Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: 2210003 **Date: 16-01-2013**

Subject Name: Pharmaceutical Analysis - I

Time: 02:30 pm – 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)	Give some account on type of errors and methods of their minimization.	**06**
	(b)	Write a detailed classification of analytical method and enlist various validation parameters.	**05**
	(c)	Explain common ion effect with example.	**05**
Q.2	(a)	Write a brief note on: 1. Karl Fischer titration 2. Kjeldahl method	**06**
	(b)	Explain in detail Volhard's method of precipitation.	**05**
	(c)	Write a detailed note on redox indicators.	**05**
Q.3	(a)	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 = $1.8 * 10^{-5}$	**06**
	(b)	Define buffer solution and explain in detail Henderson-Hasselbach equation for buffer.	**05**
	(c)	Explain in detail hydrolysis of salts.	**05**
Q.4	(a)	Write a note on co-precipitation and post-precipitation.	**06**
	(b)	Explain various steps involved in gravimetric analysis.	**05**
	(c)	Explain different types of solvents used for non-aqueous titrations with examples.	**05**
Q.5	(a)	Write a detailed note on Iodometric and Iodimetric method.	**06**
	(b)	Answer the following: 1. Advantages and disadvantages of nonaqueous titration. 2. Explain leveling and differentiating effects of solvent with suitable examples.	**05**
	(c)	Describe various precipitation techniques in gravimetry.	**05**
Q. 6	(a)	Answer the following: 1. Ionic product of water 2. Law of mass action	**06**
	(b)	Explain different types of EDTA titrations. What are the ideal requirements of metal ion indicators?	**05**
	(c)	Write a note on Ligands.	**05**
Q. 7	(a)	Answer the following: 1. Define : molarity, precision, sampling, accuracy 2. Equivalent weight of potassium permanganate varies with change in media. Comment. 3. Ce^{3+} - Ce^{4+} half cell shows different E^0 values in different acids. Comment.	**06**
	(b)	Write a detailed note on : Acid base indicators	**05**
	(c)	Explain Mohr's method for precipitation.	**05**

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