Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER I • EXAMINATION – WINTER • 2014

Subject code: 2210003 **Date: 01-01-2015**

Subject Name: Pharmaceutical Analysis - I

Time: 10:30 am - 01:30 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)**	Define error. Classify the error and how will you minimize the error?	**06**
	(b)	Define Validation. Enlist validation parameters. Explain Accuracy and precision in detail using suitable examples.	**05**
	(c)	Describe different sampling techniques in formulation analysis. How sampling error can be minimized.	**05**
Q.2	**(a)**	Explain theory of acid–base indicators.	**06**
	(b)	What is hydrolysis? Derive equation for finding pH of aqueous solution of salt of weak acid and strong base.	**05**
	(c)	Describe Law of mass action in detail.	**05**
Q.3	**(a)**	Enlist the different types of redox titrations. Discuss in detail about the Diazotization titration.	**06**
	(b)	Write a note on estimation of Nitrogen in organic compounds by Kjeldhal method.	**05**
	(c)	Explain in detail about Iodometry titration.	**05**
Q.4	**(a)**	Explain importance of von-Weimar ratio, co-precipitation and post-precipitation in gravimetric method of estimation.	**06**
	(b)	How will you determine halogen by Mohr's method?	**05**
	(c)	Write a note on Karl-fisher titration.	**05**
Q.5	**(a)**	Write a short note on Masking and damasking of complexometric titration.	**06**
	(b)	Write a short note on pM Indicator.	**05**
	(c)	Give Comment on: (I) KI is added in preparation of standard solution of iodine. (II) Nitrobenzene is used in Volhard's Method. (III) Starch indicator should be added near the end point in iodine titration. (IV) Acetic acid is a levelling solvent as well as differentiating solvent. (V) Equivalent weight of KMnO4 changes with the media.	**05**
Q. 6	**(a)**	Discuss levelling and differentiating effect of the solvent in non-aqueous titration.	**06**
	(b)	Give a detail account of Fajan method.	**05**
	(c)	Discuss merits and Demerits of non aqueous titration over aqueous titration.	**05**
Q.7	**(a)**	Calculate pH and hydrolysis constant of 0.01 M Ammonium chloride solution when Kb is 1.6×10^{-5}.	**06**
	(b)	The Ksp of PbI_2 is 7.2×10^{-9}. Calculate molar solubility of PbI_2.	**05**
	(c)	Calculate pH of solution resulting by mixing 25 ml 0.3 N NaOH and 25 ml 0.6 N CH3COOH, pKa of Acetic acid is 4.76.	**05**

****