DCOP

Subjectwise Course Outcome - [M Pharm (Pharmacology) - 2023-24]

First Semester	
Modern Pharmaceutical Analytical Techniques [Theory | Regular]	
CO ID.	**Course Outcome**
MPCL101T.4	CO.4.To understand the principles involved in various chromatography techniques such as paper,TLC,ion exchange,HPLC,and HPTLC etc
MPCL101T.5	CO.5.To know the basic construction and working of chromatographic techniques
MPCL101T.1	CO.1.Remember and understand the electromagnetic spectrum, spectroscopy and its importance in Pharmaceutical analysis.
MPCL101T.2	CO.2.Describe the instrumentation of various spectro-analytical techniques.
MPCL101T.3	CO.3 Explain the applications of different spectro-analytical techniques for the qualitative and quantitative analysis.
MPL 103T Pharmacological and Toxicological Screning Methods-I [Theory | Regular]	
CO ID.	**Course Outcome**
CO1	Students will be able to appraise the regulations and ethical requirements for the usage of experimental animals
CO2	Students will be able to describe the various animals used in the drug discovery process
CO3	Students will be able to describe good laboratory practices in the maintenance and handling of experimental animals
CO4	Students will be able to describe the various newer pre-clinical screening methods involved in the drug discovery process
CO5	Students will be able to appreciate and correlate the preclinical data to humans
MPL102T Advanced Pharmacology-I [Theory | Regular]	
CO ID.	**Course Outcome**
CO-1	Understand the pharmacodynamics and pharmacokinetics of a drug and its correlation in Pharmacotherapy.
CO-2	Propose different categories drugs in the treatment of a disease and execute its management.
CO-3	Explain side effects, contradictions and the clinical uses in the treatment.
MPL104T Cellular and Molecular Pharmacology [Theory | Regular]	
CO ID.	**Course Outcome**
CO1	Explain the receptor signal transduction processes.
CO2	Explain the molecular pathways affected by drugs.
CO3	Appreciate the applicability of molecular pharmacology and biomarkers in drug discovery process.
CO4	Demonstrate molecular biology techniques as applicable for pharmacology
MPL105P Pharmacology Practical -I [Practical | Regular]	
CO ID.	**Course Outcome**
CO1	To understand the Advanced analytical techniques used in drug development process.
CO2	To understand the guidelines for animal experimentations and develop skills for preclinical screening of compounds.
CO3	To understand and acquire techniques and skill to conduct experiments in molecular biology
CO4	To understand software used in pharmacokinetic study and data analysis

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Second Semester	
Pharmacological & Toxicological Screening Methods-II [Theory | Regular]	
CO ID.	**Course Outcome**
CO1	Outline and define key concepts in toxicology, such as acute and chronic studies, reproductive toxicology, genotoxicity, carcinogenicity, safety pharmacology, and regulatory guidelines like OECD, ICH, EPA, and Schedule Y.
CO2	Discuss the significance of GLP in conducting toxicity studies and comprehend the principles and importance of safety pharmacology, including tiered assessments of cardiovascular, central nervous system, and respiratory safety.
CO3	Compute their knowledge to design and conduct various types of toxicity studies, such as acute, sub-acute, chronic, dermal, inhalational, reproductive, genotoxicity, and carcinogenicity studies and apply test item characterization methods to regulatory toxicology studies.
CO4	Distinguish the principles and applications of toxicokinetics in preclinical studies, considering factors like saturation kinetics and evaluating the importance and potential of alternative methods to animal toxicity testing.
CO5	Assess the importance of IND enabling studies in drug development, including the industry perspective, and assess the list of studies needed for IND submission, considering their role in ensuring drug safety.
CO6	Develop to synthesize knowledge by creating comprehensive safety assessment plans for drug development, considering toxicological study design, safety pharmacology, and alternative testing methods, while complying with regulatory guidelines.
Principles of Drug Discovery [Theory | Regular]	
CO ID.	**Course Outcome**
CO1	Explain the various stages of drug discovery
CO2	Appreciate the importance of the role of Genomics, Proteomics and Bioinformatics in drug discovery
CO3	Explain various targets for drug discovery
CO4	Explain various lead seeking method and lead optimization
CO5	Appreciate the importance of the role of Computer aided drug design in drug discovery
Experimental Pharmacology-II [Practical | Regular]	
CO ID.	**Course Outcome**
CO1	To understand the importance of bioassay and perform them
CO2	Students were able to quantitatively estimate the biological samples using isolated tissue preparation and interpret to calculate the PD2 AND PA2 Value
CO3	Students were able to understands the OECD guidelines and perform acute toxicity studies for safety for safety evaluation and able to interpret the pharmacokinetic profile of the given drugs.
CO4	Students will able to understand cardiovascular responses using proper techniques drug efficacy and ale to design and conduct clinical trials and monitor ADR'S.
CO5	Understand the drug discovery process and able to develop a new drug through in silico learning
MPL201T Advanced Pharmacology-II [Theory | Regular]	
CO ID.	**Course Outcome**
CO1	The students would appreciate the basic knowledge in the field of pharmacology pertaining to the drugs and its therapeutic applications
CO2	They would have elaborately learnt the recent advances in the drugs used for the treatment of various diseases.

CO3	They would have understood the concepts of drug action and mechanisms involved.
CO4	They would have studied the pathophysiology and pharmacotherapy of certain diseases
CO5	They would have understood the underlying mechanism of drug actions at cellular and molecular level.
CO6	They would have learnt the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases

MPL204T Clinical research and Pharmacovigilance [Theory | Regular]	
CO ID.	Course Outcome
CO1	Explain the regulatory requirements for conducting clinical trial
CO2	Execute safety monitoring, reporting and close-out activities.
CO3	Explain the principles of Pharmacovigilance.
CO4	Detect new adverse drug reaction and their assessment.
CO5	Perform the ADR reporting systems and communication in Pharmacovigilance.