



Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

Approved by AICTE ISO 21001:2018 Certified

Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

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KL College of Pharmacy

Program: M. Pharmacy

Academic Year :2025-2026

Course Code	Course Title	CO. No	Description of the course Outcome
25PY5101	Modern Pharmaceutical Analytical Techniques	CO1	Investigation, Characterization and quantification of organic compounds using analytical instruments
		CO2	Investigation and determination of the structure of typical organic chemical compounds using NMR spectroscopy
		CO3	Investigation and determination of the structure of typical organic chemical compounds using MS spectrometry
		CO4	Understand the isolation, purification and quantification of typical organic chemical compounds using chromatography techniques
		CO5	Understand the concepts of electrophoresis and radio-immuno assays
		CO6	Investigation and determination of the structure of typical chemical compounds using X-Ray Diffraction methods
25PY5102	Drug Delivery Systems	CO1	Understand the process of pilot plant and scale up of pharmaceutical dosage forms
		CO2	Understand about suitable drugs and polymers for specific controlled drug delivery systems and discuss modern strategies
		CO3	Understand various approaches for rate controlled and ocular drug delivery systems
		CO4	Understand the formulation concepts involved in development of GRDDS, buccal and transdermal DDS
		CO5	Apply the evaluation of buccal and transdermal DDS
		CO6	Apply novel strategies in delivery of biosimilars like proteins, peptides and vaccines
25PY5103	Modern Pharmaceutics	CO1	Understand various preformulation concepts in dosage form Development
		CO2	Understand new dosage forms by applying the principles of optimization.

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G. Chelamuri

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		CO3	understand validation protocol for solid and liquid dosage forms.
		CO4	Apply the cGMP and Industrial management principles in dosage form development
		CO5	Understand the process of compaction and compression in solid dosage form development
		CO6	Understand the study of consolidation parameter
25PY5104	Regulatory Affair	CO1	Understand the concepts of innovator and generic drugs in drug development process
		CO2	Understand Regulatory requirements for new drug application approval in pharmaceuticals
		CO3	Understand ICH guidelines for filing and approval process of drug products in different countries
		CO4	Illustrate the post approval regulatory requirements for products and submission of global documents in Common Technical Document/ eCTD formats
		CO5	Illustrate the regulatory procedures involved in non-clinical and clinical drug development
		CO6	Apply the principles of regulatory affairs in drug development process, filing and approval, non-clinical and clinical drug development in global scenario
25PY5105	Pharmaceutics Practical I	CO1	Analyse the Pharmacopeial compounds and their formulations by various analytical techniques
		CO2	Preparation and evaluation of the different oral drug delivery systems
25PY5106	Seminar/Assignment	CO1	Select topic from the course content for deep learning towards seminar presentation
		CO2	Develop advanced content and present it as seminar
		CO3	Select topic from the course content for deep learning towards assignment preparation
		CO4	Develop advanced content and present it as assignment
25PY5107	Molecular Pharmaceutics (Nano Tech and Targeted DDS)	CO1	Understand the concepts involved in drug targeting systems
		CO2	Understand the preparation and evaluation of targeting methods
		CO3	Design and develop various delivery systems for a specific drug targets
		CO4	Understand the preparation and evaluation of intra nasal formulations
		CO5	Understand the nucleic acid- based therapeutic drug delivery system
		CO6	Applications of the potential target diseases for gene therapy
25PY5108	Advanced Biopharmaceutics and Pharmacokinetics	CO1	Understand the mechanisms and factors affecting ADME processes through GIT
		CO2	Discuss several biopharmaceutic considerations, BCS, IVIVC and permeability in drug product design and in vitro drug product performance
		CO3	Understand the impact of drug interactions on drug action

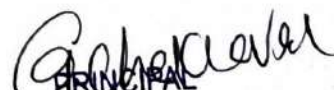
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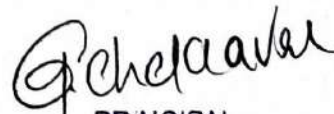
		CO4	Explain the protocol for bioavailability/bioequivalence studies and their role in generic product development
		CO5	Illustrate the assessment of pharmacokinetic parameters assuming different models
		CO6	Illustrate the application of pharmacokinetic principles in development of drug products and biosimilars
25PY5109	Computer Aided Drug Delivery Systems	CO1	Understand the history of computers in pharmaceutical research and development
		CO2	Understand computational modeling of drug disposition
		CO3	Apply the approaches of optimization techniques in pharmaceutical formulation
		CO4	Understand the importance of computers in biopharmaceutical characterization
		CO5	Understand the role of computer simulations in PK-PD and clinical data management
		CO6	Illustrate the application of AI, robotics and CFD in pharmacy field
25PY5110	Cosmetics and Cosmeceuticals	CO1	Understand the Regulatory provisions related to the import, manufacture and sale of cosmetics.
		CO2	Understand the diverse skin problems and how to overcome through skin preparations
		CO3	To understand the formulation and evaluation of a variety of cosmetic products.
		CO4	Understanding the key ingredients and basic science to develop cosmetics and Cosmeceuticals
		CO5	Understand the knowledge of the various technologies involved in cosmetics manufacture
		CO6	To understand the Design of cosmeceuticals and herbal formulations
25PY5111	Pharmaceutics Practical II	CO1	Development and evaluation of different novel drug delivery systems by applying various computational tools
		CO2	Apply PK-PD simulation models in drug design and development, cosmeceuticals preparation
25PY5112	Seminar/Assignment	CO1	Select topic from the course content for deep learning towards seminar presentation
		CO2	Develop advanced content and present it as seminar
		CO3	Select topic from the course content for deep learning towards assignment preparation
		CO4	Develop advanced content and present it as assignment
25PY5113	Research Methodology and Biostatistics	CO1	Understand the basic principles of research methodology and its role in pharmaceutical aspect
		CO2	Understand the basic concepts of biostatistics
		CO3	Illustrate the importance of biostatistics in research
		CO4	Develop research proposal following the principles of medical research
		CO5	Apply the guidelines of CPCSEA in preclinical experimentation
		CO6	Understand the principles of Declaration of Helsinki

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25PY5114	Journal Club	CO1	Select a research paper published in reputed journal by using search engines and databases
		CO2	Critically appraise the published research work
		CO3	Develop a report
		CO4	Present the critical observations and discuss
25PY5115	Discussion / Presentation (Proposal Presentation)	CO1	Identify the research problem
		CO2	Discuss research problem with team, peers and guide for solution
		CO3	Develop a protocol report on the critically appraised research problem with aim and objectives
		CO4	Analyse and present the critically appraised research problem in appropriate form and discuss the plan of work
25PY5116	Research Work	CO1	Review the latest literature in selected area of work
		CO2	Evaluate the findings and plan alterations or new methodologies or procedures for further improvement
		CO3	Conduct research experiments to meet the aim and objectives of proposed research work
		CO4	Document the findings of conducted experiments
		CO5	Interpret the results obtained and summarize the work with a conclusion
		CO6	Interpret the results obtained and summarize the work with a conclusion
25PY5117	Journal Club	CO1	Select a research paper published in reputed journal by using search engines and databases
		CO2	Critically appraise the published research work
		CO3	Develop a report
		CO4	Present the critical observations and discuss
25PY5118	Research Work	CO1	Review the latest literature in selected area of work
		CO2	Conduct research experiments to meet the aim and objectives of proposed research work
		CO3	Evaluate the findings and plan alterations or new methodologies or procedures for further improvement
		CO4	Document the findings of conducted experiments
		CO5	Interpret the results obtained and summarize the work with a conclusion
		CO6	Interpret the results obtained and summarize the work with a conclusion
25PY5119	Discussion / Final Presentation	CO1	Interpret the observations and results
		CO2	Develop the presentation in an organized manner
		CO3	Explain the followed methods and results
		CO4	Defend the questions from experts and peers

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25PY5120	Co-curricular Activities	CO1	Apply for external scientific/technical programs like conferences/seminars/symposia, Present their technical or research work
		CO2	Application of skills in presenting their technical or research work
		CO3	Application of various tools and software in writing scientific papers, articles and presentations
		CO4	Apply team management tasks and networking

S. Haneen

Academic Professor I/C

G. Chandrasekhar

Principal

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