

Certificate Course at S. Y. B. Sc. level & PG Level

Certificate Course entitled as "Quality control techniques in pharmaceutical, food and dairy industries"

Course Syllabus

Course Objectives:

1. Develop a comprehensive understanding of the principles of drug development, extraction, and purification techniques.
2. Gain insights into the roles of regulatory authorities such as the FDA and Indian Pharmacopeia.
3. Acquire hands-on experience in laboratory techniques relevant to pharmaceutical analysis and food safety.
4. Learn to critically evaluate the efficacy of antimicrobial agents and the quality of food products.

Course Outcomes:

1. Students will demonstrate proficiency in laboratory techniques such as chromatography and chemical assays.
2. Students will articulate the stages of drug development and clinical trials, including the design and implementation of clinical studies.
3. Students will exhibit awareness of regulatory frameworks and quality control measures in pharmaceuticals and food industries.
4. Students will apply analytical skills to real-world scenarios, effectively isolating and characterizing microorganisms, assessing food quality.

Credits:04

Credit	Content	Lectures
	Paper 1-Pharma	
I	Theory	
	Extraction and purification procedures of bioactive principles-GLC, HPLC	2
	Drug development-clinical trials	2
	Drug formulation, Drug delivery	2
	Development of anti-infective Susceptibility testing-Antifungal, Antiprotozoal, Antiviral	2



	Regulatory authorities and its role-FDA and Indian pharmacopeia	2
	Pharmakinetiess-ADME/Biavailability studies	2
	Total	12

II	Practical	No. of practicals
	TLC of sugar and amino acids	1
	General chemical tests for alkaloids, glycosides, flavanoids and tannins	1
	Determination of saponification value of oil	1
	Determination of total permanent and temporary hardness of water using EDTA	1
	Estimation of calcium in chalk-Permangannometry	1
	Total	05X4-20
	Total	32

	Paper II - Food & Dairy	Lectures
III	Controlling the microbiological quality of foods <ul style="list-style-type: none"> • Quality and criteria • Sampling schemes • Quality control using microbiological criteria • Control at source • Codes of good manufacturing practice • HACCP • ISO 9000 	10
	Evaluation of antimicrobial agents from milk and milk products	2
	Total	12

IV	Practical	No. of Practicals
	Isolation of Campylobacter from meat product	1
	Isolation and characterization of fungi from fruit juices	1
	Determination of COD	1
	Baudouin test Peroxide value of ghee	1
	Determination of lactose by lane-Eynon Volumetric	1



	method	
		05X4-20
	Total	32
04 Credits	Grand Total	64

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Head

Dept. of Microbiology

HEAD

Department of Microbiology
Fuljaram Chaturchand College,
Baramati, Dist. Poona.

