GUJARAT TECHNOLOGICAL UNIVERSITY

BACHELOR OF PHARMACY

Semester: 4

Subject Code: 240004

Subject Name: Pharmaceutical Analysis - II

Sr. No.	**Course content** (Following topics should be covered with due consideration of pharmacopoeial applications and numerical)	**Proposed No. of Hours of Teching**
1.	Basics of instrumental analytical methods: Advantages, limitations, validation, signal to noise ratio.	03
2.	Chromatography: Classification, theories, retention mechanism, separation efficiency, methodology an pharmacopoeial applications of column, paper and thin layer chromatography.	12
3.	Electroanalytical methods: Basics of electroanalytical methods 3.1 Conductometry: Conductances, factors affecting conductance, Kohlrausch law, conductivity cells, applications 3.2 Potentio and pH metric methods: Standard reduction potentials, various electrodes, electrodes and cell potential, applications of potentiometry and pH metry. 3.3 Polarography, amperometry, biamperometry: Basics of current flow in polarography, dropping mercury electrode, diffusion current, half wave potential, modifications like pulsed and differential pulse polarography, stripping voltametry, biamperometric titrations, amperometric titrations.	03 05 06 09
4.	Calorimetry: Types, thermogravimetric analysis, differential scanning calorimetry, differential thermal analysis, melting point, etc. and their applications	05
5.	Polarimetry: Polarimeter, qualitative and quantitative applications	02

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Pharmaceutical Analysis-II – Practicals (45 Hours)

Quantitative analysis of different compounds involving following techniques:

1. Conductometry
2. Potentiometry
3. PH metry
4. Polarimetry
5. Column chromatography
6. Thin layer chromatography
7. Paper chromatography
8. Polarography, amperometric and biamperometry

Reference Books:

1. Pharmacopoeia: USP, B.P., I.P.
2. Practical Pharm. Chemistry, Vol. B – Backett, The athlone Press of University of London.
3. Textbook of Pharmaceutical Analysis – J. W. Munson, Marcel Dekker Inc., New York.
4. Fundamentals of Analytical Chemistry – Skoog, Harcourt College Publishers.
5. Quantitative chemical analysis – Vogel A.I, Pearson Education.
6. Text Book of Pharmaceutical Analysis – K. A. Connor, John Willey & Sons.