
Course Outcomes (COs)

Program: pharm D

Batch: 1st year



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	Pharm D				
Batch	2022-2028				
Semester	1				
Subject	Human Anatomy and Physiology				
Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	C01	Explain the anatomy, physiology and functions of various Tissues and cell, organization of cellular system, muscle contraction and its disorders.	Unit 1, 2, 3	Remember	KARTHKEYAN M
2	C02	Explain Haemopoetic and lymphatic system homeostatic and its altered physiology	Unit 5 and 6	Understand	KARTHKEYAN M
3	C03	Explain the anatomy and Physiology of cardiovascular, respiratory system, Digestive system, Nervous system, and its disorders	Unit 7, 8, 9 and 10	Understand	KARTHKEYAN M
4	C04	Explain the Anatomy and Physiology of endocrine system, urinary and reproductive system and sense organs and its disorders	Unit 11, 12, 13 and 14	Understand	KARTHKEYAN M
5	C05	Explain anatomy and physiology of skeletal system, joints sport physiology, drugs and athletics	unit 15 and 16	Apply	KARTHKEYAN M

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha				
Course	Pharm D				
Batch	2022-2028				
Semester	1				
Subject	Pharmaceutics Theory				
Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	PD 1	CO1	Explain history of the profession of Pharmacy in India & Pharmacopeia and its development.	Understand	Flowerlet Mathew
2	PD2	CO2	Learn parts and handling of prescription, posology & dose calculation of drug in imperial system as well as metric system.	Apply	Flowerlet Mathew
3	PD 3	CO3	Understand basic requirements, formulation and evaluation of conventional dosage forms like powder, liquid (monophasic & biphasic) and semi solid dosages forms.	Apply	Flowerlet Mathew
4	PD 4	CO4	To understand about pharmaceutical incompatibility and methods to overcome	Analyze	Flowerlet Mathew
5	PD 5	CO5	Understand the method of preparation, purification and storage of galenicals as well as surgical aids and its pharmaceutical and clinical applications.	Understand	Flowerlet Mathew

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Course Outcome

Institute		Nirmala College of Pharmacy, Muvattupuzha			
Course		Pharm D			
Batch		2022-2028			
Semester		1			
Subject		Medicinal Biochemistry			
SlNo	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO1	Enlist and describe the cell organelles with their molecular and functional organization	To remember about the function of each cell organelles	Remember	Saranya T S
2	CO2	Outline the structure, function, and interrelationships of various biomolecules and the consequences of deviation from the normal	To understand of the metabolic pathway of various biomolecules and its parameters	Understand	Saranya T S
3	CO3	To know about bioenergetics and biological oxidation in the cell	To understand the bioenergetics and biological oxidation of cell	Understand	Saranya T S
4	CO4	To understand the catalytic role, therapeutic and diagnostic applications of enzymes and isoenzymes	application of enzymes and isoenzymes by catalytically, therapeutically and diagnostically	Apply	Saranya T S
5	CO5	To know about the various biomolecules that affect the metabolism and the pathways of several diseases.	To understand the metabolic functions of biomolecules and its metabolic disorders	Understand	Saranya T S
6	CO 6	To understand the genetic organization of mammalian genome protein synthesis, replication mutation, and repair mechanism, etc.	Study of human genome and its application	Apply	Saranya T S

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Course Outcome

SlNo	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	1.4	Name different organic compounds of natural or synthetic origin by either IUPAC or common naming system.	chapter 2	Understand	DEEPA JOSE
2	1.4	Correlate the physical properties of organic compounds to their chemical behaviour and apply this for separation, purification and identification of compounds	chapter 1	Apply	DEEPA JOSE
3	1.4	Apply the principles of Free radical, nucleophilic, electrophilic substitution, elimination, oxidation and reduction reactions for the synthesis of medicinal compounds and drug design	chapters 3 to 10	Apply	DEEPA JOSE
4	1.4	Utilize the mechanism of organic reactions for predicting the reactivity and orientation and thus by facilitating the synthesis and design of medicinal compounds	chapter 11	Create	DEEPA JOSE
5	1.4	Prepare, purify, analyze and estimate the medicinal compounds	chapter 16	Analyze	DEEPA JOSE

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha				
Course	Pharm D				
Batch	2022-2028				
Semester	1				
Subject	Pharmaceutical Inorganic Chemistry Theory				
SlNo	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO1	Explain the basic concept of the various volumetric analysis and will have a firm foundation in the fundamentals and application or current chemical and scientific theories of Analytical Chemistry	Errors + Different types of titrations	Apply	Devipriya P V
2	CO2	Demonstrate common laboratory techniques and gravimetric analysis for quantitative analysis of pharmaceuticals and to develop analytical skills	Gravimetry	Apply	Devipriya P V
3	CO3	To understand the medicinal and pharmaceutical importance of inorganic compounds	Medicinal gases, Acidifiers, Antacids, Antimicrobials, Cathartics, Trace elements, Pharmaceutical aids, Dental products and miscellaneous compounds	Understand	Devipriya P V
4	CO4	Understand the importance of limit tests	Limit test	Understand	Devipriya P V
5	CO5	Appreciate the importance of electrolytes in replacement therapy and their importance in acid base balance, applications of radioactive substances	Electrolyte replenishers + Radiopharmaceuticals	Understand	Devipriya P V

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2022-2028
Semester	1
Subject	Human Anatomy and Physiology Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO P 1.1	Explain the gross morphology, structure and functions of various tissues and organs of the human body with the help of models and tissue slides	Study of tissues of human body (a) Epithelial tissue (b) Muscular tissue (c) Connective tissue (d) Nervous tissue. Study of various systems with the help of charts, models & specimens (a) Cardiovascular system. (b) Respiratory system. (c) Digestive system. (d) Urinary system. (e) Nervous system. (f) Special senses. (g) Reproductive system	Understand	Elayath Parvathy Murali
2	CO P 1.2	Record the normal physiologic constants like blood pressure, body temperature, pulse rate, etc. for analyzing the homeostatic state of body	Determination of (a) Blood Pressure. (b) Blood group.	Apply	Elayath Parvathy Murali
3	CO P 1.3	Analyze and interpret the pathological states associated with blood cells	Determination of W.B.C. count, R.B.C. and differential count of blood	Analyze	Elayath Parvathy Murali
4	CO P 1.4	Correlate basic physiology with the pathophysiological outcomes that may be encountered in the clinical setting	Determination of (a) Erythrocyte Sedimentation Rate. (b) Hemoglobin content of Blood. (c) Bleeding time & Clotting time.	Analyze	Elayath Parvathy Murali
5	CO P 1.5	Correlate the anatomical features of bones in normal and bone anomalies	Study of various systems with the help of charts, models & specimens (a) Skeleton system part I-axial skeleton. (b) Skeleton system part II- appendicular skeleton.	Understand	Elayath Parvathy Murali
6	CO P 1.6	Explain how the family planning devices are working	Study of different family planning appliances and pregnancy diagnosis test.	Understand	Elayath Parvathy Murali

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2022-2028
Semester	1
Subject	Pharmaceutics Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	PD1	CO1	Handle a prescription by identifying pharmaceutical/medical terminology, abbreviations and symbols commonly used in the prescribing and dispensing of medications in the pharmacy.	Remember	Flowerlet Mathew
2	PD2	CO2	Achieve skill in the operation of common pharmaceutical measuring, weighing and compounding devices.	Apply	Flowerlet Mathew
3	PD3	CO3	Classify different dosage forms and apply principles of pharmaceutical science in formulation and dispensing of various conventional dosage forms.	Understand	Flowerlet Mathew
4	PD4	CO4	Select proper containers for packaging and will have the capability to correctly label pharmaceutical preparations.	Apply	Flowerlet Mathew

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2022-2028
Semester	1
Subject	Medicinal Biochemistry Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO 1	Demonstrate understanding on principles that govern the nature of various bio-molecules		Understand	Saranya T S
2	CO 2	Use basic laboratory skills and apparatus to obtain reproducible data from biochemical experiments.		Apply	Saranya T S
3	CO 3	Knowledge on Application of biochemical techniques		Apply	Saranya T S
4	CO 4	Develop understanding the significance of biochemical tests in clinical practice.		Apply	Saranya T S

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Course Outcome

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2022-2028
Semester	1
Subject	Pharmaceutical Organic Chemistry Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	1.4 P (Practicals)	Synthesize organic compounds applying the various chemical reactions	Minor	Apply	DEEPA JOSE
2	1.4 P (Practicals)	Separate the chemical compounds based on physical and chemical properties	Minor	Apply	DEEPA JOSE
3	1.4 P (Practicals)	Purify the chemical compounds based on various physical properties.	Minor	Apply	DEEPA JOSE
4	1.4 P (Practicals)	Apply the knowledge and subject specific skill to perform the qualitative analysis of organic compounds	Major	Analyze	DEEPA JOSE
5	1.4 P (Practicals)	Use atomic and stereomodels to explain the structure of molecules.	Minor	Understand	DEEPA JOSE

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Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2022-2028
Semester	1
Subject	Pharmaceutical Inorganic Chemistry Practical

Sl.No	CO Code	Course Outcome	Description	Bloom Level	Created_by
1	CO1	perform the limit test to determine the impurities in pharmaceuticals	Perform the limit test for chloride, sulphate, iron, Arsenic, heavy metals to test whether the impurities are within the limit or not	Apply	Devipriya P V
2	CO2	Perform the assay for chemical substances and standardise the titrant	determine the percentage purity of NH ₄ Cl, H ₂ O ₂ , CuSO ₄ , FeSO ₄ , Calcium gluconate, Boric acid	Apply	Devipriya P V
3	CO3	Perform the test for identity and purity of pharmaceuticals		Apply	Devipriya P V
4	CO4	Preparation of pharmaceuticals	Prepare Boric acid and Potash alum	Apply	Devipriya P V

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