Exam Seat No: _____ C.U.SHAH UNIVERSITY **Summer Examination-2016**

Subject Name : Chemistry-I

	Subject	Code : 4SC01CHC1	Branch: B.Sc.(All)				
	Semeste	r:1 Date:29/04/2010	6 Time : 10:30 To 01:30 Marks : 7	0			
	Instructio						
	(1) Use of Programmable calculator & any other electronic instrument is prohibited.						
	(2) Instructions written on main answer book are strictly to be obeyed.						
	(3) Draw neat diagrams and figures (if necessary) at right places.						
	(4)	Assume suitable data if needed.					
Q- 1	l	Attempt the following quest	ions:	(14)			
	a)	Define: Electronegativity		(1)			
	b)	What is the hybridization of CH_4 ? (
	c)	Give the electronic configuration of Cr.					
	d)	Define: Isobaric process					
	e)	Define: Ionization potential					
	a)	Define: Adsobent		(1)			
	b)	Define: Molarity		(1)			
	c)	Define: Buffer solution		(1)			
	d)	Give the structure of cyclo he	ptane.	(1)			
	e) f)	Define: substitution reaction What is the shape of PCL 2		(1)			
	r) g)	What is the shape of PCl_5 ? Write the IUPAC name of		(1) (1)			
	b)	Give the formula for magnetic	c moment and its unit	(1)			
	i)	Write any one statement of fin		(1) (1)			
Atte	empt any f	four questions from Q-2 to Q-	-8				
Q-2	2	Attempt all questions		(14)			
-		Explain factors affecting the	magnitude of electronegativity.	(5)			
	В.	Discuss covalent radius and c		(5)			
	C.	Inter nuclear distance in NaF the ionic radius of Na ⁺ and F	is 2.31 A° and screening constant is 4.15. Calculate	(4)			
Q-3	3	Attempt all questions		(14)			
	А.	Explain the valence bond the		(5)			
	В.	Discuss the hybridization of C	C_2H_2 and C_2H_4 .	(5)			
	C.	Give the uses of adsorption.		(4)			



Q-4		Attempt all questions	(14)
	А.	Discuss various types of physical properties of 3d transition element.	(5)
	B.	Define: Joule Thomson effect. Explain Joule Thomson co-efficient and inversion temperature.	(5)
	C.	Explain Non Stochiometric and Interstitial compounds.	(4)
Q-5		Attempt all questions	(14)
	А.	Give Dieckmann's and Perkin method to prepare cyclo alkanes.	(5)
B. Write a short note on heat of hydrogenation and stability of alkenes.		Write a short note on heat of hydrogenation and stability of alkenes.	(5)
	C.	For 10% (W/W) solution of NaCl what is the mole fraction of each component in the solution?	(4)
Q-6		Attempt all questions	(14)
	А.	Write the reactions of cycloalkanes with halogen and halogen acids.	(5)
	В.	Explain E^1 and E^2 reaction.	(5)
	C.	For preparing 28% W/W H_2SO_4 solution how many grams of H_2SO_4 is required if 50 gm of H_2O is used?	(4)
Q-7		Attempt all questions	(14)
C	А.	Derive $C_p - C_v = R$.	(5)
	B.	Write the statement of zeroth law of thermodynamic and derive its mathematical form.	(5)
	C.	Give the differences between physisorption and chemisorption.	(4)
Q-8		Attempt all questions	(14)
-	А.	Describe Freundlich Adsorption isotherm.	(5)
	D	Derive the equation of pH, K _h and degree of hydrolysis of a salt of a weak acid	(5)
	В.	and weak base.	
		Calculate pH before and after the addition of 0.01 mole of NaOH to 1 liter of a	(4)
	C.	buffer solution that is 0.1 M CH ₃ COOH and 0.1 M is CH ₃ COONa. The K _a of	
		CH ₃ COOH is 1.75×10^{-5} .	



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