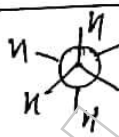
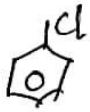
I "CHEMISTRY - FIRST YEAR Max. Score. 60

Answer key

Q.No	Answer	Split Score		Total Score
1	$CO+H_2$	1	7	7
2	d block	1		
3	2	1		
4	H_2O	1		
5	Distillation or Fractional Distillation	1		
6	Zero	1		
7	Poise or $g\,cm^{-1}s^{-1}$	1		
8	Homologous Series	1		
9	Smog	1		
10 a	Gold – Element Air – Homogeneous Mixture Muddy Water – Heterogeneous Mixture Water – Compound	1 1 1 1	2	2
10 b	definition	1		
11	Any one correct property	2		2
12 a	Group 7 or Period 4	1	2	2
12 b	Li_2O or AlI_3	1		
13	I.E increases along a period I.E decreases along a group	1 1	2	2
14	Equation $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$ Substitution Ans: 666.67 mm of Hg	1 1	2	2
15	Extensive Property def or eg Intensive Property def or eg	1 1	2	2

II

Q.No	Answer	Split score		Total score
16	$K_c = \frac{[C]^c [D]^d}{[A]^a [B]^b}$ or $K_p = \frac{P_C^c \times P_D^d}{P_A^a \cdot P_B^b}$ or $K_p = K_c (RT)^{\Delta n}$	2		2
17	a. definition or a property of Saline hydride b. does not form lather with soap or due to the presence of Ca or Mg ions or any correct answer	2 2	2	2
18	Any one difference or reason	2		2
19	a. Related Answer b. due to the absence of d orbital in Carbon	2 2	2	2
20	a. $AlCl_3$ is $\bar{e}$ deficient b. R_2SiO or SiO_4^{4-} or SiO_4	1 1	2	2
21	$CH_3 - CH - CH_2 - CH = CH_2$ OH OH or 	2 2	2	2
22	 or  or Sawhorse formula staggered eclipsed	2		2
23	a. Law of multiple proportions b. 72 gms or 4 mols of water or 16 gms of methane gives 36 gms of water	2 2	3	3
24	a. Any one correct example b. Lewis structure of CH_2 or NF_3	1 2	3	3
25	a (i) London or Dispersion forces (ii) Dipole – Dipole forces b. Correct statement c. Low atmospheric pressure	1 1 2 2	2 2 2	3

QN	Answer	Split Score		Total Sco
26	a. $\Delta U = q + w$ b. Correct definition c. High temperature	2 2 2	3	3
27	a. definition of redox rn Correct oxidn. No of correct explanation b. $Mn(IV)O_2$	1 2 2 1	3	3
28	Related Answer Any one method Any two method	1 2 3	3	3
29	a. To regulate the setting time b. Any two correct matches	1 2		3
30	a. Pd/C b. (A) $CH_3-CH(O-CH_2)_2$ (B) CH_3CHO or (C) $HCHO$ c. 	1 2 1	3	3
31	a. Freons - Chloro fluoro carbon are used as a refrigerant b BOD - Biological oxygen Demand correct definition c Green house effect - definitions of green house gases	1 1 2 2	3	3
32	a $n=4$ $l=2$ b. Correct names of Series of spectral lines (½ each) c statement	2 2 2	4	4

Q. No.	Answer	Split Score		Total score
33	a. sp^3d	2	4	4
	b. Axial bonds are longer than equitorial bonds / to minimise repulsion / correct diagram of PCl_5	2		
	c. diagram of M.O wise electronic configuration	2		
34	a. Basic	2	4	4
	b. Equation & Correct substitution	2		
	c. Low Pressure favours backward reaction and high pressure favours forward reaction	2		
35	a (i) 3 chloro butanoic acid or (ii) Hex - 4 en - 3 ol	2	4	4
	b. $CH_3-CO-CH_3$ and CH_3-CH_2-CHO	2		
	c. Correct Explanation	2		

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