St.James College of Pharmaceutical Sciences St.James medical Academy River Bank, Chalakudy			
Programme:	B. PHARM	Sem.:	I semester
Name of Course: (*Subject*)	PHARMACEUTICAL ANALYSIS	Course Code:	BP102T
Teaching faculty of the course	Mrs. Aneena George		

Summary of the Lecture Plan

Topic	Lectures	Hours
Acid Base Titrations	Theory of acid base titrations	2
	Theory of indicators and examples for indicators	1
	Neutralization curves	2
	Acidimetric and alkalimetric titrations	2
Non-Aqueous Titrations	Theory and principle for non-aqueous titrations	1
	Types of solvent system	1
	Levelling effect	1
	Indicators in non-aqueous titrations	2
	Types of non-aqueous titrations	3
Complexometric titrations	Theory of complexometry	2
	pM indicators	1
	Applications of complexometry	3
	Mechanism of p^M indicators	2
Diazotization titrations	Theory, principle and applications of diazotization reaction.	3
Redox titrations	Theory of different types of redox reactions	4
	Redox indicators	1
Precipitation titrations	Mechanism and examples of adsorption indicators	1
	Principle of Mohr’s method, fajans method and Volhard’s method	5
Electro chemical analysis	Principle and applications of conductometry, potentiometry and polarimetry	5
Errors	Types, classification and methods to minimize errors	2
Accuracy, precision and significant figures	Definition and explanation of accuracy, precision and significant figure	3

Major Issues or Core Aspects to Be Addressed/ Covered:

Acid Base Titrations
Acidimetric and alkalimetric titrations
Neutralization curves
Theory of indicators and examples for indicators
Theory of acid base titrations

Law of mass action
Common ion effect
Complexometric Titrations
Mechanism of p^M indicators
Applications of complexometry
Theory of complexometry
EDTA preparation and standardization
Chelating agents and sequestering agents
Pharmaceutical Analysis Introduction
Classification of analytical techniques
Accuracy and precision
Significant figures
Primary and secondary standards
Preparation and standardization of various molar solutions
Errors and classification
Methods to minimize errors
Precipitation Titrations
Adsorption indicators
Mechanism of adsorption indicators
Mohr’s method, fajans method and Volhard’s method
Assay of sodium chloride
Non-Aqueous Titrations
Types of non-aqueous titrations
Indicators in non-aqueous titrations
Levelling effect
Types of solvent system
Electro chemical analysis
Principal and theory of conductometry, potentiometry and polarography
Applications of electro chemical analysis
Instrumentation of electro chemical analysis

Sample Questions

Acid Base Titrations
Explain neutralization curves with examples?
Indicators used in acid base titrations?
Explain preparation and standardization of 0.1N sodium hydroxide?
Write examples for acidimetric and alkalimetric acid base titrations?
Write a note on Henderson Hassle Bach equation?

Explain law of mass action, common ion effect and ionic product of water?
Non - aqueous titrations
Explain principle of non-aqueous titrations?
Discuss on Acidimetric and alkalimetric non – aqueous titrations?
Assay of sodium benzoate?
Assay of ephedrine hydrochloride?
Indicators in non-aqueous titrations?
Electro chemical analysis
Explain theory and principle of conductometry?
Discuss on instrumentation of conductometry?
Different types of current in polarography?
Explain polarographic curve?
Instrumentation of polarography
Applications of potentiometry
Electrodes in potentiometry
Redox Titrations
Explain indicators in redox titrations
Principle and theory involved in permagnometry
Preparation and standardization of cerric ammonium sulphate.
Differentiate Iodimetry and iodometry
Pharmaceutical Analysis Introduction
Explain Primary and secondary standard with examples
Classify errors and discuss about methods to minimize errors
Write comparative study between accuracy and precision
Explain in detail about different techniques in analysis.
Precipitation Titrations
Define and classify argentometric titrations.
Discuss about Mohr’s method and fajans method
Explain mechanism of action of adsorption indicators with examples.