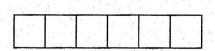
Oct -2014

कुमकुम - 017





CHEMISTRY PAPER – I : CH - 231 Physical Chemistry & Inorganic Chemistry - I (New) (23135)

(New) (23135)					
P. Pages: 2					
Time : Two	Hours	Max. Marks: 40			
1. Do 2. Ans sho HB 3. Stu 4. All 5. Fig	swer sheet should be wri ould be drawn with the san pencil.	ull marks.			
	ultiple choice questions.				
)	Molal elevation constanthe molality of the soluta) 1 c) 0.5	t is elevation in the boiling point when ion is b) 2 d) None of these			
II)	The liquid mixture which critical solution tempera a) Phenol – water c) Aniline – water	h shows maximum as well as minimum ature. b) Nicotine – water d) Benzene – water			
) Chromium has outer ele a) 4d ⁴ 4s ¹ c) 3d ⁵ 4s ¹	ectronic configuration. b) 4d ⁵ 4s ¹ d) 3d ⁵ 3s ¹			
iv)	Li metal has which of the for a) B.C.C. c) F.C.C.	ollowing crystal structure. b) H.C.P d) C.C.P			
B) A	ttempt any two of the follo	owing.			
i)	Define abnormal molec	ular weight.			

- ii) Define critical solution temperature.
- iii) Define n type & p type semiconductor.
- iv) Explain Mo & W are chemical twins.

2.		Attempt any two of following.		
		i)	Discuss the Nicotine – water system.	
		ii)	Describe Berkeley & Hartley's method to determine osmotic pressure of solution.	
		iii)	Write a note on intrinsic & Extrinsic semiconductors.	
3. A)	A)	Answer any one of following.		4
		i)	1.5126gm of solute on dissolution in 21.01 gm benzene gives an elevation in boiling point of 1.05°C. If Kb for 100gm benzene is 26.3, Calculate the molecular weight of solute.	
	·	ii)	The V. P. of pure component A & B are 120 mm & 96mm Hg. What will be partial pressures of the components & total pressure when the solution contain 1 mole of component A & 4 mole component B? Also calculate the composition in vapour phase.	
В)	B)	Answer any one of the following.		
		i)	Most of the transition metals are coloured why?	
		ii)	Give the physical properties of metals.	
4.		Answer any two of following.		
		i)	Explain the working of fractionating column.	4
		ii)	Calculate the magnetic moment of ions Ti^{3+} , V^{3+} , Cr^{3+} , Cu^{2+} . (Ti = 22, V = 23, Cr = 24, Cu = 29)	
		iii)	Draw the energy band diagrams for conductors, insulators & semiconductors.	
5.	A)	An	swer any one of the following.	6
		i)	Define solubility? Discuss the phenol – water system.	
		ii)	Write the electronic configuration of first transition series.	
	В)	D€	efine the term relative lowering of vapour pressure.	2