

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Chemistry - I**Subject Code: 4SC01CHC1/4SC01CHE1****Branch: B.Sc. (All)****Semester: 1****Date: 31/03/2018****Time: 02:30 To 05:30****Marks: 70**

Instructions:

- (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	Attempt the following questions:	(14)
a)	Define: Addition reaction	1
b)	Define: Thermodynamics	1
c)	Define: Atomic radii	1
d)	Define: Hybridisation	1
e)	Define: Adsorbent	1
f)	Define an acid according to Savante Arrhenius concept.	1
g)	Draw the chemical structure of 1:3-cyclo butadiene.	1
h)	E ² reaction is _____.	1
	(a) One step reaction (b) two step reaction (c) three step reaction	
i)	known as _____.	1
	(a) Cyclo propane (b) cyclo butane (c) butane	
j)	Addition of an electron to the atom results in the formation of _____.	1
	(a) Covalent bond (b) anion (c) cation	
k)	The angle between two sp-hybrids is _____.	1
	(a) 120° (b) 90° (c) 180°	
l)	A system which can exchange energy but not matter with its surrounding is _____ system.	1
	(a) Closed (b) open (c) isolated.	
m)	Mathematically change in enthalpy is written as _____.	1
	(a) $\Delta H = \Delta E + P\Delta V$ (b) $\Delta H = \Delta E + PV$ (c) $\Delta H = \Delta q + P\Delta V$	
n)	For acidic solution value of pH is _____.	1
	(a) pH = 7 (b) pH < 7 (c) pH > 7	



Attempt any four questions from Q-2 to Q-8

Q-2	Attempt all questions	(14)
a	Explain Crystal Radius and Ionic radius.	05
b	Write the reactions of alkyl halides with KSH, KNO ₂ and K ₂ S.	05
c	Write a note on Elimination reaction.	04
Q-3	Attempt all questions	(14)
a	What is Substitution reaction ? Discuss on S _N ¹ reactions with mechanism.	07
b	What is hybridization? And Explain sp ³ hybridization with suitable example.	07
Q-4	Attempt all questions	(14)
a	Gives any one method of preparation of large ring cyclo alkanes.	05
b	Write a short note on Electronegativity.	05
c	Write the Freund's method for the preparation of cyclo alkanes.	04
Q-5	Attempt all questions	(14)
a	State all the statements of 1 st law of thermodynamics.	05
b	Define heat capacity and derive C _p -C _v = R.	05
c	What is ionisation potential? Explain it in detail with examples.	04
Q-6	Attempt all questions	(14)
a	Derive Langmuir isotherm equation.	07
b	A sample of 0.75 gm of NaCl is dissolved in water and made upto 100 ml. calculate the Normality and Molarity of this solution. [Na=23,Cl=35.5]	07
Q-7	Attempt all questions	(14)
a	Write the uses of Adsorption.	05
b	Write a note on type of System.	05
c	Write a note on Preparation of a Standard Solution.	04
Q-8	Attempt all questions	(14)
a	Derive the equation of Ph for the solution of salt of weak acid and weak base.	07
b	Write the chemical properties of cycloalkanes.	07

