Enrollment No:	Exam Seat No:
Em onnient No	Exam Seat No

C.U.SHAH UNIVERSITYSummer Examination-2017

Subject Name: Physical Chemistry-I

Subject Code: 4SC05CHC3 Branch: B.Sc.(Chemistry)

Semester: 5 Date: 28/03/2017 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)	Write any one statement of second law of thermodynamics.	1
	b)	Define: cyclic process	1
	c)	Define: spontaneous process	1
	d)	Define: normality	1
	e)	What is Daltons law of partial Pressure?	1
	f)	Define: azeotropic mixture	1
	g)	Define: degree of freedom	1
	h)	Write the expression of reduced phase rule.	1
	i)	Define: colloids	1
	j)	Define: Electrophoresis.	1
	k)	Write an example of electrode concentration cell.	1
	1)	Define: liquid junction potential	1
	m)	Define: electrochemical cell	1
	n)	Define: non ideal solution.	1
Attemp	ot any f	four questions from Q-2 to Q-8	
Q-2		Attempt all questions	(14)
	a.	Explain Carnot cycle	7
	b.	Explain Vant Hoff Isotherm.	7
Q-3		Attempt all questions	(14)
	a.	Explain partially miscible systems.	7
	b.	Discuss the Theory of Fractional distillation.	7
Q-4		Attempt all questions	(14)
	a.	Discuss dispersion methods to prepare colloids.	7
	b.	Explain optical and kinetic properties of sols.	7
Q-5		Attempt all questions	(14)
	a.	Write a note on phase and component.	7
	b.	Explain water system with proper phase diagram.	7
Q-6		Attempt all questions	(14)
	a.	Explain electrolyte concentration cell with transference.	7
	b.	Derive the relation to determine dissociation constant of weak acid using	7
		electrochemistry.	



Q-7		Attempt all questions	(14)
	a.	Derive Clausius Clapeyron Equation.	5
	b.	Write the difference between lyophilic and lyophobic sols.	5
	c.	Discuss Henrys law.	4
Q-8		Attempt all questions	(14)
	a.	Derive the relation for determination of pH using Glass electrode.	7
	b.	Explain Silver-Lead Condensed system with appropriate phase diagram.	7

