



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email - vikassuryapet@gmail.com

2.6.1: Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated

The institute has clearly stated its learning outcomes in the curriculum of each subject. The expected outcomes are made known to all the students and in the beginning of the each semester by the respective faculties. All the faculties are well aware of the learning outcomes as they are involved in the teaching and learning process. Information regarding the learning outcomes and program objectives are available on the college website and these are regularly reviewed and updated.

The institutes' Graduate Attributes are the qualities and skills that the institute values and endeavors to support the overall development of the students. The same has articulated through the institutes' vision, mission and goals. These qualities and skills have put our students in the strategic edge in the workplace.

The institute believes that the students are its 'Brand Ambassadors' and expects that the students share the common values articulated in the vision and mission statements. The overwhelming response of the students during the Graduation Day Ceremony and on other occasions like Annual Day, etc; reiterates the Graduate attributes and their compliance.

- The teaching –learning strategies for each subject is prepared, discussed and approved by the Staff Council of each department before commencement of Semester / academic year. The learning outcomes are made clear to both the student and the faculty.
- Well-structured time-table is prepared based on the curriculum and core objectives of the subject. The balance between theory and practical is made. Skill development is given weightage where ever practical / Lab learning is required.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

Affiliated to Jawaharlal Nehru Technological University Hyderabad

Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email: vikassuryapet@gmail.com

- The Principal and HODs of the concerned department ensure that the teaching and learning outcomes are achieved through closely monitoring the performance of the students in internal assessment and University level assessments. If the performance of the students is found to be poor after two internal assessments the reason for poor performance is analyzed and corrective measures are initiated. Consistent poor performers are identified as slow learners and additional coaching where ever required is arranged.
- The performance in both internal and University level assessments and the results achieved are the indicators to consider that the stated learning outcomes have been achieved.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

Affiliated to Jawaharal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email : vikassuryapet@gmail.com

COURSE OUTCOMES

BACHELOR OF PHARMACY

SEMESTER – I

BP101T: HUMAN ANATOMY AND PHYSIOLOGY – I (Theory)

- CO 1: To learn the definitions, organization of human body at cellular and tissue level and basic life processes in human body.
- CO 2: To understand the anatomy and physiology of Integumentary system and Skeletal system including the concept of muscle contraction.
- CO 3: To gain a thorough understanding on haemopoetic and immune systems with emphasis on the mechanisms of phagocytosis.
- CO 4: To acknowledge the basic concepts of neuro anatomy and physiology and special senses with their associated disorders.
- CO 5: To acquire an in depth knowledge on cardio anatomy and its physiology.

BP102T : PHARMACEUTICAL ANALYSIS – I (Theory)

- CO 1: To gain knowledge on sources of errors and its minimizing techniques, pharmacopoeias and limit tests
- CO 2: To understand basic techniques like acid base and non aqueous titrations
- CO 3: To understand the concepts of precipitation, complexometric and gravimetric analysis
- CO 4: To understand the concepts of redox titrations
- CO 5: To understand the concepts of electrochemical methods of analysis

BP103T: PHARMACEUTICS – I (Theory)

- CO 1: To know about the historical background and development of pharmacy profession and to understand the pharmacopoeia, dosage forms, prescription and posology.
- CO 2: To understand various pharmaceutical calculations and formulation of powders and liquid dosage forms.


PRINCIPAL
 VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
 Rayanigudem (V)-508 376, Suryapet (Mdl.),
 Suryapet Dist, Telangana.

- CO 3:** To get knowledge on the preparation of various monophasic and, biphasic liquid dosage forms like suspensions and emulsions.
- CO 4:** To identify pharmaceutical incompatibilities and to understand the basic formulation techniques pertaining to suppositories.
- CO 5:** To understand the preparation of various semisolid dosage forms.

BP104T: PHARMACEUTICAL INORGANIC CHEMISTRY (Theory)

- CO 1:** To understand the importance of pharmacopoeia, sources and types of impurities and their control methods.
- CO 2:** To know the concepts of acids, bases, buffers, buffered isotonic solutions, methods of adjusting isotonicity and major extra and intra cellular electrolytes and monographs of dental products.
- CO 3:** To gain knowledge on the monographs of different inorganic compounds used as Gastrointestinal agents.
- CO 4:** To understand the monographs of some inorganic compounds like emetics, expectorants, haematinics, astringents and poisons & antidotes
- CO 5:** To get the concept of radioactivity and to understand the measurement, types, precautions of storage and handling and applications of radioactive substances.

BP105T: COMMUNICATION SKILLS (Theory)

- CO 1:** To know about the basics, barriers and perspectives of communication.
- CO 2:** To understand various elements and styles of communication.
- CO 3:** To get knowledge on basics and listening and writing skills involved in effective communication.
- CO 4:** To get knowledge on interview skills and presentations.
- CO 5:** To understand the features of group discussion.

BP106RBT: REMEDIAL BIOLOGY (Theory)

- CO 1:** To develop knowledge on the diversity of life and morphological features of flowering plants.
- CO 2:** To understand the biology of human circulatory, digestive and respiratory systems.
- CO 3:** To know the basic physiology of excretory, nervous and reproductive systems.
- CO 4:** To gain knowledge on plant respiration, growth and mineral nutrition.
- CO 5:** To understand the fundamental basis of living organisms.


PRINCIPAL
Vikas College of Pharmaceutical Sciences
Rayanigudem (V)-508 376, Suryapet (Md.),
Suryapet Dist, Telangana.

BP106RMT: REMEDIAL MATHEMATICS (Theory)

CO 1: To develop knowledge on partial fractions, logarithms, functions and limits and continuity.

CO 2: To understand about matrices and determinants.

CO 3: To know about the principles of calculus.

CO 4: To gain knowledge on analytical geometry.

CO 5: To understand the fundamentals of differential equations and laplace transforms.



PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Dist.),
Suryapet Dist, Telangana.

SEMESTER – II**BP201T: HUMAN ANATOMY AND PHYSIOLOGY-II (Theory)**

- CO 1:** To acquire knowledge on the anatomy and physiology of brain and spinal cord along with the functions of cranial nerves.
- CO 2:** To perceive the gastro anatomy with its physiology and the basic concepts of genetics.
- CO 3:** To understand the mechanism of gases exchange and physiology of urine formation through studying the structure of Respiratory and Urinary systems, respectively.
- CO 4:** To appreciate the structure and functions of endocrine glands with emphasis on the role and mechanism of hormonal actions and their disorders.
- CO 5:** To attain the knowledge on menstruation, pregnancy, parturition and birth control techniques through male and female reproductive systems.

BP202T :PHARMACEUTICAL ORGANIC CHEMISTRY – I (Theory)

- CO 1:** To familiarise with classification, nomenclature and structural isomerism of organic compounds.
- CO 2:** To understand the preparation, reactions and properties of alkanes, alkenes and conjugated dienes.
- CO 3:** To know the preparations, reactions, properties, orientation of reactions of alkyl halides and alcohols with much emphasis on nucleophilic substitution reactions.
- CO 4:** To get knowledge on the preparations, reactions, properties and uses of carbonyl compounds.
- CO 5:** To gain information on the preparation, reactions, properties and uses of carboxylic acids and aliphatic amines

BP203T: BIOCHEMISTRY (Theory)

- CO 1:** To have a sound knowledge on various Biomolecules and bioenergetic substances and their significance in body functioning.
- CO 2:** To learn about the metabolic pathways of glucose in body and energy generation.
- CO 3:** To understand about the lipid and amino acid metabolism with their significance and metabolic disorders.
- CO 4:** To become familiar with genomic structure, functions and catabolic pathology.
- CO 5:** To develop knowledge on enzymes with their therapeutic and diagnostic applications.


PRINCIPAL
VYAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapat (Mdl.),
Suryapat Dist, Telangana.

BP204T: PATHOPHYSIOLOGY (Theory)

- CO 1: To attain a thorough understanding on the mechanisms of cell injury and inflammation.
- CO 2: To perceive the etiology and pathogenesis of various cardiovascular, respiratory and renal disorders.
- CO 3: To elucidate the etiopathogenesis of diseases pertaining to hematological, endocrine, gastrointestinal and nervous systems.
- CO 4: To understand the etiopathogenesis, clinical presentations of various musculoskeletal, infectious and sexually transmitted diseases.
- CO 5: To acknowledge the principles of cancer emphasizing its classification and etiopathogenesis.

BP205T: COMPUTER APPLICATIONS IN PHARMACY (Theory)

- CO 1: To attain knowledge on concepts of number and information system and software related to it.
- CO 2: To perceive the information on web technologies.
- CO 3: To understand the applications of computers in pharmacy.
- CO 4: To gain knowledge on basics of bioinformatics.
- CO 5: To acknowledge the usage of computers in pre-clinical development.

BP206T: ENVIRONMENTAL SCIENCES (Theory)

- CO 1: To acquire knowledge on environment and its associated problems.
- CO 2: To create awareness on environmental problems amongst the students.
- CO 3: To gain knowledge on natural resources and to motivate learners to conserve the natural resources.
- CO 4: To understand the concept of ecosystems.
- CO 5: To know about various environmental pollution like air pollution, water pollution and soil pollution.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Midl.),
Suryapet Dist, Telangana.

SEMESTER – III

BP301T: PHARMACEUTICAL ORGANIC CHEMISTRY – II (Theory)

- CO 1:** To understand the concept of aromaticity with a specific reference on benzene and its reactions.
- CO 2:** To gain knowledge on the methods of preparations, reactions, acidity and test for the determination of phenols, aromatic acids and amines.
- CO 3:** To emphasise on reactions, properties and analytical constants of fats and oils.
- CO 4:** To get information on the chemical behaviour while studying the structures of some specific polynuclear hydrocarbons.
- CO 5:** To understand the concepts explaining the stabilities of cycloalkanes along with their preparation and chemical properties.

BP302T: PHYSICAL PHARMACEUTICS – I (Theory)

- CO 1:** To develop knowledge on solubility principles of drug molecules.
- CO 2:** To know various states and properties of matter, and physicochemical properties of drug molecules.
- CO 3:** To attain knowledge on mechanisms of surface and interfacial phenomena.
- CO 4:** To gain information on complexation properties and protein binding of drug molecules.
- CO 5:** To get knowledge on pH, buffers and isotonic solutions.

BP303T: PHARMACEUTICAL MICROBIOLOGY (Theory)

- CO 1:** To attain knowledge on history of microbiology and cellular organisms along with microscopy, features and growth of bacteria.
- CO 2:** To know about various staining techniques of microorganisms and sterilization techniques.
- CO 3:** To understand the features of fungi, virus, disinfectants and sterility testing of pharmaceuticals.
- CO 4:** To get knowledge on aseptic area and microbiological assays.
- CO 5:** To attain basics of microbial contamination and cell culture technology.

BP304T: PHARMACEUTICAL ENGINEERING (Theory)

- CO 1:** To understand the fundamental flow mechanisms of fluids and working principles and equipment for size reduction and size separation processes.
- CO 2:** To provide knowledge on various heat transfer mechanisms and their application in unit operations like evaporation and distillation in pharmacy.



PRINCIPAL
YASAS COLLEGE OF PHARMACEUTICAL SCIENCES
 Rayanigudem (V)-508 376, Suryapet (Mdl.),
 Suryapet Dist, Telangana.

- CO 3:** To understand the importance, applications and equipment involved in drying and mixing operations
- CO 4:** To gain knowledge on objectives, applications and equipment employed in separation techniques like filtration and centrifugation.
- CO 5:** To provide basic knowledge on various materials used in pharmaceutical plant construction and their interference in corrosion.



PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

SEMESTER – IV

BP401T: PHARMACEUTICAL ORGANIC CHEMISTRY – III (Theory)

- CO 1: To get the concept of the stereo chemical aspects of organic compounds and stereo chemical reactions
- CO 2: To understand the concepts of Geometrical isomers, conformational isomers, stereo-selective and stereo-specific reactions.
- CO 3: To gain information on the synthesis, reactions, relative aromaticity of various heterocyclic compounds
- CO 4: To get knowledge on the synthesis, reactions and uses of some medicinally important heterocyclic ring systems.
- CO 5: To familiarize with some reactions of synthetic importance.

BP402T: MEDICINAL CHEMISTRY – I (Theory)

- CO 1: To understand the concepts of physicochemical properties of drugs which influences biological action and to know the drug metabolism pathways.
- CO 2: To study the medicinal chemistry of sympathomimetic drugs.
- CO 3: To study the medicinal chemistry of parasympathomimetic drugs.
- CO 4: To understand the medicinal chemistry of some CNS drugs like sedatives and hypnotics, antipsychotics and anticonvulsants.
- CO 5: To gain information on the chemistry of CNS drugs medicinally available as anaesthetics, analgesics and anti-inflammatory agents.

BP403T: PHYSICAL PHARMACEUTICS – II (Theory)

- CO 1: To know about general features of colloidal dispersions.
- CO 2: To attain information on rheological properties and solid deformation.
- CO 3: To get knowledge on preparation and formulation of suspensions and emulsions.
- CO 4: To get complete knowledge on particle size and other flow properties of powders.
- CO 5: To know the principles of chemical kinetics and their usage for stability testing of formulations.


PRINCIPAL
VISHAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

BP404T: PHARMACOLOGY – I (Theory)

- CO 1: To learn the basic terminology and general pharmacology.
- CO 2: To gain a sound knowledge on the pharmacodynamics, adverse effects of drugs and various aspects pertaining to drug discovery and clinical evaluation of drugs.
- CO 3: To get thorough understanding on the neurotransmitters and effects of drugs on peripheral nervous system.
- CO 4: To get thorough understanding on the neurotransmitters and effects of drugs on central nervous system.
- CO 5: To acquire knowledge on drugs indicated for the management of neurological and psychiatric disorders.

BP405T: PHARMACOGNOSY & PHYTOCHEMISTRY – I (Theory)

- CO 1: To know about the history, scope and development of Pharmacognosy and to acquire knowledge on various sources of crude drugs and their classification.
- CO 2: To evaluate the quality control tests for crude drugs and to carry out their microscopic and morphological evaluations.
- CO 3: To gain knowledge about various methods involved in the cultivation, collection and processing of crude drugs.
- CO 4: To study about Plant tissue culture and its applications in production of secondary metabolites.
- CO 5: To learn the systemic pharmacognostic study of Ayurvedic drugs, primary metabolites and drugs of marine origin.



PRINCIPAL

VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

SEMESTER – V**BP501T: MEDICINAL CHEMISTRY – II (Theory)**

- CO 1:** To impart fundamental knowledge on the chemical aspects of Anti-histaminic agents, Gastric proton pump inhibitors and Antineoplastic agents.
- CO 2:** To understand the medicinal chemistry of Cardiovascular drugs like Anti-anginals, Diuretics and Antihypertensive agents
- CO 3:** To understand the medicinal chemistry of cardiovascular drugs like anti-arrhythmics, anti-hyperlipidemics, coagulant and anticoagulants and drugs used in congestive heart failure.
- CO 4:** To appreciate the medicinal importance of drugs acting on endocrine system.
- CO 5:** To understand the medicinal chemistry of drugs such as anti-diabetic agents and local anaesthetics.

BP502T: INDUSTRIAL PHARMACY – I (Theory)

- CO 1:** To get knowledge on preformulation studies with physical and chemical properties to be tested for development of dosage form.
- CO 2:** To understand concepts of development, manufacturing and evaluation of tablets and liquid orals.
- CO 3:** To attain information on formulation and evaluation of hard and soft gelatin capsules and pellets.
- CO 4:** To know the production facilities, procedure and quality control tests for development of parenterals and ophthalmic preparations.
- CO 5:** To formulate and evaluate pharmaceutical aerosols, cosmetics and to get knowledge about materials used for packaging of pharmaceutical products.

BP503T: PHARMACOLOGY – II (Theory)

- CO 1:** To perceive the effect of drugs on cardiac system.
- CO 2:** To understand the pharmacology of drugs acting on vascular and urinary systems.
- CO 3:** To learn about the autocooids and related drugs.
- CO 4:** To have an in depth knowledge on the effect of drugs on endocrine system.
- CO 5:** To develop knowledge on drugs pertaining to reproductive system and principles and methods of bioassays.


PRINCIPAL
VEEAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.D.),
Suryapet Dist, Telangana.

BP504T: PHARMACOGNOSY & PHYTOCHEMISTRY – II (Theory)

- CO 1:** To elucidate the basic biogenetic pathways involved in the synthesis of primary and secondary metabolites.
- CO 2:** To learn the systemic pharmacognostic study of secondary metabolites like alkaloids, glycosides, tannins etc.
- CO 3:** To carryout isolation and identification of different types of phytoconstituents like terpenoids, alkaloids, glycosides etc.
- CO 4:** To gain knowledge on Industrial production, analysis and utilization of phytoconstituents.
- CO 5:** To know the modern extraction techniques, characterization and identification of the herbal drugs and active constituents.

BP505T: PHARMACEUTICAL JURISPRUDENCE (Theory)

- CO 1:** To know about the significance of Drugs and cosmetics act 1940 and its Rules 1945 in relation to import, manufacture, and sale of drug and cosmetics.
- CO 2:** To understand the labeling and packaging guidelines and various schedules pertaining to Drugs and cosmetics act 1940.
- CO 3:** To understand Pharmacy act, Medicinal and Toilet Preparation act and narcotic and psychotropic substances act.
- CO 4:** To get knowledge on the salient features of drugs and magic remedies act, prevention of cruelty to animal's act and drugs price control order.
- CO 5:** To know about the pharmaceutical legislations, code of pharmaceutical ethics, right to information act, medical termination of pregnancy act and intellectual property rights.



PRINCIPAL
VIVAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Midi.),
Suryapet Dist, Telangana.

SEMESTER – VI**BP601T: MEDICINAL CHEMISTRY – III (Theory)**

- CO 1:** To gain knowledge on the medicinal chemistry of beta lactum antibiotics, aminoglycosides and tetracyclines.
- CO 2:** To know the medicinal chemistry of macrolides and antimalarials and to appreciate the concept of prodrugs.
- CO 3:** To get idea on the medicinal chemistry of antitubercular drugs, urinary tract anti-infective agents and antiviral agents.
- CO 4:** To know the medicinal chemistry of antifungal agents, anti-protozoal agents, anthelmintics and sulphonamides.
- CO 5:** To appreciate the importance of drug design and different techniques of drug design and to understand the concept of combinatorial chemistry.

BP602T: PHARMACOLOGY – III (Theory)

- CO 1:** To gain knowledge on the pharmacology of drugs acting on respiratory system and gastro-intestinal tract.
- CO 2:** To understand the mechanisms and effects of chemotherapeutic agents in management of various ailments.
- CO 3:** To commend the chemotherapy involved in treatment of various infectious diseases.
- CO 4:** To attain information on cancer and immunological agents.
- CO 5:** To develop knowledge on toxicological agents, their effects and chronopharmacology.

BP603T: HERBAL DRUG TECHNOLOGY (Theory)

- CO 1:** To attain knowledge on herbs as raw materials, biodynamic agriculture techniques and to understand the basic principles of Indian systems of medicine.
- CO 2:** To acknowledge the general aspects & role of nutraceuticals in treatment of various disorders and to understand the herbal drug interactions.
- CO 3:** To know about various herbal cosmetics, excipients and herbal formulations
- CO 4:** To understand the regulatory guidelines for the evaluation of herbal drugs and patenting of natural products.
- CO 5:** To know about the current scenario of herbal drug industry and Schedule T.


PRINCIPAL
VIGAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.D.),
Suryapet Dist, Telangana.

BP604T: BIOPHARMACEUTICS AND PHARMACOKINETICS (Theory)

- CO 1: To impart knowledge on basic concepts of biopharmaceutics like drug absorption, distribution and protein binding
- CO 2: To understand the concepts of drug elimination, bioavailability and bioequivalence.
- CO 3: To attain knowledge on pharmacokinetic models and pharmacokinetic parameters to describe the kinetics of drug ADME.
- CO 4: To understand the concepts of various pharmacokinetic parameters and multi compartment models and their significance in clinical settings.
- CO 5: To understand about the concept of non-linear pharmacokinetics.

BP605T: PHARMACEUTICAL BIOTECHNOLOGY (Theory)

- CO 1: To attain knowledge on enzymes and microbes used and other basics in biotechnology.
- CO 2: To know about various tools and techniques used in the construction of a rDNA and its applications in relation to production of pharmaceuticals.
- CO 3: To gain information on immunity and production of immunological agents and blood products.
- CO 4: To get knowledge on immunoblotting techniques, mutations and microbial genetics.
- CO 5: To know about fermentation methods and production of blood products.

BP606T: QUALITY ASSURANCE (Theory)

- CO 1: To gain knowledge on the concepts of quality assurance, quality management, TQM, QbD, ISO and ICH guidelines.
- CO 2: To identify the organization and personnel responsibilities.
- CO 3: To analyze quality control parameters and good laboratory practices in pharmaceutical industry.
- CO 4: To evaluate the complaints and documents maintenance in industry with required regulatory guidelines.
- CO 5: To understand the concepts of calibration, validation procedures and good warehousing practices.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

SEMESTER – VII

BP701T: INSTRUMENTAL METHODS OF ANALYSIS (Theory)

- CO 1: To understand the concept of UV-VISIBLE Spectroscopy
- CO 2: To get knowledge on the analytical techniques like IR-Spectroscopy, Flame Photometry, AAS and Nepheloturbidimetry.
- CO 3: To understand the basics of Chromatography and separation of Compounds by PC, TLC, Column Chromatography and Electrophoresis.
- CO 4: To gain information on the chromatographic techniques like GC and HPLC
- CO 5: To understand the basic chromatographic techniques like Ion exchange chromatography, gel chromatography and affinity chromatography.

BP702T: INDUSTRIAL PHARMACY – II (Theory)

- CO 1: To know the process of pilot plant and scale up of pharmaceutical dosage forms.
- CO 2: To understand the process of technology transfer from lab scale to commercial batch scale.
- CO 3: To know the regulatory affairs and requirements for drug approval.
- CO 4: To understand the quality management systems involved in drug production and evaluation.
- CO 5: To gain knowledge on various Indian regulatory requirements.

BP703T: PHARMACY PRACTICE (Theory)

- CO 1: To know the organization, functions and management of hospital, hospital pharmacy and community pharmacy along with identification, assessment reporting and management of adverse drug reactions and drug interactions.
- CO 2: To have knowledge regarding drug distribution process in a hospital, therapeutic drug monitoring, patient medication history interview, medication adherence and hospital formulary.
- CO 3: To gain expertise on pharmacy and therapeutics committee, information services, counseling, education, training programs, prescribed medication order and communication skills in hospital.
- CO 4: To study in detail about clinical pharmacy and to excel in various services like budget preparation and implementation, and OTC sales.
- CO 5: To get idea on drug store management, inventory control, investigational use of drugs and interpretation of clinical laboratory tests.



PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.D.),
Suryapet Dist, Telangana.

BP704T: NOVEL DRUG DELIVERY SYSTEM (Theory)

- CO 1:** To provide knowledge on basic concepts and formulation approaches in design of controlled drug delivery systems including novel polymers.
- CO 2:** To get knowledge on basics of microencapsulation and formulation approaches for mucosal drug delivery and implantable drug delivery systems.
- CO 3:** To understand the importance of specialized drug delivery through transdermal, gastroretentive and nasoplummonary systems.
- CO 4:** To get knowledge on the concepts of particulate and targeted drug delivery systems.
- CO 5:** To gain importance of the drug delivery formulation approaches to specific body cavities like ocular and intrauterine administration.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

SEMESTER – VIII**BP801T: BIOSTATISTICS AND RESEARCH METHODOLOGY (Theory)**

- CO 1: To become a proficient on basics of statistics and its application in pharmacy.
- CO 2: To become an adept in the application of probability, sampling and statistical tests in pharmaceutical research.
- CO 3: To commend the designing and development of a research protocol.
- CO 4: To attain information on various statistical software's.
- CO 5: To develop knowledge on designing and analysis of experiments.

BP802T: SOCIAL AND PREVENTIVE PHARMACY (Theory)

- CO 1: To understand the basics on health, diseases, sociology, social and health education, and personal hygiene.
- CO 2: To develop knowledge on preventive medicine employed in control of various diseases.
- CO 3: To attain information on various national health programmes related to communicable diseases.
- CO 4: To gain knowledge on various national and social health programmes.
- CO 5: To be able to provide education and health promotion services at community level.

BP803ET: PHARMA MARKETING MANAGEMENT (Theory)

- CO 1: To understand the basics of pharmaceutical market and marketing.
- CO 2: To develop knowledge on product decision.
- CO 3: To attain information on various pharmaceutical promotion techniques.
- CO 4: To gain knowledge on various pharmaceutical marketing channels and professional sales representative.
- CO 5: To know about pricing of pharmaceuticals and emerging concepts in marketing.

BP804ET: PHARAMCEUTICAL REGULATORY SCIENCE (Theory)

- CO 1: To get knowledge on concepts of drug discovery, development and generic drug development.
- CO 2: To understand the concepts of regulatory approval process and various regulatory authorities and agencies related to it.
- CO 3: To gain information on regulatory approval process and their registration of Indian drug products in international markets.


PRINCIPAL
TEXAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayachoti (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

CO 4: To understand the regulations and requirements for conduction of clinical trials and pharmacovigilance process of monitoring the clinical trials.

CO 5: To know the concepts of regulatory laws and acts in pharmaceutical drug regulations.

BP805ET: PHARAMCOVIGILANCE (Theory)

CO 1: To get knowledge on basic concepts and terminology of pharmacovigilance and adverse drug reactions.

CO 2: To understand about drugs and diseases pertaining to pharmacovigilance along with drug dictionaries, coding, information resources and establishing a pharmacovigilance programme.

CO 3: To gain information on vaccine safety surveillance, methods and communication in pharmacovigilance.

CO 4: To understand the safety data generation and ICH guidelines of pharmacovigilance.

CO 5: To know the concepts of pharmacogenomics, drug safety evaluation in special population and role of CDSCO and CIOMS in pharmacovigilance.

BP806ET: QUALITY CONTROL AND STANDARDIZATION OF HERBALS (Theory)

CO 1: To develop knowledge on basic tests and guidelines for quality control of herbal drugs.

CO 2: To attain information on quality assurance process in herbal drug industry according to WHO guidelines.

CO 3: To acquire knowledge on quality control based on EU and ICH guidelines, and research guidelines for safety and efficacy evaluation of herbal medicine.

CO 4: To learn about stability testing, documentation and GMP requirements of herbal medicines.

CO 5: To understand about regulatory requirements and safety monitoring of herbal medicines, herbal pharmacopoeia and biological markers.

BP807ET: COMPUTER AIDED DRUG DESIGN (Theory)

CO 1: To develop knowledge on basics of drug discovery, lead and analog based drug design and development.

CO 2: To get knowledge on quantitative structure activity relationship.

CO 3: To acquire knowledge on molecular docking and virtual screening techniques of drugs.

CO 4: To know the informatics and methods in drug design.

CO 5: To understand about various concepts of molecular modeling.


PRINCIPAL
VIMS COLLEGE OF PHARMACEUTICAL SCIENCES
Kalyanigudem (V)-508 376, Suryapet (M.D.),
Suryapet Dist, Telangana.

BP808ET: CELL AND MOLECULAR BIOLOGY (Theory)

- CO 1: To develop knowledge on cellular basics of life.
- CO 2: To attain information on genetic material processing and their functioning.
- CO 3: To acquire knowledge on protein structure and synthesis.
- CO 4: To learn about genetics and cell cycle.
- CO 5: To understand about various cellular signaling mechanisms.

BP809ET: COSMETIC SCIENCE (Theory)

- CO 1: To understand the cosmetic excipients and body parts related to cosmetic application.
- CO 2: To provide knowledge on basic principles of formulation of skin and body care products
- CO 3: To gain information on role of herbs in the preparation of cosmetics.
- CO 4: To understand the principles of basic cosmetic evaluation.
- CO 5: To attain information on various cosmetic problems associated with hair, scalp and skin.

BP810ET Experimental Pharmacology(Theory)

- CO 1: To develop knowledge on various guidelines and techniques related to laboratory animal care.
- CO 2: To understand the basics of screening and preclinical models.
- CO 3: To acquire knowledge on pharmacological screening of drugs acting on autonomic nervous system.
- CO 4: To learn about the screening of cardiovascular agents and metabolic disorders.
- CO 5: To gain expertise on research methodology and biostatistics in pharmacology.

BP811ET: ADVANCED INSTRUMENTATION TECHNIQUES (Theory)

- CO 1: To develop knowledge on concepts of nuclear magnetic resonance spectroscopy and mass spectrometry.
- CO 2: To understand the components of various thermal methods of analysis and X-ray diffraction methods.
- CO 3: To acquire knowledge on calibration and validation of various analytical instruments as per ICH and USFDA guidelines.
- CO 4: To learn about radio immune assay and analytical extraction techniques.
- CO 5: To gain expertise on various hyphenated techniques.


PRINCIPAL
TEXAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

BP812ET: DIETARY SUPPLEMENTS AND NUTRACEUTICALS (Theory)

CO 1: To know about basics of nutraceuticals health problems, public health nutrition and data related to various functional foods.

CO 2: To understand the concepts of various phytochemicals which are useful as nutraceuticals.

CO 3: To acquire knowledge on mechanisms of free radicals and dietary fibres.

CO 4: To learn about free radical related diseases, antioxidant sources and functional foods for chronic disease prevention.

CO 5: To gain knowledge on environmental factors, regulatory aspects and pharmacopoeial specifications for dietary supplements and nutraceuticals.

BP813PW: Project Work

CO 1: To provides knowledge on basics of pharmaceutical project development.

CO 2: To provide adequate knowledge on various categories of pharmaceutical excipients used in the preparation of formulations.

CO 3: To understand the formulation and applications of various excipients in tablets, capsules, parenterals, aerosols and other novel drug delivery systems.

CO 4: To provide knowledge on various optimization techniques, quality by designs (QbD) and their applications in pharmaceutical product development.

CO 5: To attain information on the selection and quality control testing of packaging materials for pharmaceutical product development.


PRINCIPAL
STAS COLLEGE OF PHARMACEUTICAL SCIENCES
Kapanigudem (V)-509 376, Suryapet (M.D.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaherlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email - vikassuryapet@vphar.ac.in

COURSE OUTCOMES

MASTER OF PHARMACY

PHARMACEUTICAL ANALYSIS BRANCH

SEMESTER – I

MPA101T: MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES (Theory)

- CO 1:** To get knowledge on UV-Visible, IR, flame emission and spectrofluorimetry.
- CO 2:** To understand the concepts of NMR spectroscopy.
- CO 3:** To gain knowledge on mass spectroscopy.
- CO 4:** To attain information on various chromatographic techniques.
- CO 5:** To get knowledge on types of electrophoresis techniques and X-ray crystallography.
- CO 6:** To obtain knowledge on Potentiometry and various thermal techniques.

MPA102T: ADVANCED PHARMACEUTICAL ANALYSIS (Theory)

- CO 1:** To get knowledge on basics of impurities and stability studies of drugs.
- CO 2:** To understand the principles of elemental impurities and stability testing protocols.
- CO 3:** To gain knowledge on impurity profiling and characterization of degradants.
- CO 4:** To attain information on regulatory requirements related to stability testing of phytopharmaceuticals.
- CO 5:** To obtain knowledge on biological tests and assays of biotechnologically derived products.
- CO 6:** To know about various types of immunoassays.

MPA103T: PHARMACEUTICAL VALIDATION (Theory)

- CO 1:** To understand the basic elements of qualification and validation.
- CO 2:** To attain information on qualification of various analytical instruments and glassware.
- CO 3:** To get knowledge on validation procedures of cleaning and utility systems.
- CO 4:** To understand analytical method validation and computerized system validation.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

CO 5: To gain information on general principles and concepts of intellectual property.

MPA104T: FOOD ANALYSIS (Theory)

CO 1: To get knowledge on classification, properties and analysis of carbohydrates, proteins and aminoacids.

CO 2: To attain information on classification, properties and analysis of lipids and vitamins.

CO 3: To understand the concept of various food additives, pigments and synthetic dyes.

CO 4: To get knowledge on general analytical procedures for fermentation products and milk and milk derived products

CO 5: To know about analysis of pesticides and their determination in foods along with various legislative requirements of food products.


PRINCIPAL
SRI COLLEGE OF PHARMACEUTICAL SCIENCES
Nayanigudem (V)-508 376, Suryapet (Mdt.),
Suryapet Dist, Telangana.

SEMESTER – II**MPA201T: ADVANCED INSTRUMENTAL ANALYSIS (Theory)**

- CO 1:** To get detailed information on HPLC.
- CO 2:** To attain information on biochromatography and gas chromatography.
- CO 3:** To obtain knowledge on supercritical fluid chromatography and capillary electrophoresis.
- CO 4:** To understand the concepts of mass spectrometry.
- CO 5:** To get knowledge on NMR spectroscopy.

MPA202T: MODERN BIO-ANALYTICAL TECHNIQUES (Theory)

- CO 1:** To get knowledge on extraction procedures of drugs and metabolites from biological matrices and bioanalytical method validation guidelines.
- CO 2:** To gain information on biopharmaceutical considerations in analysis.
- CO 3:** To attain knowledge on pharmacokinetics and toxicokinetics.
- CO 4:** To understand the concepts of cell culture techniques.
- CO 5:** To know about metabolite identification and testing of drug product performance, and *in vivo* bioavailability and bioequivalence determination.

MPA203T: QUALITY CONTROL AND QUALITY ASSURANCE (Theory)

- CO 1:** To attain knowledge on concepts of good laboratory practices.
- CO 2:** To understand various cGMP and CPCSEA guidelines.
- CO 3:** To know about the analysis and quality control testing of raw and finished components including packaging materials.
- CO 4:** To attain information on documentation in pharmaceutical industry.
- CO 5:** To get the picture on manufacturing operations and controls in a pharmaceutical industry.

MPA204T: HERBAL AND COSMETIC ANALYSIS (Theory)

- CO 1:** To get knowledge on remedies, toxicity and regulations related to herbal products.
- CO 2:** To understand the process of detection of adulteration and deterioration and various regulatory requirements for setting a herbal drug industry.
- CO 3:** To know about testing of natural products and various monographs of herbal drugs.
- CO 4:** To get information on herbal drug-drug interactions and guidelines.
- CO 5:** To know the evaluation and Indian standard specifications of cosmetics and baby products.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.D.),
Suryapet Dist, Telangana.

SEMESTER – III

MPA301T: RESEARCH METHODOLOGY AND BIostatISTICS (Theory)

CO 1: To gain knowledge on research study designs.

CO 2: To know about various biostatistical parameters and their application in pharmaceutical research.

CO 3: To attain knowledge on medical research and ethics.

CO 4: To get information on guidelines for conducting animal experiments.

CO 5: To get the picture on declaration of Helsinki regarding medical research.


PRINCIPAL
SUKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Dist),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl. & Dist.), TELANGANA STATE

Email: vikassuryapet@gmail.com

COURSE OUTCOMES

MASTER OF PHARMACY PHARMACEUTICS BRANCH SEMESTER – I

MPH101T: MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES (Theory)

- CO 1: To get knowledge on UV-Visible, IR, flame emission and spectrofluorimetry.
- CO 2: To understand the concepts of NMR spectroscopy.
- CO 3: To gain knowledge on mass spectroscopy.
- CO 4: To attain information on various chromatographic techniques.
- CO 5: To get knowledge on types of electrophoresis techniques and X-ray crystallography.
- CO 6: To obtain knowledge on various immunological assays.

MPH102T: DRUG DELIVERY SYSTEM (Theory)

- CO 1: To get knowledge on basic concepts of controlled and sustained release formulations, 3D printing of pharmaceuticals and Telepharmacy.
- CO 2: To understand the concepts and principles of rate controlled drug delivery systems.
- CO 3: To gain knowledge on the principles and concepts of gastro-retentive and buccal drug delivery systems.
- CO 4: To attain information on the basics of ocular drug delivery systems.
- CO 5: To get knowledge on the formulation and evaluation of transdermal drug delivery systems.
- CO 6: To obtain knowledge on barriers for protein and peptide delivery systems
- CO 7: To understand the concepts of vaccine drug delivery systems.

PRINCIPAL

VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

MPH103T: MODERN PHARMACEUTICS (Theory)

- CO 1:** To understand the elements of pre-formulation studies along with active pharmaceutical ingredients and generic drug development.
- CO 2:** To attain information on basic principles and guidelines of validation.
- CO 3:** To get knowledge on the Industrial Management and cGMP considerations along with different validation techniques employed in the field of pharmacy.
- CO 4:** To understand the compression and compaction processes.
- CO 5:** To gain information on various parameters used in the dissolution and pharmacokinetic methods.

MPH104T: REGULATORY AFFAIRS (Theory)

- CO 1:** To get knowledge on documentation in pharmaceutical industry and various regulatory requirements for approval of pharmaceutical products.
- CO 2:** To attain information on post approval regulatory requirements as per ICH, EU and MHRA guidelines for drug products and medical devices.
- CO 3:** To understand the regulatory aspects involved in non-clinical drug development.
- CO 4:** To get knowledge on regulatory requirements for conduction and safety monitoring of the clinical trials.



PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

SEMESTER – II

MPH201T: MOLECULAR PHARMACEUTICS (Theory)

- CO 1: To get knowledge on basic concepts and formulation approaches in design of targeted drug delivery systems.
- CO 2: To attain information on concepts on targeting methods, preparation and evaluation of nanoparticles and liposomes.
- CO 3: To obtain knowledge on preparation and applications of microcapsules and microspheres.
- CO 4: To understand the importance of pulmonary drug delivery systems and preparation and evaluation of aerosols.
- CO 5: To understand the concepts of nucleic acid based therapeutic drug delivery systems.

MPH202T: ADVANCED BIOPHARMACEUTICS AND PHARMCOKINETICS (Theory)

- CO 1: To understand the principles involved in drug absorption from gastro-intestinal tract.
- CO 2: To gain information on biopharmaceutical factors and considerations in design and performance of drug product.
- CO 3: To attain knowledge on pharmacokinetic compartmental modeling.
- CO 4: To understand the concepts of Bioavailability and Bioequivalence studies.
- CO 5: To apply the pharmacokinetics to modified release, targeted drug delivery and biotechnological products.

MPH203T: COMPUTER AIDED DRUG DELIVERY SYSTEM (Theory)

- CO 1: To attain knowledge on applications of computers in pharmaceutical research and development.
- CO 2: To understand various computational models in drug disposition.
- CO 3: To know about the technology involving computers in the development of pharmaceutical formulations.
- CO 4: To attain information on computer based simulation experimentation.
- CO 5: To get the picture on artificial intelligence and its application in pharmacy field.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.C.).
Suryapet Dist, Telangana.

MPH204T: COSMETICS AND COSMECUTICALS (Theory)

- CO 1:** To get knowledge on regulatory provisions relating to import of misbranded, spurious and manufacturing of cosmetics.
- CO 2:** To understand the structure of skin, hair and their related problems.
- CO 3:** To gain knowledge on surfactants and their applications along with concepts on formulation of creams, shampoos, tooth paste, soaps and syndet bars.
- CO 4:** To get information on classification of sunscreens and their regulatory aspects.
- CO 5:** To understand the concepts of herbal ingredients used in hair, skin and oral care

SEMESTER – III

MPH 301: RESEARCH METHODOLOGY AND BIOSTATISTICS (Theory)

- CO 1:** To gain knowledge on research study designs.
- CO 2:** To know about various biostatistical parameters and their application in pharmaceutical research.
- CO 3:** To attain knowledge on medical research and ethics.
- CO 4:** To get information on guidelines for conducting animal experiments.
- CO 5:** To get the picture on declaration of Helsinki regarding medical research


PRINCIPAL
AS COLLEGE OF PHARMACEUTICAL SCIENCES
Yanigudem (V)-508 376, Suryapet (M.d.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Med. & Dist.), TELANGANA STATE

Email: vikassuryapet@gmail.com

COURSE OUTCOMES

MASTER OF PHARMACY

PHARMACEUTICAL CHEMISTRY

BRANCHSEMESTER – I

MPC101T: MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES (Theory)

CO 1: To get knowledge on UV-Visible, IR, flame emission and spectrofluorimetry.

CO 2: To understand the concepts of NMR spectroscopy.

CO 3: To gain knowledge on mass spectroscopy.

CO 4: To attain information on various chromatographic techniques.

CO 5: To get knowledge on types of electrophoresis techniques and X-ray crystallography.

CO 6: To obtain knowledge on various immunological assays.

MPC102T: ADVANCED ORGANIC CHEMISTRY – I (Theory)

CO 1: To get knowledge on Stereochemistry.

CO 2: To understand the Chirality due to helical shape.cis / trans.

CO 3: To gain knowledge on Reactive Intermediates.

CO 4: To attain information on Mechanisms of organic reactions.

CO 5: To get knowledge on Concepts of aromaticity and antiaromaticity.

CO 6: To obtain knowledge on E1, E2, E1CB and E2CB mechanisms.

MPC103T: ADVANCED MEDICINAL CHEMISTRY – I (Theory)

CO 1: To get knowledge on Modern methods of Drug Discovery target validation

CO 2: To understand the Parameters involved in QSAR.

CO 3: To gain knowledge on Computer aided drug design.

CO 4: To attain information on Drug Design

CO 5: To obtain knowledge on Natural Products as Leads for New Drugs

CO 6: To know about Structure based drug design.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Med.).
Suryapet Dist, Telangana.

MPC104T: CHEMISTRY OF NATURAL PRODUCTS (Theory)

- CO 1:** To understand the Natural products as leads for new drugs.
- CO 2:** To attain information on Alkaloids.
- CO 3:** To get knowledge on Source and structure elucidation of cholesterol and diosgenin..
- CO 4:** To understand Polypeptides and proteins
- CO 5:** To gain information on Compounds of medicinal Interest

SEMESTER – II

MPC201T: Advanced Spectral Analysis II (Theory)

- CO 1:** To attain knowledge on IR spectrum of compounds.
- CO 2:** To understand various IR spectrum in synthesized drug.
- CO 3:** To know about the technology spectrum extract.
- CO 4:** To attain information on NMR Spectroscopy.
- CO 5:** To get the picture of drug.

MPC202T: ADVANCED ORGANIC CHEMISTRY - II (Theory)

- CO 1:** To get detailed information on Synthetic Reagents & Applications.
- CO 2:** To attain information on heterogeneous and homogenous catalysis.
- CO 3:** To obtain knowledge on transition-metal and Organo-catalysis in organic synthesis.
- CO 4:** To understand the concepts of Carbon to Carbon Migration.
- CO 5:** To get knowledge on Chemistry of peptides.

MPC203T: Computer Aided Drug Design (Theory)

- CO 1:** To attain knowledge on applications of computers in drug development.
- CO 2:** To understand various computational models in drug synthesis.
- CO 3:** To know about the technology involving computers in the development of drug
- CO 4:** To attain information on computer based drug experimentation.
- CO 5:** To get the picture on artificial intelligence and its application in pharmacy field


PRINCIPAL
YRAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdi.),
Suryapet Dist, Telangana.

MPC204T: PHARMACEUTICAL PROCESS CHEMISTRY (Theory)


CO 1: To attain knowledge on Unit Processes - I.

CO 2: To understand Liquid equilibria, extraction with reflux.

CO 3: To know about the Synthetic strategy Stages of scale up process.

CO 4: To attain information on Unit Processes - II.

CO 5: To get the picture on Penicillin and Streptomycin


PRINCIPAL
VENKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Kayanigudem (V)-508 376, Suryapet (Mdt.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlan Nehru Technological University Hyderabad,
Permitted by Govt. of A.P. & Approved by AICTE & R.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Midi.&Dist.), TELANGANA STATE

Email - vikascouryapet@gmail.com

COURSE OUTCOMES

MASTER OF PHARMACY PHARMACEUTICAL OLOGY

BRANCH

SEMESTER – I

MPL101T:MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES (Theory)

- CO 1: To get knowledge on UV-Visible, IR, flame emission and spectrofluorimetry.
- CO 2: To understand the concepts of NMR spectroscopy.
- CO 3: To gain knowledge on mass spectroscopy.
- CO 4: To attain information on various chromatographic techniques.
- CO 5: To get knowledge on types of electrophoresis techniques and X-ray crystallography.
- CO 6: To obtain knowledge on Potentiometry and various thermal techniques.

MPL102T: ADVANCED PHARMACOLOGY- I (Theory)

- CO 1: To get knowledge on Pharmacokinetics and Pharmacodynamics.
- CO 2: To understand the concepts of Neurotransmission
- CO 3: To gain knowledge on Central nervous system.
- CO 4: To attain information on various Cardiovascular drugs.
- CO 5: To get knowledge on types of Autacoid.
- CO 6: To obtain knowledge on neurodegenerative diseases.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Midi.),
Telangana State, Telangana.

MPL 103T :Pharmacological and Toxicological Screening Methods-I (Theory)

- CO 1: To get knowledge on Revision of basic concepts and Clinical Pharmacokinetics.
- CO 2: To understand the concepts of Adverse Drug Reactions& Drug Interactions
- CO 3: To gain knowledge on Pathophysiology and drug therapy.
- CO 4: To attain information on G.I. tract infections.
- CO 5: To get knowledge on types Renal & hepatic insufficiency.
- CO 6: To obtain knowledge on fungal and HIV infection.

MPL104T:Cellular and Molecular Pharmacology (Theory)

- CO 1: To get knowledge on Animal Biotechnology.
- CO 2: To understand the Basic tissue culture techniques.
- CO 3: To gain knowledge on Feeder layers on substrate.
- CO 4: To attain information on Cultured cells and evolution.
- CO 5: To get knowledge on In Vitro Fertilization & Transgenic Animals In vitro fertilization (IVF) in humans.
- CO 6: To obtain knowledge on targeted gene transfer&transgenic animals

SEMESTER – II

MPL 201T: Advanced Pharmacology II(Theory)

- CO 1: To get knowledge on Pharmacokinetics and Pharmacodynamics.
- CO 2: To understand the concepts of nephrological drugs.
- CO 3: To gain knowledge on autonomous nervous system.
- CO 4: To attain information on various Cardiovascular drugs.
- CO 5: To get knowledge on types of respiratory drugs
- CO 6: To obtain knowledge on neurodegenerative diseases.



PRINCIPAL
VEKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Wayanigudem (V)-508 376, Suryapet (Mdi.),
Suryapet Dist, Telangana.

MPL 202T: Pharmacological and Toxicological Screening Methods-II(Theory)

- CO 1: To get knowledge on History of toxicology.
- CO 2: To understand the Chemical Carcinogenesis.
- CO 3: To gain knowledge on Neurotoxicology.
- CO 4: To attain information on Toxicology of the Intestine.
- CO 5: To get knowledge on Nanotoxicology, Ecotoxicology and Toxicology of Metals
- CO 6: To obtain knowledge on Reproductive Toxicology & Teratology.

MPL 203T: Principles of Drug Discovery (Theory)

- CO 1: To get knowledge on modern drug discovery process.
- CO 2: To understand the concepts of Lead Identification.
- CO 3: To gain knowledge on Rational Drug Design.
- CO 4: To attain information on Molecular docking.
- CO 5: To get knowledge on QSAR Statistical method.
- CO 6: To obtain knowledge on Concept of pharmacophore mapping



PRINCIPAL
SVKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.S.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & R.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Md. B Dist.), TELANGANA STATE

Email - vikascourtyapet@gmail.com

COURSE OUTCOMES

MASTER OF PHARMACY

PHARMACY PRACTICE

BRANCH

SEMESTER – I

MPP101T: Clinical Pharmacy Practice (Theory)

- CO 1: To get knowledge on evolution and scope of clinical pharmacy.
- CO 2: To understand the Clinical Pharmacy Services
- CO 3: To gain knowledge on Patient Data Analysis.
- CO 4: To attain information on Lab Data Interpretation.
- CO 5: To get knowledge on Medicines & Poison Information Services.
- CO 6: To obtain knowledge on Poison Information Service.

MPP102T: Pharmacotherapeutics – I (Theory)

- CO 1: To get knowledge on Cardiovascular system.
- CO 2: To understand the Respiratory system
- CO 3: To gain knowledge on Gastrointestinal system.
- CO 4: To attain information on Bone and joint disorders.
- CO 5: To get knowledge on Dermatological Diseases.
- CO 6: To obtain knowledge on Drug-induced liver disease.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V), 508 376, Suryapet (Md. B. Dist.), Telangana State

MPP103T: Hospital and Community Pharmacy (Theory)

CO 1: To get knowledge on Hospital.

CO 2: To understand the Hospital Formulary Guideline

CO 3: To gain knowledge on Education.

CO 4: To attain information on National Health Programs- Role of Community Pharmacist.

CO 5: To get knowledge on Prescription.

CO 6: To obtain knowledge on e Patient referrals to the doctors ADR monitoring in community pharmacies

MPP104T: Clinical Research (Theory)

CO 1: To get knowledge on Regulatory Perspectives of Clinical Trials.

CO 2: To understand the concepts of Clinical Trials.

CO 3: To gain knowledge on Clinical Trial Documentation.

CO 4: To attain information on establishment of pharmacovigilance.

CO 5: To get knowledge on tools used in pharmacovigilance.

CO 6: To obtain knowledge on Methods, ADR reporting.

SEMESTER – II

MPP 201T: Principles of Quality Use of Medicines (Theory)

CO 1: To get knowledge on use of medicine.

CO 2: To understand the mechanism of drug.

CO 3: To gain knowledge on quality uses of medicine.

CO 4: To attain information on medicine.

CO 5: To get knowledge on quality products.

CO 6: To obtain knowledge on drug.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Gandhinagar (M)-500 376, Hyderabad

MPP 102T: Pharmacotherapeutics II (Theory)

- CO 1: To get knowledge on drug interaction.
- CO 2: To understand the drug-drug interaction.
- CO 3: To gain knowledge on side effects of drug.
- CO 4: To attain information on therapeutics of drug.
- CO 5: To get knowledge on interaction.
- CO 6: To obtain knowledge on Drug-induced disease.

MPP 203T: Clinical Pharmacokinetics and Therapeutic Drug Monitoring (Theory)

- CO 1: To get knowledge on Regulatory Perspectives of Clinical Trials.
- CO 2: To understand the concepts of Clinical Trials.
- CO 3: To gain knowledge on Clinical Trial Documentation.
- CO 4: To attain information on establishment of pharmacovigilance.
- CO 5: To get knowledge on tools used in pharmacovigilance.
- CO 6: To obtain knowledge on Methods, ADR reporting.

MPP 204T: Pharmacoepidemiology & Pharmacoeconomics (Theory)

- CO 1: To get knowledge on liver disease.
- CO 2: To understand the concepts communicable disease.
- CO 3: To gain knowledge on seasonal disease.
- CO 4: To attain information on cost minimization.
- CO 5: To get knowledge on tools used to monitor disease.
- CO 6: To obtain knowledge on varies disease.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email: vikassuryapet@gmail.com

COURSE OUTCOMES

DOCTOR OF PHARMACY

FIRST YEAR

PD 1.1: HUMAN ANATOMY AND PHYSIOLOGY (Theory)

- CO 1: To describe basics elements of the structure and functions of Cell and Elementary tissues.
- CO 2: To have an in depth knowledge on the anatomy and physiology osseous, haemopoetic and lymphatic systems along with the definitions of their disorders.
- CO 3: To perceive the cardio, respiratory, gastro and neuro anatomy and physiology including the definitions of their disorders.
- CO 4: To comprehend anatomy and physiology of urinary system and endocrine glands highlighting the homeostatic mechanisms.
- CO 5: To learn the structure and functions of reproductive systems along with stages of pregnancy, parturition and various contraceptive devices.
- CO 6: To appreciate the anatomy and physiology of sense organs of human body and skeletal muscle along with the definitions of their disorders.
- CO 7: To acquire knowledge on the muscle performance and changes that takes place during exercise condition along with the specific drug effects on athletes.

PD 1.2: PHARMACEUTICS – I (Theory)

- CO 1: To know about the historical background of pharmacy profession and to understand the elements like importance of pharmaceutical dosage forms, prescription and posology.
- CO 2: To know about the concept of various pharmacopoeias and its editions.
- CO 3: To understand the development of various monophasic and biphasic liquid dosage forms.
- CO 4: To understand formulation techniques and development of powders, granules and galenicals.
- CO 5: To identify pharmaceutical incompatibilities and to solve pharmaceutical calculations.
- CO 6: To highlight the importance of various extraction procedures used in pharmaceutical product development.

An
PRINCIPAL
 VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
 Rayanigudem (V)-508 376, Suryapet (Mdl.),
 Suryapet Dist, Telangana.

CO 7: To understand the development of powders, suppositories and surgical aids.

PD 1.3: MEDICINAL BIOCHEMISTRY (Theory)

CO 1: To acquire knowledge on cell composition, cellular transport, high energy compounds, and enzymes with their therapeutic and diagnostic applications related to patient care.

CO 2: To learn about metabolic pathways of glucose and lipids in body and its metabolic disorders.

CO 3: To gain knowledge on energy capture mechanism at cellular level.

CO 4: To become familiar with aminoacid metabolism, nucleic acid metabolism, genetic mutations and their metabolic disorders.

CO 5: To become aware of significance of clinical chemistry in laboratory estimations and various types of kidney and liver function tests, and lipid profiles and their clinical correlation.

CO 6: To gather knowledge on immunological techniques employed in diagnosis of diseases.

CO 7: To learn about electrolyte importance in body functioning.

PD 1.4: PHARMACEUTICAL ORGANIC CHEMISTRY (Theory)

CO 1: To understand the fundamental concepts of drugs like organic bonding, acids and bases, isomerism, and nomenclature of different classes of organic compounds

CO 2: To appreciate the free radical chain reactions of alkanes and chemistry of alicyclic compounds

CO 3: To get information on mechanism of nucleophilic aliphatic substitution, elimination, electrophilic and free radicals addition reactions of organic compounds.

CO 4: To understand the concept of carbon-carbon double bond as substituent in organic compounds and the theory of resonance.

CO 5: To know the concept of electrophilic and nucleophilic aromatic substitution, nucleophilic addition, condensation, and rearrangement reactions in organic chemistry

CO 6: To understand different redox reactions.


CO 7: To study the fundamentals of chemistry of different official pharmaceutical organic compounds used in therapy of diseases.

PD 1.5: PHARMACEUTICAL INORGANIC CHEMISTRY (Theory)

CO 1: To understand the concept of errors and their treatment methods, and volumetric analysis, standards and concentrations.

CO 2: To know the basics of acid base, redox, non-aqueous, precipitation and complexometric titrations.

CO 3: To know the concept of gravimetric analysis, and indicators used in titrimetric analysis and their theories.


PRINCIPAL
GAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

- CO 4:** To get information on different limit tests, and preparation and uses of medicinal gases.
- CO 5:** To get knowledge on fundamentals of the chemistry of antacids, inorganic acidifiers, cathartics, electrolyte replenishers, and trace inorganic elements involved in pharmacotherapy.
- CO 6:** To study the chemistry of inorganic compounds used as antimicrobials, pharmaceutical aids, dental products, sclerosing agents, expectorants, sedatives, antidotes and respiratory stimulants which help in treatment of various diseases and disorders.
- CO 7:** To get knowledge on the chemistry of radiopharmaceuticals involved in disease treatment.

PD 1.6: REMEDIAL MATHEMATICS (Theory)

- CO 1:** To understand the concepts of algebra.
- CO 2:** To gain knowledge on trigonometry.
- CO 3:** To learn the calculations related to analytical geometry.
- CO 4:** To know about fundamentals of differential calculus useful in drug development process.
- CO 5:** To gain knowledge on integral calculus.
- CO 6:** To know information on differential equations helpful in drug development process.
- CO 7:** To learn about laplace transforms.

PD 1.6: REMEDIAL BIOLOGY (Theory)

- CO 1:** To gain knowledge on the general organization and morphology of plants.
- CO 2:** To understand the morphology of different flowering parts, fruits and seeds.
- CO 3:** To learn the physiology of plant and taxonomy of various flowering plants.
- CO 4:** To know about the fundamental aspects of vertebrates, amphibians and mammals.
- CO 5:** To acknowledge the basic information of animal cell, tissues and poisonous animals.


PRINCIPAL
SRINIVAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdt.),
Suryapet Dist, Telangana.

SECOND YEAR**PD 2.1: PATHOPHYSIOLOGY (Theory)**

- CO 1:** To understand the pathology of cell injury and adaptations including abnormalities of lipoproteinemia and glycogen storage diseases.
- CO 2:** To know the pathogenesis of inflammation and healing mechanisms, and concept of immunity and various immunological diseases
- CO 3:** To understand the principles of cancer emphasizing on its classification, etiopathogenesis, patterns of spread and histological diagnosis.
- CO 4:** To gain knowledge on pathological abnormalities and types of shock with their mechanisms, staging and management.
- CO 5:** To have a good knowledge on clinical effects of radiation, and various environmental and nutritional diseases.
- CO 6:** To perceive the etiology, pathophysiology, signs and symptoms and complications of various disease states.
- CO 7:** To comprehend the etiopathogenesis and clinical presentations of various infectious diseases.

PD 2.2: PHARMACEUTICAL MICROBIOLOGY (Theory)

- CO 1:** To get information basic elements on morphology, structure, classification, nutrient media for cultivation and replication of Bacteria, Fungi and Viruses, Spirochetes and Rickettsia.
- CO 2:** To know about various elements of identification and growth control of microorganisms along with of sterilization in pharmaceutical industry.
- CO 3:** To gain knowledge on disinfection, antiseptics and sterility testing of products and microbiological assays of various components
- CO 4:** To understand about various laboratory techniques of immunobiological assays.
- CO 5:** To get information of etiology, control and pharmacotherapy of communicable diseases.

PD 2.3: PHARMACOGNOSY & PHYTOPHARMACEUTICALS (Theory)

- CO 1:** To know about the elements of history, scope and development of Pharmacognosy and to acquire knowledge on the classification of crude drugs involved in pharmaceutical care.
- CO 2:** To gain knowledge on various methods involved in the cultivation, collection and processing of crude drug needed for drug development.
- CO 3:** To learn the systemic pharmacognostic study of primary metabolites, fibres and related products useful in drug development.


PRINCIPAL
VIRAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (M.D)
Suryapet Dist, Telangana.

CO 4: To know about plant cell and its inclusions, microscopic characters of crude drugs that play an effective role in drug development.

CO 5: To detect various adulterants of crude drugs by different quality control testing during drug development process.

PD 2.4: PHARMACOLOGY – I (Theory)

CO 1: To acquire an in depth knowledge on the elements of pharmaceutical care and pharmacology along with pharmacokinetic and pharmacodynamic parameters and the types of toxicities.

CO 2: To understand the pharmacology of drugs acting on autonomic nervous system

CO 3: To understand the concept of drugs act on cardiovascular system

CO 4: To know the drug action of centrally acting drugs

CO 5: To get the knowledge on the pharmacology of respiratory system

CO 6: To appreciate the pharmacological concepts of hormones and its antagonists.

CO 7: To comprehend the concept of autocooids with emphasis on their antagonistic drugs.

PD 2.5: COMMUNITY PHARMACY (Theory)

CO 1: To understand the scope of community pharmacy in the current scenario.

CO 2: To be able to demonstrate all the roles and responsibilities of community pharmacists.

CO 3: To understand about the business and professional practice skills of community pharmacy.

CO 4: To understand and appreciate the concept of rational drug use.

CO 5: To be able to provide pharmaceutical care at community pharmacy.

CO 6: To follow all the legal requirements in running a community pharmacy and to uphold the ethics of community pharmacist.

PD 2.6: PHARMACOTHERAPEUTICS – I (Theory)

CO 1: To understand about pathophysiology and therapeutic approach in cardiovascular disorders.

CO 2: To know the pathophysiology and therapeutic approach in respiratory disorders.

CO 3: To gain knowledge on relevant pathophysiology and therapeutic approach in endocrinological disorders.

CO 4: To acquire information on relevant pathophysiology and therapeutic approach in ophthalmological disorders.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

CO 5: To understand and emphasize on rational drug use in pharmacotherapy.

CO 6: To identify patient specific parameters relevant in pharmacotherapy such as age, pregnancy and breast feeding.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Md.),
Suryapet Dist, Telangana.

THIRD YEAR

PD 3.1: PHARMACOLOGY-II (Theory)

- CO 1: To understand the pharmacology of drugs used for blood associated disorders.
- CO 2: To learn the pharmacology of drugs acting on renal system and chemotherapeutics.
- CO 3: To have a detailed understanding on Immunopharmacology.
- CO 4: To have good knowledge on the types of animal toxicities.
- CO 5: To appreciate the concept of dynamic cell and the genes needed in patient care.

PD 3.2: PHARMACEUTICAL ANALYSIS (Theory)

- CO 1: To have good knowledge on the concepts of quality assurance and validation those are essential during drug development.
- CO 2: To get information on different chromatographic analytical techniques involved in drug development.
- CO 3: To obtain knowledge on different electrometric analytical methods needed during drug development.
- CO 4: To know the concepts and instrumentation involved in spectroscopic analytical methods of various drugs.

PD 3.3: PHARMACOTHERAPEUTICS-II (Theory)

- CO 1: To know the relevant pathophysiology and therapeutic approach in infectious disorders.
- CO 2: To gain information on pathophysiology and therapeutic approach in musculoskeletal disorders.
- CO 3: To get knowledge on relevant pathophysiology and therapeutic approach in renal disorders.
- CO 4: To attain information on relevant pathophysiology and therapeutic approach in oncological disorders.
- CO 5: To understand the relevant pathophysiology and therapeutic approach in dermatological disorders.

PD 3.4: PHARMACEUTICAL JURISPRUDENCE (Theory)

- CO 1: To know about the pharmaceutical legislations, ethics, right to information, medical termination of pregnancy act and intellectual property rights.


PRINCIPAL
VEKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

- CO 2: To know the significance of drugs and cosmetics act 1940 and its Rules 1945 in relation to import, manufacture and sale of drugs and cosmetics.
- CO 3: To understand the labeling and packaging guidelines for drug and cosmetics.
- CO 4: To gain information on various Indian pharmaceutical acts and laws like pharmacy act, excise duties act and narcotic and psychotropic substances act and rules.
- CO 5: To attain information on the salient features of drugs and magic remedies act, prevention of cruelty to animals act and drugs price control order.
- CO 6: To know the importance of essential commodities act, patent act and prescription and non-prescription drugs.

PD 3.5: MEDICINAL CHEMISTRY (Theory)

- CO 1: To understand the concept of drug design like QSAR, CADD, Combinatorial Chemistry and antisense molecules.
- CO 2: To get knowledge on the medicinal chemistry of drugs like anti-infective agents, sulphonamides, sulphones, antimalarials and antibiotics.
- CO 3: To understand the medicinal chemistry of antineoplastic agents.
- CO 4: To get information on the medicinal chemistry of diuretics and drugs used to treat cardiovascular diseases.
- CO 5: To understand the medicinal chemistry of endocrine drugs.
- CO 6: To get information on the medicinal chemistry of diagnostic agents of various diseases.
- CO 7: To understand the medicinal chemistry of steroidal hormones and adrenocorticoids.

PD 3.6: PHARMACEUTICAL FORMULATIONS (Theory)

- CO 1: To provide knowledge on various pharmaceutical dosage forms along with formulation, manufacturing and quality control testing of tablets and capsules.
- CO 2: To understand the concepts, formulation, manufacturing and evaluation of solutions, suspensions and emulsions.
- CO 3: To get knowledge on the formulation of parenterals and various containers used for parenterals and its official quality control tests.
- CO 4: To provide information on factors affecting absorption and formulation and evaluation of semi-solid ophthalmic preparations.
- CO 5: To understand the concepts of development of controlled and novel drug delivery systems.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Dist.),
Suryapet Dist, Telangana.

FOURTH YEAR

PD 4.1: PHARMACOTHERAPEUTICS – III (Theory)

- CO 1: To understand the relevant pathophysiology and therapeutic approach in gastrointestinal disorders.
- CO 2: To get knowledge on relevant pathophysiology and therapeutic approach in haematological disorders.
- CO 3: To know about pathophysiology and therapeutic approach in psychiatric disorders.
- CO 4: To gain information on relevant pathophysiology and therapeutic approach in neurological disorders.
- CO 5: To understand the relevant pathophysiology and therapeutic approach in Neuralgia's and headaches.

PD 4.2: HOSPITAL PHARMACY (Theory)

- CO 1: To know the organization, functions and management of hospital and hospital pharmacy.
- CO 2: To have a detailed knowledge regarding various distribution methods followed in hospital for drugs, pharmaceuticals, narcotics, sterile supplies and radiopharmaceuticals.
- CO 3: To know the professional practice management skills in hospital pharmacies.
- CO 4: To know the manufacturing practices of various formulations like parenterals, powders, granules, tablets, capsules, ointments, liquids creams etc., in a hospital set-up.
- CO 5: To appreciate the stores management and inventory control procedures.

PD 4.3: CLINICAL PHARMACY (Theory)

- CO 1: To gain knowledge and demonstrate various aspects of clinical pharmacy services those are provided at hospitals.
- CO 2: To be able to review patient medication chart along with the conduction of medication history interview and patient counselling.
- CO 3: To play a key role in the identification, assessment and reporting of adverse drug reactions.
- CO 4: To identify and resolve drug related problems and medication errors.
- CO 5: To gain expertise in drug and poison information along with critical evaluation of biomedical literature.
- CO 6: To be able to interpret clinical laboratory investigations used for evaluation of various disease conditions.


PRINCIPAL
KAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.

PD 4.4: BIOSTATISTICS AND RESEARCH METHODOLOGY (Theory)

- CO 1:** To highlight the importance of research in the current clinical scenario and statistics as an integral part of research.
- CO 2:** To understand different types of clinical study designs in carrying out research along with their respective methodologies.
- CO 3:** To understand and interpret various types of data that is generated during the research along with its interpretation using different statistical methods.
- CO 4:** To introduce the concepts of hypothesis testing and elaborate on various statistical tests used for testing the hypothesis and their interpretation.
- CO 5:** To understand various statistical methods used in epidemiological studies of clinical research.
- CO 6:** To highlight the importance of computer application in hospital and community pharmacy.

PD 4.5: BIOPHARMACEUTICS AND PHARMACOKINETICS (Theory)

- CO 1:** To impart knowledge on basic concepts of Biopharmaceutics like drug absorption, distribution, protein binding, elimination.
- CO 2:** To attain knowledge on pharmacokinetic models and pharmacokinetic parameters to describe the kinetics of drug ADME.
- CO 3:** To understand the concepts of non linear pharmacokinetics.
- CO 4:** To get knowledge on the concepts of non compartmental pharmacokinetics.
- CO 5:** To understand the concepts of drug elimination, bioavailability and bioequivalence.

PD 4.6: CLINICAL TOXICOLOGY (Theory)

- CO 1:** To understand the various aspects of toxicity management and general principles behind them along with its toxicokinetics.
- CO 2:** To know the clinical symptoms and management of acute poisoning with agents like pesticides, NSAIDS, CNS drugs, alcohol, hydrocarbons etc.
- CO 3:** To appreciate the clinical symptoms and management of food poisoning and chronic poisoning with heavy metals.
- CO 4:** To differentiate the families of venomous snakes, arthropods and to perceive the clinical presentations, first aid measures and management of snake bite, arthropod bite and bee stings.
- CO 5:** To differentiate between various types of non-edible mushrooms and mycotoxins and to perceive the clinical presentations of its toxicity with special emphasis on its management.
- CO 6:** To acknowledge the signs and symptoms of substance abuse and treatment of dependence.

FIFTH YEAR

PD 5.1: CLINICAL RESEARCH (Theory)

- CO 1: To understand various aspects pertaining to drug discovery and drug development process.
- CO 2: To obtain information on various phases of clinical trials along with the governing guidelines and regulatory bodies.
- CO 3: To understand and emphasize on various personnel involved in the conduction of clinical trials along with their roles and responsibilities.
- CO 4: To know completely about the ethical guidelines to be practiced during the conduction of clinical trials and its respective committees.
- CO 5: To understand about patient safety and also clinical data management of clinical trials.

PD 5.2: PHARMACOEPIDEMIOLOGY AND PHARMACOECONOMICS (Theory)

- CO 1: To understand the definitions, evolution and need for pharmacoepidemiology and pharmacoeconomics.
- CO 2: To understand the various methods for measurement of outcomes and risks in Pharmacoepidemiology.
- CO 3: To know various pharmacoepidemiologic methods.
- CO 4: To know and practice various pharmacoeconomic methods like cost-minimization analysis, cost-benefit analysis, cost-effectiveness analysis, cost-utility analysis.
- CO 5: To know the applications of pharmacoepidemiology and pharmacoeconomics.

PD 5.3: CLINICAL PHARMACOKINETICS AND PHARMACOTHERAPEUTIC DRUG MONITORING (Theory)

- CO 1: To get basic information on clinical pharmacokinetics and design of a dosage regimen and application of concepts of pharmacokinetics to individualize the drug dosage regimen.
- CO 2: To assess and manage the drug interactions with clinically significant PK-PD drug interactions.
- CO 3: To get knowledge on design and implementation of therapeutic drug monitoring services for various drugs.
- CO 4: To attain information on adjustment of the dosage regimen for patients with renal / hepatic impairments
- CO 5: To understand the concept regarding population pharmacokinetics and pharmacogenetics.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email - vikassuryapet@gmail.com

PROGRAM SPECIFIC OUTCOMES

B. Pharmacy:

- Able to apply the ethics of Pharmacy and contribute towards effective manufacture of drugs.
- To contribute towards overall healthcare of society.

Pharm. D:

- To justify the role of Clinical Pharmacist in the team of Health Care Professionals.
- Able to contribute to overall Health of the society both at community level and clinical level

M. Pharmacy:

- Able to apply the ethics of Pharmacy and contribute towards effective manufacture of drugs.
- To contribute towards overall healthcare of society.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



PROGRAM EDUCATIONAL OBJECTIVES

B. Pharmacy:

- To provide basic understanding about the formulation of various dosage forms.
- To train students to apply the concepts of drug extraction, drug designing and formulation techniques in the development of dosage form.
- To understand the organizational system in running community and hospital pharmacy along with drug procurement and distribution systems.
- To provide basic training to carry out various analytical procedures involved in drug screening and quality control.
- To train the students in carrying out pre-formulation and formulation techniques using various instruments.

Pharm. D:

- To ensure effective understanding of pathophysiological basis of various disorders along with their symptomatic manifestation.
- To train the students in designing the most appropriate pharmacotherapy individually to every patient.
- To provide training in imparting updated clinical evidence based medicine while designing pharmacotherapy.
- To be able to participate in patient care by providing all the necessary clinical pharmacy services.
- To play an important role in identification, management and reporting of Adverse Drug Reactions which is an important aspect of patient safety.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



PROGRAM OUTCOMES

BACHELOR OF PHARMACY

1. To provide essential knowledge pertaining to key principles involved in various Physicochemical and biological aspects of drugs and their implications.
2. To explore the knowledge on the principles of Inorganic and organic chemistry in the design and synthesis of active pharmaceutical ingredients along with their structure activity relationships.
3. To highlight the importance of pharmacognostic and phytochemical aspects of various natural drugs products.
4. To inculcate fundamental aspects about the genesis and importance of various materials used in formulation development and also for their pre-formulatory and biopharmaceutical assessment.
5. To impart essential skills required for the development of various formulations and to provide necessary training on basic skills to handle machinery and instruments needed for their fabrication, evaluation and marketing.
6. To ensure sustainability and perfection in aspects relating to pharmacodynamic and pharmacokinetic drug screening, usage of simulated practices for studying therapeutic ability of drugs.
7. To imbibe the prominence of a pharmacist in the health care sector as a clinical pharmacist, community pharmacist etc. powered with good communication skills, hospital training and also by conducting health awareness programs to the general public.
8. To enhance knowledge on Research methodology and Statistical applications at all levels of Pharmaceutical research along with ethics involved in research.
9. To highlight the importance of Regulatory aspects, Marketing and Management skills in the Pharmaceutical Industry.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email : vikassuryapet@gmail.com

PROGRAM OUTCOMES

MASTER OF PHARMACY

Pharmaceutical Analysis

1. To ensure advanced learning of analytical instrumental techniques for identification and quantification of drugs
2. To provide effective hands on training of pharmaceutical instruments along with their calibration and validation.
3. To impart knowledge on impurity testing in drug products along with impurity profiling and characterization.
4. To impart knowledge on herbal cosmetic analysis and herbal drug monographs.
5. To highlight the importance of validation, documentation, quality assurance and quality control in pharmaceutical industries.
6. To impart knowledge on bio-analytical techniques for the analysis of drugs in biological matrices.

PRINCIPAL

VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email : vikassuryapet@gmail.com

PROGRAM OUTCOMES

MASTER OF PHARMACY

Pharmaceutics

1. To ensure advanced learning of specialized instrumental techniques for identification and characterization of drugs in dosage forms.
2. To impart knowledge in the areas of design of dosage forms & Novel drug delivery systems and their computational approaches.
3. To impart necessary skills required to learn various aspects being practiced at pharmaceutical industries.
4. To impart necessary knowledge in principles of Biopharmaceutics and Pharmacokinetics necessary for dose calculation and dose adjustments.
5. To provide effective awareness and knowledge on Regulatory aspects of drugs & drug products from generic drug development to regulatory filing in different countries.
6. To ensure overall knowledge pertaining to the development and formulation of Cosmeceutical products.

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.)
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email : vikassuryapet@gmail.com

PROGRAM OUTCOMES

MASTER OF PHARMACY

Pharmaceutical Chemistry

1. The student would be in position to design a stereoselective synthesis of new chemical entities (NCE) for the treatment of different diseases in new drug discovery Program.
2. The student would be in a position to have detailed knowledge of computer aided drug design which is useful to involve in new drug discovery Program by the utilization of natural leads and also with the help of structure-based drug design.
3. The student would be in a position to explore the natural lead compounds for the treatment of different diseases like cancer, malaria, diabetes.
4. To The appreciable knowledge will be gained by the students in the Modern Analytical Techniques and can apply the theories in the Analysis of various bulk drugs and their formulations. The students will also be in a position to apply their knowledge in developing the new methods for the determination and validate the procedures.
5. Students will come to know the different competent regulatory authorities globally.
6. Students be aware of technical aspects pertaining to the marketing authorization application
7. The regulatory guidelines and directions framed by the regulatory authorities will be helpful to place the drug products in market for marketing approvals..

PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



PROGRAM
OUTCOMES MASTER
OF PHARMACY
Pharmacology

1. Upon completion of the course the student shall be able to:
2. Discuss the pathophysiology and pharmacotherapy of certain diseases
3. Explain the mechanism of drug actions at cellular and molecular level
4. Understand the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases
5. The pathophysiology of selected disease states and the rationale for drug therapy, the controversies in drug therapy
6. The importance of preparation of individualized therapeutic plans based on diagnosis;
7. Needs to identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy



PROGRAM

OUTCOMES

MASTER OF PHARMACY

Pharmacy Practice

1. Upon completion of this course it is expected that students shall be able to
Describe and explain the rationale for drug therapy
2. Summarize the therapeutic approach for management of various disease conditions
including
3. reference to the latest available evidence Discuss the clinical controversies in drug
therapy and evidence-based medicine
4. Prepare individualized therapeutic plans based on diagnosis
5. Identify the patient specific parameters relevant in initiating drug therapy, and
monitoring
6. therapy (including alternatives, time- course of clinical and laboratory indices of
therapeutic response and adverse effect/s).
7. Etiopathogenesis and pharmacotherapy of diseases associated with following
systems

PRINCIPAL

VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.



VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES

*Affiliated to Jawaharlal Nehru Technological University Hyderabad
Permitted by Govt. of A.P. & Approved by AICTE & P.C.I.*

RAYANIGUDEM (V) - 508 376, SURYAPET (Mdl.&Dist.), TELANGANA STATE

Email: vikassuryapet@gmail.com

PROGRAM OUTCOMES

DOCTOR OF PHARMACY

1. To understand the elements of pharmaceutical care and provide comprehensive patient care services.
2. To understand fundamental aspects of pharmacotherapy based on pathological abnormalities that occur in various diseases and disorders.
3. To impart basic knowledge regarding the rational use of various drugs in treating the patient in a view to individualize drug therapy for a specific diagnosis.
4. Identify the patient specific parameters relevant in initiating drug therapy, and monitoring therapy (including alternatives, time-course of clinical and laboratory indices of therapeutic response and adverse effect/s)
5. To ensure effective communication of health related information to all healthcare professionals by providing patient counselling, identification and management of adverse drug reactions, conducting medication history interviews and reporting of medication errors.
6. Impart knowledge on drug development process especially the phases of clinical trials and also the ethical issues involved in the conduct of clinical research.
7. To ensure that effective, integrated and critically analyzed medicine and poison information is provided to healthcare professionals, which helps in the efficient patient management.


PRINCIPAL
VIKAS COLLEGE OF PHARMACEUTICAL SCIENCES
Rayanigudem (V)-508 376, Suryapet (Mdl.),
Suryapet Dist, Telangana.