



Nirmala College of Pharmacy, Muvattupuzha

Muvattupuzha P.O Ernakulam District Kerala, India, Pin:686661

Email : info@nirmalacp.org, Phone : 04852836888

Proposed Plan

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2018-2022
Semester	7
Subject	Instrumental Methods of Analysis – Theory
Faculty	Manu Jose , Elseena Jose

Sl.No	Module name	Topic Name	Description	Date
1	Flame Emission Spectroscopy	Principle and Instrumentation	Teaching aid: https://youtu.be/1F6CxVF5l9g	19/08/2022
		Interference and Applications	Teaching Aid: https://youtu.be/8vmrDTGWEsE	22/08/2022
2	Introduction - Significance of Pharmaceutical Analysis	introduction to instrumental analysis and its significance	various analytical techniques and its scope in Quality control	16/08/2022
3	Atomic absorption spectroscopy	Principle, instrumentation	Teaching Aid - Chart	23/08/2022
		Application, interferences		25/08/2022
4	Paper Chromatography	Principle, instrumentation and applications		26/08/2022
		Principle, methodology and Applications		01/09/2022
5	UV spectroscopy	Electronic transitions		16/09/2022
		Beer and Lambert's law, Derivation and deviations		19/09/2022
		chromophores, auxochromes, spectral shifts, solvent effect on absorption spectra		23/09/2022
		Instrumentation - Sources of radiation, wavelength selectors		24/09/2022
		sample cells, detectors- Photo tube, Photomultiplier tube, Photo voltaic cell, Silicon Photodiode		

Sl.No	Module name	Topic Name	Description	Date
		Applications - Spectrophotometric titrations, Single component and multi component analysis		10/10/2022
6	Fluorimetry	Theory, Concepts of singlet, doublet and triplet electronic states, internal and external conversions		17/10/2022
		factors affecting fluorescence, quenching		18/10/2022
		instrumentation		19/10/2022
		Applications		19/10/2022
7	TLC	Principle methodology		12/09/2022
		Applications		15/09/2022
8	HPTLC	Introduction, Instrumentation		29/09/2022
		Applications		30/09/2022
9	Electrophoresis	Principle, methodology		06/10/2022
		application		07/10/2022
10	Column Chromatography	Principle, instrumentation		13/10/2022
		methodology, applications		14/10/2022
11	Discussion	Chromatography		20/10/2022
		AAS and FES		21/10/2022
12	Ion Exchange chromatography	Ion-exchange chromatography-Introduction, principles, types of ion exchange synthetic resins,applications		01/11/2022
		physical properties, factors affecting ion exchange, andmethodology		07/11/2022
		physical properties, factors affecting ion exchange, andmethodology		07/11/2022
		physical properties, factors affecting ion exchange, andmethodology		14/11/2022
13	Gel filtration chromatography	Principle, methodology and applications		28/11/2022
14	affinity chromatography	Principle, methodology and applications		21/11/2022
15	Nepheloturbidimetry	Nepheloturbidimetry - Principle, instrumentation and Application		05/12/2022
16	Content beyond the syllabus	Case study IR interpretation of organic molecules		24/11/2022

SI.No	Module name	Topic Name	Description	Date
		Hyphenation Techniques		23/01/2023
17	Infrared Spectroscopy	Introduction, fundamental modes of vibrations in polyatomic molecules	EMR spectrum, Principle, requirements for IR Absorption, modes of vibration	31/10/2022
		sample handling techniques	Teaching adi: video- https://youtu.be/uuAjA9UbA7Y	03/11/2022
		Instrumentation	teaching aid: https://youtu.be/OiukFtC8E04	04/11/2022
		Applications	case study	07/11/2022
18	HPLC	Introduction, Theory	Teaching AID: https://youtu.be/Vr5t-cgHHG4 .	01/12/2022
		Instrumentation	teaching aid: https://youtu.be/eCj0cRtJvJg	02/12/2022
		Applications		08/12/2022
19	gas chromatography	Introduction, theory	teachng aid: https://youtu.be/uSG8ANBTaN0	17/11/2022
		Instrumentation	Teaching Aid: https://youtu.be/lgdcyAQDKro	18/11/2022
		derivatization, temperature programming, advantages, disadvantages and applications		24/11/2022

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