
Course Outcomes (COs)

Program: B pharm

Batch: 4th semester



Nirmala College of Pharmacy, Muvattupuzha

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

Email : info@nirmalacp.org, Phone : 04852836888

Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Pharmaceutical Organic Chemistry III– Theory

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO1	Discuss at an advanced level, the three-dimensional structure of organic molecules and explain their stereochemical relations.	Understand the knowledge on stereochemical aspects of organic compounds	Understand	Greeshma G Nair
2	CO2	Apply & understand how structural changes influence reaction mechanisms and reactivity of organic molecules & drugs.	Application of organic reactions in the synthesis of medicinal compounds	Apply	Greeshma G Nair
3	CO3	Describe the chemistry of the heterocyclic compounds in terms of molecular orbital theory, aromaticity and reactions including method of preparation and their medicinally important compounds	Chemistry of important heterocyclic compounds and their synthesis and reactions	Apply	Greeshma G Nair
4	CO4	To be able to run experimental techniques, procedures and safe laboratory practices	Understand the methods of preparation and properties of organic compounds	Understand	Greeshma G Nair
5	CO5	Study the reaction mechanism and synthetic applications of various important chemical reactions & named reactions which are applicable in drug industry	important name reactions, their mechanism and their synthetic importance	Remember	Greeshma G Nair

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Medicinal Chemistry I – Theory

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	BP402T.1	To understand the principles of medicinal chemistry, drug metabolic pathways, adverse effect and therapeutic value of drugs	To understand the drug metabolism pathway and its adverse effect	Understand	Saranya T S
2	BP402T.2	Acquire knowledge about the relationship between the biological activity and Physicochemical properties of therapeutic agents.	To understand the relationship between the biological activity and therapeutic activity of drugs	Understand	Saranya T S
3	BP402T.3	Demonstrate the synthesis of some important class of drugs	To understand the synthesis of some important class of drugs	Understand	Saranya T S
4	BP402T.5	Demonstrate the chemistry, classification, SAR and uses of different classes of drugs with respect to their pharmacological activity.	To understand the chemistry, classification, SAR and uses of different classes of drugs with respect to their pharmacological activity.	Understand	Saranya T S
5	BP402T.4	Utilize the knowledge of the mechanism pathways of different class of medicinal compounds to understand their pharmacological activity	Apply the knowledge of the mechanism pathways of different class of medicinal compounds to understand their pharmacological activity	Apply	Saranya T S

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Physical Pharmaceutics II – Theory

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO.1	Know the principles of chemical kinetics & to use them in assigning expiry date for Formulation and to know how various factors influence the decomposition of medicinal agents and also understand the principles involved in stabilization of drugs		Understand	Gifty M Jojo
2	CO.2	Understand the applications of the knowledge of rheology in various steps of product formulation and development on industrial scale		Understand	Gifty M Jojo
3	CO.3	understand the different types of colloids which the drugs form and the properties of such colloids		Understand	Gifty M Jojo
4	CO.4	Learn regarding the classification, formulation and evaluation of coarse dispersions like suspensions and emulsions.		Understand	Gifty M Jojo
5	CO.5	Learn about the different types of surfactants and their role in pharmacy		Apply	Gifty M Jojo

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Pharmacology I – Theory

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO303.1	Understand about the basic concepts and principles of pharmacology like routes of drug administration, pharmacokinetics, pharmacodynamics, drug allergy adverse drug reactions and drug interactions.	Basic concepts of pharmacology	Understand	KARTHIKEYAN M
2	CO303.2	Explain how drugs, toxins, chemicals act in our body at organ system/sub cellular/macromolecular levels. (i.e., mechanisms of action)	Mechanisms of drug action	Understand	KARTHIKEYAN M
3	CO 303.3	Know the importance of selection of the right drug through concepts like essential drug lists, pharmacogenetics, chronopharmacology, receptor concept	Receptors involved in drug action	Understand	Elayath Parvathy Murali
4	CO 303.4	Explain the entire pharmacological aspects of drugs (such as classifications, mechanisms of action, adverse drug reactions, uses etc) acting on autonomic nervous system, CNS	Drugs acting on ANS	Apply	Elayath Parvathy Murali
5	CO 303.5	Use the knowledge gained through understanding of pharmacology of drugs and apply it in the dispensing of drugs and thus help in the treatment of various diseases affecting the body systems and thus improve the general health of the community. (Pharmacotherapeutics)	Pharmacotherapeutics	Apply	Elayath Parvathy Murali



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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Pharmacognosy and Phytochemistry I– Theory

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	BP405T 1	know the techniques in the cultivation and production of crude drugs		Understand	Lins Mary Joy
2	BP405 T 2	know the crude drugs, their uses and chemical nature		Apply	Lins Mary Joy
3	BP405 T 3	Know the other evaluation techniques for the herbal drugs		Apply	Lins Mary Joy
4	BP405 T 4	carry out the microscopic and morphological evaluation of crude drugs		Apply	Lins Mary Joy
5	BP405 T 5	Role of Pharmacognosy in allopathy and traditional systems of medicine and an introduction to pharmacognosy.		Understand	Lins Mary Joy

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	5
Subject	Formulative Pharmacy – Practical

SI.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	BP506P.1P	Attain basic understanding in the area of preformulation study, manufacturing, packaging and labeling of tablets.		Apply	Melody Grace Baby
2	BP506P.2P	Understand the requirements of parenteral product preparation, packaging and labeling		Apply	Melody Grace Baby
3	BP506P.3P	Understand processes involved in the preparation and evaluation of syrups		Apply	Melody Grace Baby
4	BP506P.4P	Develop skill in the manufacturing and packaging of creams		Apply	Melody Grace Baby
5	BP506P.5P	Learn the evaluation studies of different formulations and packaging materials.		Apply	Melody Grace Baby



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Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Physical Pharmaceutics II – Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	407P.1	Determination of surface tension of given liquids by drop count and drop weight method		Analyze	Gifty M Jojo
2	407P.2	Determination of HLB number of a surfactant by saponification method		Analyze	Gifty M Jojo
3	407P.3	Determination of critical micellar concentration of surfactants		Analyze	Gifty M Jojo
4	407.4	Determination of viscosity of liquid using Ostwald's viscometer		Analyze	Gifty M Jojo
5	4BP07.5	Determination sedimentation volume with effect of different suspending agent		Analyze	Gifty M Jojo
6	BP407.6	Determination of viscosity of semisolid by using Brookfield viscometer		Analyze	Gifty M Jojo
7	BP407.7	Determination of reaction rate constant first order.		Analyze	Gifty M Jojo
8	BP407.7	Determination of reaction rate constant second order		Analyze	Gifty M Jojo
9	BP407.8	Accelerated stability studies		Analyze	Gifty M Jojo



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Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Pharmacology I – Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	C310.1	Understand about the basic instruments used in experimental pharmacology and their assembling and uses	basic instruments used in experimental pharmacology	Remember	Elayath Parvathy Murali
2	C310.2	Know about the commonly used laboratory animals and how to maintain them. They also learn about the routes of drug administration in experimental animals as well as how to collect blood from animals used proper methods.	Common lab animals, routes of administration and collection of blood	Understand	Elayath Parvathy Murali
3	C310.3	Learn and understand the common experiments performed in laboratory rats, frogs, rabbits etc and the step by step procedures of conducting the experiments using computer softwares.	Software based simulating experiments	Apply	Elayath Parvathy Murali
4	C310.4	Integrate and utilize the knowledge gained in the theory course by applying it in the practical sessions using various experiments on isolated tissue experiments. (chicken ileum)	Invitro experiments	Apply	Elayath Parvathy Murali
5	C310.5	Use basic formulas and methods in experimental pharmacology and perform dose calculation experiments.	Dose calculation	Analyze	Elayath Parvathy Murali

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Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	B Pharm
Batch	2020-2024
Semester	4
Subject	Pharmacognosy and Phytochemistry I – Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	BP409 P 1	Identify the primary metabolites present in unorganized crude drugs by performing various chemical test.	EVALUATION OF CRUDE DRUGS BY CHEMICAL METHODS	Evaluate	Lins Mary Joy
2	BP409 P 2	Confirm the identity and purity of the crude leaf drugs by determining the leaf constants.	QUANTITATIVE MICROSCOPICAL EVALUATION	Evaluate	Lins Mary Joy
3	BP409 P 3	Evaluate crude drugs by quantitative microscopical methods like linear measurements and lycopodium spore method.	QUANTITATIVE MICROSCOPICAL EVALUATION	Evaluate	Lins Mary Joy
4	BP409P 4	knowledge about active constituents from crude drug/Evaluate crude drugs by determining physical evaluation methods like ash & extractive value.	PHYSICAL METHOD OF EVALUATION	Evaluate	Lins Mary Joy
5	BP409P 5	Determine the purity of crude drugs containing saponins and mucilage by various methods of evaluation like foaming index and swelling index	EVALUATION METHOD	Evaluate	Lins Mary Joy

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