Roll Number		

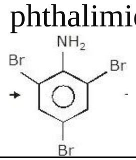
SET **A/B/C**

INDIAN SCHOOL MUSCAT

SECOND PRE - BOARD EXAMINATION

CHEMISTRY[043]

CLASS: XII TERM 2 Max.Marks: 35

MARKING SCHEME			
	QN. NO	VALUE POINTS	MARKS SPLIT UP
SET A	1	a) Pentaaquairon(II)ion b) $[Co(en)_3]^{3+}$	1+1
	2	a) $CH_3CONH_2 + Br + 4NaOH \xrightarrow{\Delta} CH_3NH_2 + 2NaBr + Na_2CO_3 + 2H_2O$ Acetamide Methanamine b) $CH_3CH_2NH_2 + CHCl_3 + 3KOH \longrightarrow CH_3CH_2NC$	1+1
	3	a) PCC b) Fehlings/Iodofrom	1 1
	4	a) 2-Propanamine b) Aryl halides do not undergo nucleophilic reactions with the phthalimide ion c) 	1 each
	5.	a) coagulation b) electrophoresis-The movement of colloidal particles under the influence of an electric field OR i) any two differences ii) Peptization is the process of formation of colloidal sol in which conversion of fresh precipitate into colloidal particles by shaking it with the dispersion medium with the help of a small amount of suitable electrolyte	1 each
	6	a) benzene to benzaldehyde equation b) Electron releasing group decrease the acidity of ethanoic acid by destabilising the conjugate base whereas the conjugate base of benzoic acid is more stabilisied by resonance c) P-Nitro benzoic acid, Benzoic acid, p-Methoxy benzoic acid. **OR** i) Q-ethanoic acid, R-ethanoyl chloride ii) CrO_3 **iii)** $CH_3COCl + H_2 \xrightarrow{Pd/BaSO_4} CH_3CHO$	1 1 1 ½ each 1 1

	7	a) Ti^{2+} contains unpaired e [d^2 configuration] b) $t_{2g}^6e_g^3$ c) ligand which can attach to the central metal atom through two donor site.eg CN- OR i) $[Co(NH_3)_4Cl_2]Cl$ ii) Double salt ionizes completely in aqueous solution whereas complex salt doesn't iii) 4	1each
	8	a) $C_6H_5CHO+CH_3NH_2 \rightarrow C_6H_5CH=NCH_3$ b) $C_6H_5CH_3$ + alkaline $KMnO_4 \rightarrow C_6H_5COOH$ c) $C_6H_5COOH \xrightarrow{HNO_3+H_2SO_4} m\text{-}NO_2C_6H_4COOH$	1each
	9	a) Cr^{3+} -d^3 stability b) Due to variable oxidation state and provides surface for reaction c) Energy is required to remove one electron from Cu^+ to Cu^{2+}, high hydration energy of Cu^{2+} compensates for it. Therefore, Cu^+ ion in an aqueous solution is unstable. It disproportionates to give Cu^{2+} and Cu.	1 each
	10	a) A- strong electrolyte, B- weak electrolyte b) Λ^0_{NH4OH} =129.8+218.4 -108.9=239.3 $Scm^2\ mol^{-1}$ OR Cell reaction: $Zn(s)+2Ag^+(aq) \rightarrow Zn^{2+}(aq)+2Ag(s)$ Ecell = 1.56- (0.0591 /2)log [10^{-1}] =1.5895V	1 2 1 2
	11	a) Irregular variation of $E^0(M^{2+}/M)$ values for ionization metals is due to irregular variation of ionization enthalpies,heat of sublimation, enthalpy of hydration. b) Behaves as electrolytic cell [reaction gets reversed] c) reaction at the cathode is: $H_2O(l)+2e^- \rightarrow H_2\ (g)+2OH^-$ reaction at the anode - $2Cl^- \rightarrow Cl_2\ (g)+2e^-$	1 1 1
	12	a) $r=k[C_{12}H_{22}O_{11}]$ b) order=1,unit=s^{-1} c) $[C_{12}H_{22}O_{11}]$=0.032/0.005=6.4M $t_{1/2}$= 0.693/0.005=138.6s OR $t_{99\%} = \frac{2.303}{k}\log 100$ $t_{90\%} = \frac{2.303}{k}\log 10$ $\qquad \frac{t_{99}\%}{t_{90\%}} = 2$ $\frac{t_{99}\%}{t_{90\%}} = 2$	1 1+1 1 1 ½ ½ 1
SET B	1	a) Hexacyanidoferrate(III)ion	1

	3.	b) Haloform reaction	1
	4	a) N,N-dimethylmethanamine	1
	5.	b) Tyndall effect-Scattering of light by the particles of colloid OR i) Any two difference between physisorption and chemisorption	1+1
SETC	1	a) Hexaamminechromium(III)ion.	1
	3	b) Haloform reaction	1