

VHSE – II

CHEMISTRY

<i>Qn. No.</i>	<i>Value Points / key</i>	<i>Scoring scheme</i>	<i>Total score</i>
1 (a) (b) (c)	Due to the small size and high charge density of transition metal ions and also the presence of vacant d - orbitals Diammine dichloro platinum (II) Cis and trans isomers	1 1 2	4
2 (a) (b) (c)	Any two examples Potassium dichromate on treating with base gives potassium chromate and potassium chromate on treating with acid gives potassium dichromate +6	1 2 1	4
3 (a) (b) (c)	Double bond character of C – X bond and sp <sup>2</sup> hybridisation Any one example Correct mechanism	2 1 2	5
4 (a) (b)	Luca's test with proper explanation Any correct route of conversion	3 2	5
5 (a) (b) (c)	Benzene diazonium chloride Phenol Para hydroxy azo benzene It is used as a dye	1 1 1 1	4
6 (a) (b) (c)	Ammoniacal silver nitrate Carboxylic acid Propanal on warming with Tollen's reagent, bright silver mirror or black precipitate is formed	1 1 2	4
7 (a) (b) (c)	Zone refining Explanation of Zone refining Explanation of Mond's process Th, Ti	1 1 2 1	54
8 (a) (b) (c) (d)	Low temperature and high pressure Oleum Charring occurs $\text{CaF}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{CaSO}_4 + 2\text{HF}$	1 1 1 2	5

9 (a)	Absence of vacant d orbitals in N	1	4
(b)	Bond order of N <sub>2</sub> is high	1	
(c)	In H <sub>2</sub> O, there is intermolecular Hydrogen bonding	1	
(d)	They have no interatomic forces	1	
10 (a)	Egg swells in water and shrinks in HCl solution	1	4
	Solvent flows from a region of higher solute concentration to that of lower solute concentration when separated by a semi permeable membrane	1	
(c)	(ii) < (i) < (iii)	2	
11(a)	Correct statement	1	5
(b)	$\frac{3 \times 96500 \times 100}{27}$ Coulombs	2	
(c)	H <sub>2</sub> at cathode and Cl <sub>2</sub> at anode	2	
12 (a)	Rate= K	1	3
(b)	Mol L <sup>-1</sup> s <sup>-1</sup>	1	
(c)	$T_{1/2} = \frac{R0}{2K}$	1	
13 (a)	Na <sup>+</sup> < Mg <sup>2+</sup> < Al <sup>3+</sup>	1	4
	Hardy Schulz rule	1	
	Correct statement	2	
14 (a)	Any two colligative properties	1	4
(b)	Colligative properties decrease	1	
	Association	1	
(c)	Any correct definition	1	