

COURSE OUTCOMES
BACHELOR OF PHARMACY

Course:	Code: BP101T Human Anatomy and Physiology I
CO 1	Explain the gross morphology and structure of various organs of human body
CO 2	Describe the various homeostatic mechanisms and their imbalances and pathological conditions of various organs
CO 3	Identify the various, tissues and organs of different systems of human body and describe their functions
CO 4	Anatomy and physiology of special senses and nervous system
CO 5	Appreciate coordinated working pattern of organs of each system
Course:	Code: BP102T Pharmaceutical Analysis I
CO 1	To understand the concept of concentration, calculation of a solution, preparation and standardization of a solution and its storage conditions
CO 2	Study the definition and description of errors, commonly developed during drug analysis and method to minimize them
CO 3	Understand the principle and methods involved in volumetric analysis to estimate the drugs
CO 4	To know the different principles, methods and application of precipitation, complexometric, gravimetric and diazotization titrations
CO 5	To understand the principle and techniques of electrochemical titrations for chemical analysis
Course:	Code: BP103T Pharmaceutics I
CO 1	Know the history of profession of pharmacy and knowledge about the development of different pharmacoepias
CO 2	Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations
CO 3	Understand the professional way of handling the prescription
CO 4	Know the adoption of the different techniques for the preparations and evaluation of various conventional dosage forms like powders, suppositories and liquid orals with their types
CO 5	Know various considerations in development of different types of semisolid dosage forms and to evaluate them to maintain their stability

Course:	Code: BP104T Pharmaceutical Inorganic Chemistry
CO 1	Explain the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals and well acquainted with the principles of limit tests
CO 2	Knowledge on various major intra and extra cellular fluids and electrolytes and their role
CO 3	Discuss the preparation, principle and methodology of several inorganic drugs.
CO 4	Understand the medicinal and pharmaceutical importance of inorganic compounds.
CO 5	Study various aspects of radiopharmaceuticals.
Course:	Code: BP105T Communication Skills
CO 1	Understand communicate effectively both verbal and non-verbal
CO 2	Understand the behavioral needs for a pharmacist to function effectively in the areas of pharmaceutical operation
CO 3	Acquire interview skills and group discussion
CO 4	Manage the team as a team player
CO 5	Develop leadership qualities and essentials
Course:	Code: BP106RBT Remedial Biology
CO 1	Know the classification and salient features of five kingdoms of life
CO 2	Understand the basic components of anatomy and physiology of plant
CO 3	Associate the physiology of animal with special reference to human
CO 4	Explain morphology of flowering, plants and mineral nutrition
CO 5	Describe plant growth and development
Course:	Code: BP106RMT Remedial Mathematics
CO 1	Apply mathematical concepts and principles to perform computation for pharmaceutical sciences
CO 2	Solve the different types of problems by applying theory
CO 3	Create use and analyze mathematical representation and mathematical relationship
CO 4	Explain the principles of matrix, algebra, analytical geometry, differential and calculus, differential equations
CO 5	Appreciate the important applications of mathematics in pharmacy
Course:	Code: BP107P Human Anatomy and Physiology I
CO 1	Explain the gross morphology, structure and functions of various organs of the human body
CO 2	Describe the various homeostatic mechanisms and their imbalances
CO 3	Identify the various tissues and organs of different systems of human body
CO 4	Perform the hematological tests like blood cell counts, hemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume

Course:	Code: BP108P Pharmaceutical Analysis I
CO 1	Perform limit test and identify the impurities in the given compounds, preparation of standard solutions
CO 2	Standardization of the secondary standard solutions by the use of primary standard solutions.
CO 3	Determine the percentage purity of drugs by volumetric analysis
CO 4	Determine the percentage purity of drugs by electrochemical analysis
Course:	Code: BP109P Pharmaceutics I
CO 1	Know the history of profession of pharmacy
CO 2	Understand the basics of formulations of different dosage forms
CO 3	To know the pharmaceutical incompatibilities and pharmaceutical calculations
CO 4	To formulate the granulation techniques.
Course:	Code: BP110P Pharmaceutical Inorganic Chemistry
CO 1	The level of specific impurities in the given inorganic compounds by performing different limit tests
CO 2	Different chemical methods to prepare inorganic pharmaceuticals
CO 3	Perform identification tests as per Indian pharmacopoeia
CO 4	Determine the impurities qualitatively by performing tests for purity
Course:	Code: BP111P Communication Skills
CO 1	Express basic communication verbal and non-verbal
CO 2	Demonstrate interview skills and group discussion
CO 3	Express pronunciation of both consonant sounds & vowel sounds and nouns
Course:	Code: BP112RBP Remedial Biology
CO 1	Explain about microscope, section cutting techniques, mounting, staining and permanent slide preparation
CO 2	Handle cell, stem, root, leaf, seed, fruit, flower and their modifications
CO 3	Identify tissues, stem, root, leaf, seed, fruit and flower
Course:	Code: BP201T Human Anatomy and Physiology II
CO 1	Explain the gross morphology, structure and functions of various organs of the human body.
CO 2	Describe the various homeostatic mechanisms and their imbalances
CO 3	Identify the various tissues and organs of different systems of human body
CO 4	Perform the hematological tests like blood cell counts, hemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume
CO 5	Appreciate coordinated working pattern of different organs of each system

Course:	Code: BP202T Pharmaceutical Organic Chemistry-I
CO 1	Knowledge of the definition, nomenclature, classification and the type of isomerism of the organic compound
CO 2	Understanding of important physical properties important reactions and method of preparations of various functional groups
CO 3	Reactivity/stability and orientation of organic compounds
CO 4	Structure and application of organic compounds
CO 5	Identification and confirmation of organic compounds
Course:	Code: BP203T Biochemistry
CO 1	Able to understand different biomolecules and its biological role and bioenergetics
CO 2	Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic application of enzymes
CO 3	Understand the metabolism of nutrient molecules in physiological condition
CO 4	Understand the metabolism of nutrient molecules in pathological condition
CO 5	Understand the genetic organization of mammalian genome and important of DNA in the synthesis of RNA and proteins
Course:	Code: BP204T Pathophysiology
CO 1	Understand the principles of cell injury and cellular adaptation
CO 2	Understand/revise the mechanisms involved in process of inflammation and repair
CO 3	Describe the etiology and pathogenesis of selected disease states
CO 4	Develop knowledge of signs and symptoms of diseases
CO 5	Identify the complications of diseases
Course:	Code: BP205T Computer Applications in Pharmacy
CO 1	Explain the various types of applications of computers in pharmacy
CO 2	Explain bioinformatics and their impact in vaccine discover
CO 3	Understand the various types of databases and its applications
CO 4	Create data bases using MS access, SQL
CO 5	Identify the role of computers for data analysis in the field or pre-clinical development

Course:	Code: BP206T Environmental Science
CO 1	Create the awareness about environmental problems among learners
CO 2	Impart basic knowledge about the environment and its allied problems
CO 3	Develop an attitude of concern for the environment
CO 4	Motivate learner to participate in environment protection and environment improvement
CO 5	Acquire skills to help the concerned individuals in identifying and solving environmental problems and strive to attain harmony with nature
Course:	Code: BP207P Human Anatomy and Physiology II
CO 1	Understand human anatomy using specimen models
CO 2	Demonstrate experiments on special senses
CO 3	Demonstrate experimental functions on physiological systems
CO 4	To evaluate the knowledge through oral assessment
Course:	Code: BP208P Pharmaceutical Organic Chemistry-I
CO 1	Identify the organic compounds by systematic qualitative analysis
CO 2	Determine the boiling /melting point of organic compounds and derivatives
CO 3	Preparation of suitable solid derivatives from organic compounds
CO 4	Construction of molecular models
Course:	Code: BP209P Biochemistry
CO 1	Perform and identify the carbohydrates
CO 2	Perform and identify the proteins
CO 3	Identify normal and abnormal constituents of urine.
CO 4	Estimate the quantity of reducing sugars by DNSA methods and proteins by biuret method.
CO 5	Determine the factors affecting enzyme activity and report it
Course:	Code: BP210P Computer Application Pharmacy
CO 1	Use MS word to create questionnaires and other documentation related to pharmacy
CO 2	Retrieve the information of drug and its adverse effects using online tools
CO 3	Creating, mailing labels using label wizard, generating label in MS word

Course:	Code: BP301T Pharmaceutical Organic Chemistry-II
CO 1	Basic knowledge regarding definitions, chemistry, preparation, properties and its effects of organic compounds
CO 2	Write the reaction and mechanism of organic compounds
CO 3	Determine various analytical constants
CO 4	To understand reactivity/ stability of organic compounds, special emphasis on orientation mechanism of chemical reactions
CO 5	To write the structure, significance, medicinal uses and other applications
Course:	Code: BP302T Physical Pharmaceutics-I
CO 1	Understand the various physicochemical properties of drug molecules in the designing the dosage form, evaluation of dosage form with respect to solubility of drugs
CO 2	Know the principles of chemical kinetics & use them in designing expiry date for formulation
CO 3	Demonstrate use of physicochemical properties in evaluation of dosage forms with respect to surface and interfacial tension
CO 4	Appreciate physicochemical properties of drug molecules in formulation research and development. Understand the various physicochemical properties of drug molecules in the designing the dosage form based on states of matter and properties of matter
CO 5	Detail understanding on the complexation and protein binding in designing dosage form
Course:	Code: BP303T Pharmaceutical Microbiology
CO 1	Understand methods of identification, cultivation and preservation of various microorganisms
CO 2	To understand the importance and implementation of sterilization in pharmaceutical processing and industry
CO 3	Learn sterility testing of pharmaceutical products
CO 4	Carried out microbiological standardization of pharmaceuticals
CO 5	Understand the cell culture technology and its applications in pharmaceutical industries
Course:	Code: BP304T Pharmaceutical Engineering
CO 1	To know various unit operations used in pharmaceutical industries
CO 2	To understand the material handling techniques
CO 3	To perform various processes involved in pharmaceutical manufacturing process
CO 4	To carryout various test to prevent environmental pollution and to appreciate and comprehend significance of plant lay out design optimum use of resources
CO 5	To appreciate the various preventive methods used for corrosion control in pharmaceutical industries

Course:	Code: BP305P Pharmaceutical Organic Chemistry-II
CO 1	To know the principles and reactions involved in the synthesis of various medicinal/organic compounds and to know about handling of various instruments, purification methods for organic compounds
CO 2	Gain practical knowledge from various determinations of acid value, saponification value and iodine value for fats, oils and standardization of reagents
CO 3	Able to prepare and identification test that help to interpret and arrive to valid conclusions about prepared organic compounds
CO 4	To answer principle, reaction, mechanism, significance and uses of all organic compounds
Course:	Code: BP306P Physical Pharmaceutics-I
CO 1	To know the principles and theory behind the physicochemical properties of drug molecules
CO 2	Determination of PKa partition co-efficient, HLB, stability constant and adsorption studies
CO 3	Determination of CST, surface tension and CMC
CO 4	To understand the importance of physicochemical properties in developing formulation of new drugs
Course:	Code: BP307P Pharmaceutical Microbiology
CO 1	Understand methods of identification, cultivation and preservation of various microorganisms
CO 2	To understand the importance and implementation of sterilization in pharmaceutical processing and industry
CO 3	Learn sterility testing of pharmaceutical products
CO 4	Carried out microbiological standardization of pharmaceuticals
Course:	Code: BP308P Pharmaceutical Engineering
CO 1	Ability to determine particle size of polydispersed powder by using sieve analysis. Ability to apply the concept of size reduction using various size reduction techniques
CO 2	Understand the significance of various factors affecting filtration, evaporation and crystallization
CO 3	Understand the construction, working and application of various equipment's by practical demonstration
CO 4	Ability to determine end point of drying, loss of drying and moisture content of wet sample by constructing drying rate curve.

Course:	Code: BP401T Pharmaceutical Organic Chemistry-III
CO 1	To gain knowledge on stereo chemical aspects of organic compounds and organic reactions
CO 2	To know the nomenclature, reaction and its synthesis of geometrical isomers.
CO 3	To develop sufficient knowledge in synthesis and chemistry of important hetero cyclic compounds
CO 4	To understand the structure and medicinal uses of hetero cyclic compounds
CO 5	To emphasize and learn the important named reactions along with mechanism and its importance
Course:	Code: BP402T Medicinal Chemistry-I
CO 1	To understand the chemistry or mechanism of action of drug with respect to its pharmacological activity.
CO 2	To understand the drug metabolic pathways, adverse effect and therapeutic value of drugs.
CO 3	To know the structural activity relationship (SAR) of different class of drugs.
CO 4	Apply the principle of synthetic chemistry to predict synthesis of drugs.
CO 5	Write the chemical classification and structure of the drug.
Course:	Code: BP403T Physical Pharmaceutics-II
CO 1	Understand the various physicochemical properties of drug molecules in the designing the dosage form, evaluation of dosage form with respect to colloidal dispersion.
CO 2	Know the principles of chemical kinetics and use them in designing expiry date for formulation.
CO 3	Demonstrate use of physicochemical properties in evaluation of dosage forms with respect to rheology.
CO 4	Appreciate physicochemical properties of drug molecules in formulation research and development. Understand the various physicochemical properties of drug molecules in the designing the dosage form based on coarse dispersion.
CO 5	Detail understanding on the micromeritics in designing dosage form.
Course:	Code: BP404T Pharmacology-I
CO 1	Understand the pharmacological actions of different categories of drugs
CO 2	Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.
CO 3	Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
CO 4	Observe the effect of drugs on animals by simulated experiments.
CO 5	Appreciate correlation of pharmacology with other bio medical sciences.

Course:	Code: BP405T Pharmacognosy and phytochemistry-I
CO 1	To know the history, scope, techniques in the cultivation and production of crude drugs including plant tissue culture methods.
CO 2	To know the crude drugs, their uses and chemical nature and adulteration in crude drugs
CO 3	To know the primary and secondary metabolites their classification and to learn about plant fibers, hallucinogens, teratogens, natural allergens and marine drugs.
CO 4	To know the evaluation techniques of herbal drugs.
CO 5	To know the traditional systems of medicine.
Course:	Code: BP406P Medicinal Chemistry-I
CO 1	To know the principle, reaction and procedure involved in preparation of medicinal compounds and the assay of medicinal compounds with its uses and properties.
CO 2	Synthesize medicinal compounds and able to calculate percentage of yield in synthesis.
CO 3	Able to calculate the normality, molarity, percentage purity in assay.
CO 4	Oral assessment of principle, reaction involved in preparation of medicinal compounds and assay of medicinal compounds with its uses and properties.
Course:	Code: BP407P Physical Pharmaceutics-II
CO 1	To know the principles and theory behind the physicochemical properties of drug molecules.
CO 2	Determination of particle size, order of reaction and stability studies.
CO 3	Determination of viscosity, sedimentation, properties of powders, angle of repose
CO 4	To understand the knowledge through oral assessment
Course:	Code: BP408P Pharmacology-I
CO 1	Understand the pharmacological actions on various experimental animal models
CO 2	Explain the mechanism of drug action on in-vitro and in-vivo models
CO 3	Observe the effect of drugs on animals by simulated experiments
CO 4	To understand the knowledge through oral assessment
Course:	Code: BP409P Pharmacognosy-I
CO 1	To perform chemical tests and morphological evaluation to report on the phytochemical nature of the crude drugs
CO 2	To evaluate the phytochemical constants such as ash value, extractive value, and moisture content swelling index
CO 3	To evaluate the leaf constants
CO 4	To know the determination of purity by lycopodium spore method and Viva

Course:	Code: BP501T Medicinal Chemistry-II
CO 1	Understand the histamine receptors and their anti-histaminic activity
CO 2	Know about the classification, metabolism, metabolic pathway, therapeutic value and to predict the synthesis of selected drugs used to treat the diseases
CO 3	Acquire knowledge about nomenclature, stereochemistry, metabolism of steroids, drugs acting on endocrine system and about thyroid, anti-thyroid drugs
CO 4	Acquire the knowledge about insulin and its preparations and different class of drugs used as anti-diabetic agents
CO 5	Study the selected drugs and structural activity relationship of local anesthetics
Course:	Code: BP502T Industrial Pharmacy-I
CO 1	Know the various pharmaceutical dosage forms and their manufacturing techniques
CO 2	Know various considerations in the development of pharmaceutical dosage form
CO 3	Formulate solid, liquid, and semisolid dosage forms and evaluate them for their quality
CO 4	Handle the scheduled activities in a pharmaceutical firm
CO 5	Manage the production of large batches of pharmaceutical formulations
Course:	Code: BP503T Pharmacology-II
CO 1	Define and classify different tissues and explain how the organ and organ systems are related to physiological and pathological conditions
CO 2	Understand the mechanism of drug action and its relevance in the treatment of different diseases
CO 3	Understand the classification of different categories of drugs
CO 4	Explain the synthesis, functions, regulation and bioassay of different hormones and autacoids
CO 5	Understand the pharmacology of different category of drugs.
Course:	Code: BP504T Pharmacognosy and Phytochemistry-II
CO 1	Understand modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents
CO 2	Explain metabolic pathways, their determination and understand utilization of radioactive isotopes in the investigation of biogenetic studies
CO 3	To analyze crude drugs by various chemical test. Study of secondary metabolites
CO 4	Understand and apply various chromatographic techniques like paper chromatography
CO 5	To Perform distillation of volatile oil and detect phytoconstituents by TLC

Course:	Code: BP505T Pharmaceutical Jurisprudence
CO 1	The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals
CO 2	Understand the various Indian pharmaceutical acts and laws
CO 3	The regulatory authorities governing the manufacture and sale of pharmaceuticals
CO 4	The code of ethics during the pharmaceutical practice
CO 5	The regulatory agencies governing the manufacture and sale of pharmaceuticals
Course:	Code: BP506P Industrial Pharmacy-I
CO 1	Relate the physicochemical properties of various dosage form and their manufacturing techniques
CO 2	Prepare formulations of solid, semisolid and liquid dosage forms as per the batch formula
CO 3	To perform preformulation studies and prepare simple solutions and cosmetics
CO 4	To understand the knowledge through oral assessment
Course:	Code: BP507P Pharmacology-II
CO 1	Choose physiological salt solution for isolated tissue preparations
CO 2	Demonstrate the appliances used in bioassay and explain the recording procedure of bioassay
CO 3	Demonstrate drug effects using computer models. Demonstrate experiments on special senses
CO 4	To understand the knowledge through oral assessment
Course:	Code: BP508P Pharmacognosy and Phytochemistry-II
CO 1	To study histology, morphology, powder characteristics and extraction off various crude drugs.
CO 2	Discuss isolation and detection of active principles present in various crude drugs
CO 3	Study of various chromatographic techniques
CO 4	Distillation of volatile oils and detection of by phytoconstituents TLC
Course:	Code: BP601T Medicinal Chemistry-III
CO 1	To acquire knowledge about prodrugs and their applications in a pharmaceutical environment
CO 2	Acquire knowledge about the classification, metabolism, metabolic pathway, and therapeutic value and predict the synthesis of selected drugs of antibiotics and sulphonamides used to treat various diseases
CO 3	Acquire knowledge about the classification, metabolism, metabolic pathway, and therapeutic value and predict the synthesis of selected drugs used to treat the diseases
CO 4	Understand the importance of drug design and different techniques of drug design
CO 5	Acquire knowledge about combinatorial chemistry

Course:	Code: BP602T Pharmacology-III
CO 1	Understand the mechanism of drug action and its relevance in the treatment of different infectious diseases
CO 2	Explain principles of chemotherapy of diseases and mechanisms of bacterial resistance and pharmacology of antibiotics
CO 3	Summarize the pharmacology of anti-neoplastic drugs and immunopharmacological drugs
CO 4	Comprehend the principles of toxicology and treatment of various poisonings
CO 5	Appreciate correlation of pharmacology with medical sciences
Course:	Code: BP603T Herbal Drug Technology
CO 1	Explain raw material as source of herbal drugs for cultivation to herbal drug product and GAP
CO 2	To understand different biodynamic agricultural techniques giving emphasis on organic farming and appropriate uses of bio pesticides and bio insecticides
CO 3	Explain different Indian system of medicine along with preparation and standardization of Ayurveda formulations
CO 4	Understand the IPR, WHO, ICH, AYUSH, FAO, ICAR, CMAP guidelines for evaluation of herbal drugs and explain medicinal plant research
CO 5	Discuss regulatory issues along with in details study of regulations regarding ASU drugs
Course:	Code: BP604T Biopharmaceutics and Pharmacokinetics
CO 1	Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance
CO 2	Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination
CO 3	To understand the concepts of bioavailability and bioequivalence of drug products and their significance
CO 4	Understand various pharmacokinetic parameters, their significance & applications
CO 5	Detect the potential clinical pharmacokinetic problems and, to understand the kinetics of the drugs following Nonlinearity and also the pathways involved in biotransformation of drugs
Course:	Code: BP605T Pharmaceutical Biotechnology
CO 1	Understanding the importance of immobilized enzymes in pharmaceutical industries
CO 2	Genetic engineering applications in relation to production of pharmaceuticals
CO 3	Importance of monoclonal antibodies in industries
CO 4	Appreciate the use of microorganisms in fermentation technology
CO 5	Understanding the techniques of immunoblotting

Course:	Code: BP606T Quality Assurance
CO 1	Learn about regulations, quality certification, and GMP for pharmaceuticals. Understand QA and QC responsibilities
CO 2	Able to describe the GMP and design and layout of pharmaceutical industries
CO 3	Able to describe various packing materials used, types, choice of containers, official quality control tests and method of evaluations
CO 4	Understand the importance of effective documentation
CO 5	Explain the aspects of validation and apply the knowledge of validation to instruments and equipment's
Course:	Code: BP607P Medicinal Chemistry-III
CO 1	Know about the principle of preparations, assay and ChemDraw, drug design
CO 2	Analyze the purity and estimate medicinal compounds and standardization of solutions by different titrimetric analyses
CO 3	Synthesize medicinal compounds by different chemical reactions and purify using recrystallization, calculating percentage yield
CO 4	Understand diseases drugs, and the classification used for treatment (viva voice)
Course:	Code: BP608P Pharmacology-III
CO 1	Estimation of biochemical parameters by instrumentation methods
CO 2	Determination of oral toxicity studies on experimental animal models
CO 3	Assessment of various biostatistical methods for experimental pharmacology
CO 4	Know the various agonist and antagonist effect of drugs on in vitro animal preparations
Course:	Code: BP609P Herbal Drug Technology
CO 1	To understand the preliminary phytochemical screening of crude drugs
CO 2	Determine alcohol content of asava and arishta and evaluate excipients of natural origin
CO 3	Prepare and standardize cosmetic formulation and study of monograph analysis of herbal drugs
CO 4	Prepare and standardize extract in formulation like syrups

Course:	Code: BP701T Instrumental Method of Analysis
CO 1	Comprehend the interaction between matter and electromagnetic radiation, including its theoretical foundations and instrumentation
CO 2	Understand the fundamental principles of chromatography and the diverse techniques employed for separation
CO 3	Articulate the theory behind chromatography and its associated instrumentation
CO 4	Acquire knowledge regarding the manifold applications of spectroscopy
CO 5	Understand the practical utilization of different chromatography techniques for organic, inorganic, and natural products
Course:	Code: BP702T Industrial Pharmacy
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
CO 3	To know different laws and acts that regulates pharmaceutical industry
CO 4	To understand the approval process and regulatory requirements for drug product
CO 5	To understand the concept of quality assurance, quality system, design
Course:	Code: BP703T Pharmacy Practice
CO 1	Know the various drug distribution methods in hospital and gain an appreciation for pharmacy store management and inventory control
CO 2	Monitor drug therapy of patient through medication chart review, clinical review, medication history review, and counsel the patients
CO 3	Detect and assess adverse drug reaction and identify drug related problems
CO 4	Interpret selected laboratory results (as monitoring parameter in therapeutics) of specific disease state
CO 5	Appreciate the concept of rational drug therapy and pharmaceutical care services
Course:	Code: BP704T Novel Drug Delivery System
CO 1	Understand various approaches for development of novel drug delivery systems
CO 2	Understand the criteria for selection of drugs and polymers for the development of novel drug delivery systems/controlled release drug delivery system and their formulation and evaluation
CO 3	Know the criteria for selection of drugs and polymers for the development of microparticulates, mucosal drug delivery, implants and their formulation and evaluation
CO 4	Design and evaluate the different types of controlled release drug delivery for various routes like transdermal, gastro retentive drug delivery and nasopulmonary drug delivery systems. And also, to know the concepts and approaches for targeted drug delivery systems using various carriers
CO 5	To understand the concepts and development of ocular drug delivery systems and IUD'S

Course:	Code: BP705P Instrumental Method of Analysis
CO 1	Comprehend the fundamental principles underlying the interaction between matter and electromagnetic radiation, as well as various chromatographic separation techniques. Explore their diverse applications in drug analysis
CO 2	Perform quantitative and qualitative analysis of drugs using various analytical instrument
CO 3	Understand the chromatography separation and analysis of drugs
CO 4	To understand the knowledge through oral assessment
Course:	Code: BP706PS Practice School
CO 1	Demonstrate different aspects of microspheres
CO 2	Preparation of microspheres by different methods
CO 3	Evaluation techniques and application of microspheres
CO 4	Introduction to UGC care list of journals, Scopus index, ISSN, eISSN, ISBN, impact factor, H index, I index, ORCHID etc
CO 5	Tools and software to detect plagiarism
Course:	Code: BP801T Biostatistics and Research Methodology
CO 1	Introduction to biostatistics, understand statistical techniques such as measures of central tendency, measures of dispersion and correlation
CO 2	Know the statistical techniques such as regression, probability, parametric and non-parametric tests
CO 3	Learn about need of research, graphs and to understand designing the methodology (observational studies)
CO 4	To understand various phases of clinical trials and know operation of design of experiments DoE (Design of Experiment), M.S. Excel, SPSS, R and MINITAB®
CO 5	To understand the applications of biostatistics in pharmacy, appreciate statistical techniques in solving the problems
Course:	Code: BP802T Social and Preventive Pharmacy
CO 1	Acquire high consciousness/realization of current issues related to health and pharmaceutical problems
CO 2	Importance and implementation of functioning and outcome of national health programs
CO 3	Measurements for the prevention and control of different health or clinical related issues
CO 4	Have a critical way of thinking board on current health care development
CO 5	Evaluation of alternative ways of solving problems related to health and pharmaceutical issues

Course:	Code: BP804ET Pharmaceutical Regulatory Science
CO 1	Know about the process of drug discovery and development
CO 2	Know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
CO 3	Know the regulatory approval process and their registration in Indian and international markets
CO 4	Regulatory concepts, guidance, laws and acts
CO 5	Clinical trials, pharmacovigilance, regulatory approval process
Course:	Code: BP805ET Pharmacovigilance
CO 1	Know the Importance of drug safety monitoring
CO 2	Understand the history and development of pharmacovigilance
CO 3	Understand the national and international scenario of pharmacovigilance
CO 4	Know the dictionaries, coding and terminologies used in pharmacovigilance
CO 5	Detection of new adverse drug reactions and their assessment
Course:	Code: BP807ET Computer Aided Drug Design
CO 1	Explain the design and discovery of lead molecules
CO 2	Understand the role of drug design in drug discovery process
CO 3	Explain the concept of QSAR and docking
CO 4	Predict various strategies to develop new drug like molecules
CO 5	Design new drug molecules using molecular modeling software
Course:	Code: BP809ET Cosmetic Science
CO 1	Known the regulations pertaining to cosmetics and cosmetic excipients as per Indian & EU regulations and also, will be able to describe the role of key components and building blocks used in different cosmetic products with the basic knowledge of the structure & functions of the skin, hair, oral cavity and problem associated
CO 2	Understand the formulations and development of various cosmetic products for- skin care, oral care and hair care
CO 3	Understand the role of herbs used in cosmetics and justify the need for skin care, hair care and sun screen products along with the fundamentals for their formulations
CO 4	Know the scientific learning's to develop cosmetic and cosmeceuticals with desired safety, sensory, stability & efficacy (evaluation) for various skin care, hair care & oral problems
CO 5	Understand the formulation and developments of antiperspirants and deodorants, types of skin and hair and problems associated with them

Course:	Code: BP811ET Advanced Instrumentation Techniques
CO 1	Understand various techniques and methods of different types of spectrometers
CO 2	To understand the advanced instruments used and its applications in drug analysis
CO 3	To understand the chromatographic separation and analysis of drugs
CO 4	To understand the calibration of various analytical instruments
CO 5	To know analysis of drugs using various analytical instruments
Course:	Code: BP813PW Project Work
CO 1	Demonstrate a sound technical knowledge of their selected project topic
CO 2	Undertake problem identification, formulation and solution
CO 3	Design formulations solutions to complex problems utilizing a systems approach
CO 4	Conduct a pharmaceutical project
CO 5	Communicate with formulation scientist and the community at large in written and oral forms