Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – I • EXAMINATION – SUMMER 2017

Subject code: 2210003 Date: 06/06/2017

Subject Name: Pharmaceutical Analysis-I

Time: 02:30 PM to 05:30 PM Total Marks: 80

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Answer the following: 1. Define : precision, accuracy, oxidation, ligand 2. Disodium edetate is a hexadentate ligand. Comment. 3. Differentiate iodimetry and iodometry.	**06**
	(b)	Define validation and explain various analytical validation parameters.	**05**
	(c)	What is volumetric analysis? Write principles of volumetric analysis. How detection of end point is done in volumetric analysis?	**05**
Q.2	(a)	Explain hydrolysis of salts, and derive an equation for hydrolysis of salt of weak acid and strong base.	**06**
	(b)	50 ml of 0.1M acetic acid is titrated with 0.1 M sodium hydroxide. Calculate the pH of solution when following volume of NaOH is added, 1) 0 ml, 2) 10 ml, 3) 25 ml, 4) 50 ml. Ka of acetic acid = $1.8 * 10^{-5}$	**05**
	(c)	Explain neutralization theory for acid base indicators.	**05**
Q.3	(a)	What is Argentimetric titration? Describe Mohr's method for determination of chloride?	**06**
	(b)	Derive Henderson-Hasselbach equation for buffer solution.	**05**
	(c)	Write a brief note on non-aqueous titrations.	**05**
Q.4	(a)	Write a brief note on: 1. Ionic product of water 2. Kjeldahl method	**06**
	(b)	Explain various precipitation techniques in gravimetric analysis.	**05**
	(c)	Differentiate co-precipitation and post-precipitation.	**05**
Q.5	(a)	Write a detailed note on Permanganate method.	**06**
	(b)	Answer the following: 1. Standardization of sodium thiosulphate solution. 2. Standardization of iodine solution	**05**
	(c)	Write a detailed note on : Redox indicators	**05**

Q. 6	(a)	Answer the following: 1. Ligands 2. Classification of analytical methods	**06**
	(b)	Explain complexometric titration and masking agent with example. What are the ideal requirements of metal ion indicators?	**05**
	(c)	Explain common ion effect and diverse ion effect with example.	**05**
Q. 7	(a)	What is error? Classify it, How errors can be minimized?	**06**
	(b)	Explain in detail principle, instrumentation and applications of Karl Fischer titration.	**05**
	(c)	Explain adsorption indicator method for precipitation.	**05**

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