# **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **B.PHARM SEMESTER-II**

PHARMACEUTICAL ANALYSIS-II

#### Subject Code: 2220003 THEORY (4 Hours / Week; 4 Credits, 60 Hours)

Sr.	Course Contents	Hours
No.		
1.	Basics of instrumental analytical methods: Advantages, limitations,	4
	validation, signal to noise ratio.	
2.	Chromatography: Classification, theories, retention mechanism, separation	15
	efficiency, methodology an pharmacopoeial applications of column, paper and	
	thin layer chromatography.	
3.	Electroanalytical methods: Basics of electroanalytical methods	4
3.1	Conductometry: Conductances, factors affecting conductance, Kohlrausch	6
	law, conductivity cells, applications	
3.2	Potentio and pH metric methods: Standard reduction potentials, various	8
	electrodes, electrodes and cell potential, applications of potentiometry and	
	pH metry.	
3.3	Polarography, amperometry, biamperometry: Basics of current flow in	11
	polarography, dropping mercury electrode, diffusion current, half wave	
	potential, modifications like pulsed and differential pulse polarography,	
	stripping voltametry, biamperometric titrations, amperometric titrations.	
4	Calorimetry: Types, thermogravimetric analysis, differential scanning	5
	calorimetry, differential thermal analysis, melting point, etc. and their	
	applications	
5	Polarimetry: Polarimeter, qualitative and quantitative applications	3
6.	Extraction techniques :	3
	Simple extraction, multiple extractions, separation of drugs in multicomponent	
	system. Effect of pH on extractability of drugs, continuous extractions.	
7.	Miscellaneous methods: Oxygen combustion flask method, gasometric	1
	method, etc.	

### B.PHARM SEMESTER-II PHARMACEUTICAL ANALYSIS-II Subject Code: 22200P3 PRACTICAL (3 hours/week, 3 credits, 45 hours)

Sr.	Course Contents	Hours
No.		
	Quantitative analysis of different compounds involving following	
	techniques:	
1	Conductometry	
2	Potentiometry	
3	pH metry	
4	Polarimetry	45
5	Column chromatography	
6	Thin layer chromatography	
7	Paper chromatography	
8	Polarography, amperometry and biamperometry	

#### **Books recommended (Latest Editions):**

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