Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Pharmaceutical Analysis-I

Subject Code: 4PS02PHA1 **Branch: B.Pharm.**

Semester: 2 **Date: 06/05/ 2017** **Time: 02:00 To 05:00** **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 **Define the following terms.**

a)	Law of mass action	1
b)	Ionic product of water.	1
c)	Common ion effect	1
d)	Buffers solutions	1
e)	Neutralization curves	1
f)	Acid-base indicators	1
g)	Limit of detection	1
h)	Limit of quantitation	1
i)	Ligands and chelates.	1
j)	Complexometric titration.	1
k)	Diazotization titration.	1
l)	Accuracy and precision.	1
m)	Which indicator is used in iodometric titration?	1
n)	Write the pH range and colour of phenolphthalein in acidic and basic medium.	1

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

Q-2 **Attempt all questions**

a)	What is dissociation constant of acid? Derive Henderson-Hesselbalch equation for buffer solution.	**7**
b)	What are the various types of salts found? Describe Hydrolysis of salts.	**7**

Q-3 **Attempt all questions**

a)	What is Neutralization curve? Describe the Neutralization curve for strong acid and strong base.	**7**
b)	Describe briefly the Theories of indicators.	**7**

Q-4 **Attempt all questions**

a)	What are the different types of redox titrations? Describe iodometry.	**7**
b)	What is Nernst equation? Describe the construction and working of Galvanic cell.	**7**

Q-5		**Attempt all questions**	
	a)	Explain briefly Volhard's method for precipitation titration.	**7**
	b)	Describe solubility product constant (Ksp)? Differentiate between Solubility product and Ionic product.	**7**
Q-6		**Attempt all questions**	
	a)	Describe leveling effect and differentiating effect of solvents used in non-aqueous titration.	**7**
	b)	What is sampling? Discuss various sampling techniques and sampling error minimization.	**7**
Q-7		**Attempt all questions**	
	a)	Describe the application of complexometric titration in determination of concentrations of cations.	**7**
	b)	Describe different types of Complexometric titrations involving EDTA.	**7**
Q-8		**Attempt all questions**	
	a)	Write the names of various steps involved in gravimetric analysis? Describe any two methods of them.	**7**
	b)	What are the impurities in gravimetric analysis? Write the advantages and disadvantages of gravimetric analysis.	**7**