RAMAKRISHNA MISSION VIDYAMANDIRA (Residential Autonomous College under University of Calcutta)		
FIRST YEAR B.A. /B.SC. EIRST SEMESTER (July – December) 2014		
Mid-Semester Examination, September 2014		
Date : 16/09/2014 CHEMISTRY (General)		
Time :	12 noon – 1 pm Paper : I	Full Marks : 25
1. a)	Write down the Werner's theory of coordination compounds.	[4]
b)	Write the IUPAC name of the two compounds given below —	[3]
	i) $[Co(NH_3)_5S_2O_3]Cl$	
	ii) $K_3[Al(C_2O_4)_3]$	
c)	Why do the transition metals form complex compounds?	[2]
Or,		
	$K_2[Cd(CN)_4]$ and $K_3[Cu(CN)_4]$ belongs to two different class of compounds. Explain	
d)	A bidentate ligand may or may not be a chelating ligand. Comment on with examples.	[2]
e)	What do you mean by (with examples) — (i) flexidentate, (ii) bridging and (iii) and ligands.	mbidentate [3]
Or,		
Ð	From binding energy curve how can you explain nuclear fission and nuclear fusion reacti	on?
I)	what are the basis of electronegativity in pauling scale? Calculate the electronegativity in AsF_5 .	of Arsenic [3]
	Given : $E_{A_{S-A_{S}}} = 146 \text{ KJmol}^{-1}$, $E_{E-F} = 155 \text{ KJmol}^{-1}$ $E_{A_{S-F}} = 484 \text{ KJmol}^{-1}$; $\chi_{P}(F) = 4.0$	
	Or,	
	Explain the 1 st ionisation potential value of the following (KJ mol ⁻¹)	
	Li Be B C N O F Ne	
	513 899 801 1086 1402 1314 1681 2081	
g)	Calculate the radius of the Li^{+2} ion in the 3 rd excited state.	[2]
Ur, Explain the significance of magnetic Quantum number		
h)	How N/P ratio explain the nuclear stability?	[2]
	238 When the is not suitable for muchon finite resulting?	[-]
1)	Why \bigcup_{92} is not suitable for nuclear fission reaction?	[2]
j)	Heat energy of the sun is generated by the fusion of four ${}_{1}^{1}$ H nuclei into one ${}_{2}^{4}$ He nucl	leus. If the
	stock of hydrogen in the sun is consumed then from where energy will be obtained?	[2]

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