

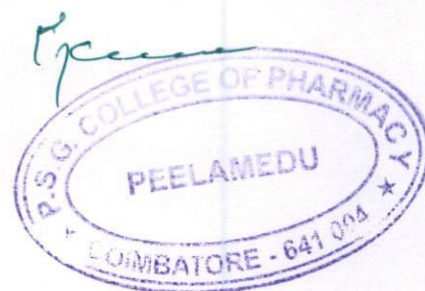


PSG COLLEGE OF PHARMACY

2.6.1. COURSE OUTCOME

Course outcome for M Pharm (Nonsemester)

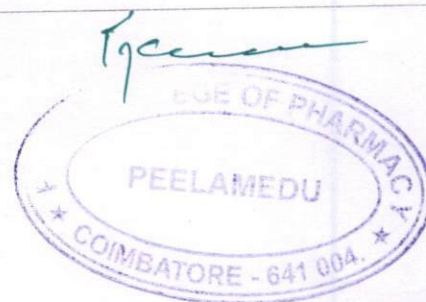
Name of the Course	Course outcome
Modern Pharmaceutical Analytical Techniques [Common for all branches]	
CO1	Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis using various analytical instruments
CO2	Develops ability to involve in the quantitative & qualitative chromatographic separation and analysis of drugs
CO3	It facilitates the students to perform the thermal method of analysis of drugs using different instruments
CO4	Understand the principles of Nmr, Mass, X Ray Techniques and assays
CO5	Able to do the statistical analysis using student T test, F test, chi-square test
M.Pharm Pharmacology	
Biological Standardisation and Pharmacological Screening Methods	
CO1	Students will be able to appraise the regulations and ethical requirement 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 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
Drug Design and Molecular Pharmacology	
CO1	Students were able to understand drug receptor theory, physio-chemical property.
CO2	Students were able to explain the general approaches and new approaches to drug design like combinatorial chemistry, proteomics & genomics and array technology
CO3	Students were able to understand the guidelines for drug design, prodrug concepts, principles of CADD and fundamentals of QSAR and its parameters

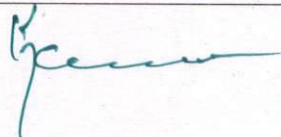



CO4	Students will be able to explain the basics of molecular pharmacology, its application to drug design and Protein structure prediction
CO5	Students will understand the gene expression, regulation & mapping, recombinant DNA technology and gene therapy.
Pharmacology & Toxicology	
CO1	Apply the basic pharmacological knowledge in the prevention and treatment of various diseases. Be aware about the pathophysiology and pharmacotherapy of certain diseases.
CO2	Understand the basic concepts, pre-clinical trials, design of clinical trials phases of clinical trials and new drug discovery process.
CO3	Explain the mechanism of drug action at the organ system / subcellular/macromolecular and molecular levels. Comprehend the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases.
CO4	Demonstrate the isolation of different organs/tissues from the laboratory animals and demonstrate the various receptor actions using isolated tissue preparation
CO5	To correlate and differentiate the normal pharmacology effects and toxicological effects of various drugs. Manage the case with basic first aids, and able to select the appropriate antidotes based upon the poisoning case.
Advances in Drug Delivery Systems	
CO1	Knowledge on polymers for development of various formulations to deliver the drugs.
CO2	Knowledge on controlled drug delivery of oral, parenterals, & transdermal drug delivery.
CO3	Knowledge on ocular & mucosal drug delivery system.
CO4	Concepts of targeted drug delivery
CO5	
BPPK[biopharmaceutics and pharmacokinetics]	
CO1	Understand different mechanism and factors affecting ADME processes.
CO2	Determine the effect of Pharmacokinetic (ADME) parameters on the biological effects of the drug
CO3	Understand various pharmacokinetic models and their significance in interpreting various pharmacokinetic parameters
CO4	Ability to design a basic protocol for the conduct of BA/BE study and the interpretation of the BA/BE data



CO5	Ability to use the concepts of pharmacokinetic principles in the clinical contexts
Industrial Pharmacy	
CO1	Know the design and layout of various procedures in pharmaceutical industry
CO2	Know the various pharmaceutical dosage forms and their manufacturing techniques.
CO3	Know various considerations in development of pharmaceutical dosage forms
CO4	Understand the quality control of solid, liquid and semisolid dosage forms
CO5	Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality
M Pharm Pharmaceutical Analysis	
Pharmaceutical and cosmetic Analysis	
CO1	It facilitates the students to perform the qualitative and quantitative analysis of drugs using titrimetric methods and instrumental methods
CO2	Develops ability to gain the knowledge about ICH guidelines for impurity and related substances determination in drugs.
CO3	Understand the analysis of drugs from biological samples by various extraction techniques and stability studies as per ICH guidelines
CO4	Able to do the sampling and testing of various cosmetics in finished form by the Bureau of Indian Standards
CO5	Understand the principles of toxicity testing in cosmetics and safety legislation of cosmetic products
Advanced Pharmaceutical Analysis	
CO1	Introduction to product characterization for drug and product development. Analytical Methods development. Validation and calibration of various instruments.
CO2	Principles and procedures involved in quantitative determination, physicochemical methods of analysis including instrumental methods of analysis in some classes of drugs.
CO3	Principles and procedures involved reagents in Pharmaceutical analysis and elemental analysis
CO4	Analysis of Drugs and Excipients in solid state
CO5	Principles and Procedures involved in Biological tests and assay



Quality control and Quality Assurance	
CO1	Understand the importance of TQM,GMP,ISO,organization, personnel, premises, equipment purchase specifications of raw materials in Pharmaceutical industries.
CO2	Gain knowledge about different record, documentation, SOPs, audit, quality control test for packaging materials and Good Laboratory practices
CO3	The students are explored into importance of finished product release, Good warehousing practice and distribution of records. Students learn about evaluation of complaints, Recall procedures and waste disposal procedure.
CO4	Student shall have the knowledge on regulatory aspects of pharmaceuticals, Loan License Auditing and recent amendments of drugs and cosmetics act, certification procedures.
CO5	Understand about globalization of drug industry, patent regimen and regulatory affairs
M Pharm Pharmacy Practice	
Clinical Pharmacy	
CO1	Comprehension on Clinical Pharmacy services with good communication skills
CO2	Develop a skill to identify and resolve medication error and ADRs
CO3	Buildup a talent to interpret the Laboratory value
CO4	Expand the knowledge to answering query & clinical research
CO5	Understanding of appropriate therapy based on PK parameters
	 

Pharmacotherapeutics	
CO1	Understand the disease conditions and drug therapy, and ability to apply the drug knowledge on preparation of patient specific pharmacotherapeutic plan for Cardiovascular, Respiratory and Renal system diseases.
CO2	Understand the disease conditions and drug therapy, and ability to apply the drug knowledge on preparation of patient specific pharmacotherapeutic plan for Hematological disease, Immunology, for Gastrointestinal and Endocrine system diseases.
CO3	Understand the disease conditions and drug therapy and ability to apply the drug knowledge on preparation of patient specific pharmacotherapeutic plan for Neurological and Psychiatry system diseases and Pain management.
CO4	Understand the disease conditions and drug therapy, and ability to apply the drug knowledge on preparation of patient specific pharmacotherapeutic plan for Skin & Sexually transmitted disease, Infectious diseases and bone & joint disorders.
CO5	Understand the disease conditions and drug therapy, and ability to apply the drug knowledge on preparation of patient specific pharmacotherapeutic plan for Ophthalmology and Oncology diseases along with General prescribing guidelines for various patients.
Hospital and Community Pharmacy	
CO1	Knowledge on community pharmacy, its services & Infrastructure and management
CO2	Knowledge on communication skills & Patient counseling
CO3	To know the Role of hospital pharmacists, committees, infrastructure & drug distribution methods in hospital
CO4	Knowledge on IV admixtures, Total parenteral nutrition and Radiopharmaceuticals
CO5	Knowledge on Pharmacoepidemiology Pharmacoeconomics, its methods and their applications in health care

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