

Course Outcomes

PROGRAM: M. Pharm Pharmacology

Name of Subject with Code	CO Code	Course Outcomes		
M.Pharm -I (Semester-I) in (Pharmacology)				
MPL101T Modern	MPL101T_CO1	Develop the ability to gain the knowledge about ICH guidelines and degradation and determination in drugs.		
Pharmaceutical Analytical Technique	MPL101T_CO2	Evaluate the accuracy and reliability of analytical results obtained from the analysis of various drugs in single and combination dosage forms		
	MPL101T_CO3	Interpret the spectrums and chromatogram of different methods of analysis.		
	MPL101T_CO4	Discuss Theoretical and Practical Skills with Analytical Instruments.		
	MPL101T_CO5	Explain the basic principles of biological test and immunoassays.		
	MPL102T_CO1	Predict Pharmacokinetic and Pharmacodynamics process of lipophilic and hydrophilic drugs.		
MPL102T Advanced Pharmacology-I	MPL102T_CO2	Differentiate pharmacological actions of drug acting on autonomic nervous system		
r narmacology-1	MPL102T_CO3	Relate concept of drug action on central nervous system with its receptors		
	MPL102T_CO4	Describe mechanism and pharmacology of prototype drugs acting on CVS disorders and explain their clinical use.		
	MPL102T_CO5	Illustrate feedback mechanism using mechanism and pharmacological action of hormones, autacoids and their antagonists		
	MPL103T_CO1	Summarize the various animals used in the drug discovery process		
MPL103T	MPL103T_CO2	Elaborate good laboratory practices in maintenance and handling of experimental animals		
Pharmacological and Toxicological	MPL103T_CO3	Appraise the regulations and ethical requirement for the usage of experimental animals		
Screening Methods-I	MPL103T_CO4	Describe the various preclinical in-vitro, in-vivo and other possible animal alternative models for the screening various pharmacological activities.		
	MPL103T_CO5	Explain general principles and evaluation of Immunoassay methods		

Regd. No. MH/4775/Satara

DTE Code : 6394, MSBTE Code : 2144



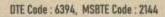
Shree Santkrupa Shikshan Sanstha's



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	MPL104T_CO1	Analyze the receptor signal transduction processes		
	MPL104T CO2	Construct the molecular pathways affected by drugs		
MDL 104T	MPL104T_CO3	Discuss mechanisms and applicability of molecular pharmacology,		
MPL104T		genomic and proteomic tools.		
Cellular and	MPL104T_CO4	Distinguish the process of Pharmacogenomics		
Molecular	MPL104T_CO5	Summarize the concept of Immunotherapeutic.		
Pharmacology	MPL104T_CO6	Interpret various Cell culture techniques.		
	MPL105P_CO1	Demonstrate route of drug administration, blood withdrawal techniques.		
MPL105P Pharmacology – I (Practical)	MPL105P_CO2	Evaluate the effect of drug on CNS activity, analgesic activity, Anti- diabetic activity, Anti-inflammatory activity, diuretic activity, antiulcer activity etc.		
(I lacucal)	MPL105P_CO3	Estimate DNA/RNA isolated from biological sample using various techniques		
	MPL105P_CO4	Demonstrate MTT assay, gel electrophoresis, gene amplification and Protein quantification		
	MPL105P_CO5	Discuss the principle, procedure and applications of enzyme inhibition activity, pharmacokinetics studies, apoptosis determination etc.		
	MPL105P_CO6	Exhibit the extraction techniques of drug from biological samples and their estimation using various analytical techniques.		
M. Pharm I (Semester-II) in Pharmacology				
	MPL201T_CO1	Illustrate feedback mechanism using mechanism and		
MPL201T		pharmacological action of drug acting on endocrine systems.		
Advanced	MPL201T_CO2	Relate concept of mechanism and resistance of drugs acting microbes, fungus, virus and tuberculosis.		
Pharmacology II	MPL201T_CO3	Explain the pharmacotherapy of COPD, Asthma, constipation, diarrhea, Ulcer, inflammation, Rheumatoid Arthritis, immune disorders et		
	MPL201T_CO4	Relate significance of rhythm, cycles and biological clock for application of chronotherapy in various disease conditions.		
	MPL201T_CO5	Describe antioxidant scavenging effects on free radicals to cure diabetes, neurodegenerative diseases and cancer etc.		
	MPL201T_CO6	Conclude the recent advances in the treatment of Alzhemier's disease, Parkinson's disease, cancer and diabetes mellitus		

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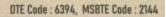
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	MPL202T CO1	
MPL202T		Summarize the various types of toxicity studies.
Pharmacological	MPL202T_CO2	Discuss the importance, ethical and regulatory requirements for
&		various types of toxicity studies.
Toxicological	MPL202T_CO3	Outline the significance of reproductive toxicity, teratogenicity,
Screening	_	Genotoxicity, carcinogenicity studies
Methods II - Theory	MPL202T_CO4	Describe the significance of IND enabling studies and safety pharmacology studies
	MPL202T_CO5	Recognize the importance and applications of toxicokinetics studies and alternative methods to animal toxicity testing
	MPL202T_CO6	Demonstrate the practical skills require for conducting the preclinical toxicity studies
MPL203T Principles of Drug Discovery-Theory	MPL203T_CO1	Illustrate various stages in modern drug discovery process
	MPL203T_CO2	Appraise role of genomics, proteomics and bioinformatics in drug discovery.
	MPL203T_CO3	Discuss the different methods for lead identification
	MPL203T_CO4	Summarize different approaches for rational drug design
	MPL203T_CO5	Discuss the concept of QSAR and QSAR statistical methods
	MPL203T_CO6	Elaborate role of in-vitro screening technique in drug discovery
MPL 204T Clinical Research and Pharmacovigilance Theory	MPL204T_CO1	Discuss the basic concept of clinical research
	MPL204T_CO2	Explain regulatory requirements and plans for conceptualizing, designing, conducting, managing, and conducting clinical trial.
	MPL204T_CO3	Summarize the types of clinical trial designs
	MPL204T_CO4	Elaborate the responsibilities of key players involved in clinical trials
	MPL204T_CO5	Describe in detail about safety monitoring, reporting and close-out activities
	MPL204T_CO6	Discuss the principles of Pharmacovigilance.

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	MPL205P_CO1	
		of sample by Bioassay method using chicken ilium preparation
	MPL205P_CO2	Elaborate the drug effect on rat BP, heart rate and ECG using computer
MPL205P		simulation techniques
Pharmacology –	MPL205P_CO3	Discuss the acute oral toxicity, dermal toxicity, repeated dose toxicity
		studies and drug mutagenicity study as per OECD guidelines
II (Practical)	MPL205P CO4	Evaluate the ADR reporting and monitoring protocol.
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	MPL205P CO5	Design the protocol for Clinical trial studies
	MPL205P_CO6	Explain the efficacy of drugs using In-silico studies like docking studies,
		Pharmacophore based screening and QSAR studies