C.U.SHAH UNIVERSITY Summer Examination-2019

Subject Name: Physical Chemistry-IV

Subject Code: 4SC06PCH1		Branch: B.Sc. (Chemistry)		
Semester: 6	Date: 25/04/2019	Time: 10:30 To 01:30	Marks: 70	
Instructions:				
(1) Use of Pr	ogrammable calculator & an	y other electronic instrument is p	prohibited.	
(2) Instruction	ons written on main answer b	ook 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		(1)
b	, 1	(1)
c		(1)
d		(1)
e		(1)
f		(1)
g) Write unit for 2^{nd} order rate constant.	(1)
h		(1)
i)	Write definition of correct orientation.	(1)
j	What is pseudo order reaction?	(1)
k	•	(1)
1)	What is osmosis?	(1)
n	n) Define: colligative properties.	(1)
n		(1)
Attempt ar	y four questions from Q-2 to Q-8	
Q-2	Attempt all questions	(14)
a)		(7)
b)		(7)
Q-3	Attempt all questions	(14)

a) b)	Explain any two methods for measurement of lowering of vapor pressure. Write note on elevation of boiling point.	(11) (7) (7)
	Attempt all questions	(14)
a)	Write note on graphical method for determination of rate constant.	(7)
b)	Derive rate constant K for 2 nd order reaction.	(7)
	b) a)	 a) Explain any two methods for measurement of lowering of vapor pressure. b) Write note on elevation of boiling point. Attempt all questions a) Write note on graphical method for determination of rate constant.

Q-5 Attempt all questions

(14)



	a)	Write radioactive disintegration series of uranium.	(7)
	b)	Describe type of radioactive decay.	(7)
Q-6		Attempt all questions	(14)
	a)	Write note on Rault's law.	(7)
	b)	Determine molecular weight from depression of freezing.	(7)
Q-7		Attempt all questions	(14)
	a)	How to determine radioactivity by any two methods?	(7)
	b)	Write brief note on nuclear binding energy.	(7)
		Attempt all questions	(14)
	a)	Explain principle of Le Chatelier's on the base of change in concentration.	(6)
	b)	Discuss synthesis of ammonia by Haber process.	(6)
	c)	Explain group displacement law.	(2)

