	
		(Any 2 correct answer – 4 score)		
30.	(a)	Sublimation, crystallisation, distillation, fractional distillation, distillation under reduced pressure, steam distillation, differential extraction, chromatography	3	
		(Any two – 3 score)		4
	(b)	Homolysis or homolytic cleavage	2	
31.	(a)	Planar, complete delocalisation of π electrons, presence of $(4n+2)$ π electrons	2	
		(Any 2 points – 2 score)		
	(b)	Benzene	2	4
	(c)	$CH_3-\underset{\underset{Br}{|}}{CH}-CH_3 + CH_3-CH_2-CH_2Br$	2	
		(Any one correct answer – 2 score) A or B – 2 score		