



# CBCP CHILKUR BALAJI COLLEGE OF PHARMACY

(Affiliated to JNTUH, Approved by PCI, Accredited by NAAC)

R.V.S. Nagar, Aziz Nagar (Post), Moinabad Road, Near: T. S. Police Academy  
HYDERABAD - 500 075.

Mobile: 9493539631

Ph.No.08413-202295



## COURSE OUTCOMES OF B.PHARMACY (R17 Regulations)

COURSE OUTCOMES OF B. PHARMACY 1 <sup>ST</sup> YEAR 1 <sup>ST</sup> SEMESTER	
<b>COURSE CODE:PS101</b>	<b>COURSE NAME: HUMAN ANATOMY AND PHYSIOLOGY</b>
CO1	To understand the morphology, structure and functions of various organs of the human body
CO2	Describe various homeostatic mechanisms and their imbalances
CO3	To study the functions of peripheral nervous systems and endocrine systems
CO4	Identify various tissues of different systems of human body
<b>COURSE CODE:PS102</b>	<b>COURSE NAME: PHARMACEUTICAL ANALYSIS</b>
CO1	Gain knowledge on fundamentals of analytical chemistry
CO2	Helps to develop the fundamentals of various titrations
CO3	Integrate the knowledge of volumetric and electrochemical analysis
CO4	Comprehended details regarding minimization of errors
<b>COURSE CODE:PS103</b>	<b>COURSE NAME: PHARMACEUTICS 1</b>
CO1	Fundamental knowledge on various dosage forms
CO2	Idea on historical background and development of pharmacy
CO3	Acquainted with basics of different dosage forms, pharmaceutical incompatibility and pharmaceutical calculations.
CO4	Preparations of various conventional dosage forms
<b>COURSE CODE:PS104</b>	<b>COURSE NAME: PHARMACEUTICAL INORGANIC CHEMISTRY 1</b>



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CO1	Understand the medicinal and pharmaceutical importance of inorganic compounds
CO2	Divulge on the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals
CO3	Inculcate the knowledge of monographs of inorganic drugs and pharmaceuticals
CO4	Understanding the concept of assay of inorganic compounds
<b>COURSE CODE: HS105</b>	<b>COURSE NAME: COMMUNICATION SKILLS</b>
CO1	Understand the behavioral needs for a pharmacist to function effectively in the areas of pharmaceutical operation
CO2	Good verbal and nonverbal communications
CO3	Developing interview skills
CO4	Establish leadership qualities and essentials
<b>COURSE CODE:BS106</b>	<b>COURSE NAME: REMEDIAL BIOLOGY</b>
CO1	Understand basic components of anatomy and physiology of animals with special reference to humans
CO2	Know the classification and salient features of five kingdoms of life
CO3	Broaden the knowledge of morphology of plants.
CO4	Amplification of information on bodily functions
<b>COURSE CODE:BS107</b>	<b>COURSE NAME: REMEDIAL MATHEMATICS</b>
CO1	Know the theory and their application in pharmacy
CO2	Appreciate the important application of mathematics in pharmacy
CO3	Solve the problems by applying theory.



  
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CO4	Understanding the concepts of partial fraction, logarithm, calculus, analytical geometry etc.
<b>COURSE CODE:PS108</b>	<b>COURSE NAME: HUMAN ANATOMY AND PHYSIOLOGY-I LAB</b>
CO1	To handling of compound microscope and memorize various animal tissues
CO2	To summarize the characteristics of different bones
CO3	Blood sampling and analyzing various components
CO4	Study the integumentary and special senses using specimens and models.
<b>COURSE CODE:PS109</b>	<b>COURSE NAME: PHARMACEUTICAL ANALYSIS I LAB</b>
CO1	Determination and assessment of various analytical compounds by using qualitative methods of analysis.
CO2	To perform the assay of various compounds along with standardization of titrant
CO3	Preparation and standardization by titrimetric analysis
CO4	To determine the normality by electroanalytical methods
<b>COURSE CODE:PS110</b>	<b>COURSE CODE: PHARMACEUTICS I LAB</b>
CO1	Understand the process of formulation by using different excipients and API
CO2	Perceive the solubility enhancement techniques
CO3	To formulate various dosage forms
CO4	To recall the principles used in the preparation of solid, liquid and semi solid dosage forms.
<b>COURSE CODE:PS111</b>	<b>COURSE NAME: PHARMACEUTICAL INORGANIC CHEMISTRY I LAB</b>
CO1	To estimate quality of inorganic pharmaceuticals
CO2	To execute limit test for various ions
CO3	Identification of inorganic compounds in pharmaceuticals
CO4	Preparation of inorganic pharmaceuticals
<b>COURSE CODE: HS112</b>	<b>COURSE NAME: COMMUNICATION SKILLS LAB</b>



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CO1	To discriminate pronunciation of vowel and consonant sounds
CO2	To develop the interview handling skills and improve in email etiquette.
CO3	Pursue effective communication with advanced learning and presentation skills
CO4	Matriculate effective writing skills and listening comprehension.
COURSE CODE:BS113	COURSE NAME: REMEDIAL BIOLOGY LAB
CO1	To identify various plant parts and to organize their modifications
CO2	To determine blood group, blood pressure and tidal volume.
CO3	Detailed study of cell and its inclusions.
CO4	Learning various aspects of microscopic studies.

## COURSE OUTCOMES OF B. PHARMACY 1<sup>ST</sup> YEAR 2<sup>ND</sup> SEMESTER

COURSE CODE:PS201	HUMAN ANATOMY AND PHYSIOLOGY II
CO1	Describe the gross morphology, structure and functions of various organs of the human body
CO2	Perform Hematological tests like blood cell count, hemoglobin estimation and record blood pressure, heart rate, pulse and respiratory volume.
CO3	Appreciate the inter linked mechanisms in the maintenance of homeostasis of human body
COURSE CODE:PS202	PHARMACEUTICAL ORGANIC CHEMISTRY I
CO1	Confirm the identification of organic compounds
CO2	Put down the structure, name and type of isomerism of organic compounds
COURSE CODE:BS203	BIOCHEMISTRY



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CO1	Recognize the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.
CO2	Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNA and proteins.
<b>COURSE CODE:BS204</b>	<b>PATHOPHYSIOLOGY</b>
CO1	Narrate the etiology and pathogenesis of the selected disease states.
CO2	Mention the complications of the diseases.
<b>COURSE CODE:CS205</b>	<b>COMPUTER APPLICATIONS IN PHARMACY</b>
CO1	Be familiar with various types of applications of computers in pharmacy
CO2	Well acquainted with various applications of data bases in pharmacy
<b>COURSE CODE:BS206</b>	<b>ENVIRONMENTAL SCIENCES</b>
CO1	Create the awareness about environmental problems among beginners
CO2	Transmit basic knowledge about the environment and its allied problems
<b>COURSE CODE:BS209</b>	<b>BIOCHEMISTRY LAB</b>
CO1	To study the enzymatic hydrolysis of starch and study the effect of temperature on salivary amylase activity
CO2	Determination of blood creatinine, blood sugar, serum total cholesterol.
<b>COURSE CODE:CS210</b>	<b>COMPUTER APPLICATIONS IN PHARMACY LAB</b>
CO1	To design a questionnaire using a word processing package to gather information about a particular disease



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CO2	To create mailing labels using label wizard, generating label in MS word
COURSE CODE:PS207	HUMAN ANATOMY AND PHYSIOLOGY II LAB
CO1	To assess the knowledge on family planning, pregnancy diagnostic tests, tissues of vital organs and gonads
CO2	To analyze the function of cranial nerves by various sensory and motor functions
COURSE CODE:PS208	PHARMACEUTICAL ORGANIC CHEMISTRY LAB
CO1	To explain qualitative analysis and preparation of pharmaceutical organic compounds
CO2	To find the presence of several functional groups in pharmaceutical compounds
<b>COURSE OUTCOMES OF B.PHARMACY 2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER</b>	
COURSE CODE:PS301	PHARMACEUTICAL ORGANIC CHEMISTRY II
CO1	To gain knowledge on structure and medicinal uses of pharmaceutical organic compounds.
CO2	To estimate the analytical constants of fats and oils.
CO3	Explanation of reactivity and stability of organic compounds.
CO4	In detailed study of named reactions and structural orientation.
COURSE CODE:PS302	PHYSICAL PHARMACEUTICS I
CO1	To know the principles of chemical kinetics and to use them in assigning expiry date for formulation.



  
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CO2	Appreciate physicochemical properties of drug molecules in formulation research and development.
CO3	To get a better insight into various areas of formulation and development and stability studies of pharmaceuticals.
CO4	Understand various physico-chemical properties of drug molecules in the designing of dosage forms
COURSE CODE:BS303	PHARMACEUTICAL MICROBIOLOGY
CO1	To know the microbiological standardization of pharmaceuticals.
CO2	Understand methods of identification, cultivation and preservation of various microorganisms
COURSE CODE: PC304	PHARMACEUTICAL ENGINEERING
CO1	To appreciate various preventive methods used for corrosion control in pharmaceutical industry
CO2	To understand the material handling techniques
COURSE CODE:PS305	PHARMACEUTICAL ORGANIC CHEMISTRY LAB
CO1	To determine the purity of fats and oils by acid value, saponification value and iodine value
CO2	To gain knowledge on different recrystallisation and steam distillation techniques
COURSE CODE:PS306	PHYSICAL PHARMACEUTICS I LAB



  
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CO1	To deduce the HLB value and critical micellar concentration of surfactant
CO2	To determine stability constant and donor acceptor ratio of cupric glycine complex by PH titration method
COURSE CODE:BS307	PHARMACEUTICAL MICRO BIOLOGY LAB
CO1	To isolate pure culture of microorganisms by multiple streak plate techniques and other techniques.
CO2	To demonstrate various staining methods/simple gram staining and acid fast staining
COURSE CODE:PC308	PHARMACEUTICAL ENGINEERING LAB
CO1	To verify the laws of size reduction using ball mill and determining kicks, Rittingers, bonds coefficients, power requirements and critical speed of ball mill
CO2	To determine moisture content loss on drying and construct drying curves for calcium carbonate and starch.
<b>COURSE OUTCOMES B.PHARMACY 2<sup>ND</sup> YEAR 2<sup>ND</sup> SEMESTER</b>	
COURSE CODE:PS401	PHARMACEUTICAL ORGANIC CHEMISTRY III
CO1	To explain stereo isomerism in biphenyl compounds and conditions for optical activity.
CO2	To identify medicinal uses, their applications of organic compounds
COURSE CODE:PC402	MEDICINAL CHEMISTRY I



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CO1	To explain the physical properties stearic aspects of drugs and their metabolic pathways
CO2	To understand the chemistry of drugs with respect to their pharmacological activity
<b>COURSE CODE:PS403</b>	<b>PHYSICAL PHARMACEUTICS</b>
CO1	To be familiar with the principles of chemical kinetics and use them in assigning expiry date for formulation
CO2	To deliberate the importance of zeta potential in stabilization of disperse systems
<b>COURSE CODE:PC404</b>	<b>PHARMACOLOGY I</b>
CO1	Recognize the correlation of pharmacology with other biomedical sciences
CO2	Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
<b>COURSE CODE: PC405</b>	<b>PHARMACOGNOSY AND PHYTO CHEMISTRY</b>
CO1	To illustrate students about cultivation, collection, processing and storage of crude drugs
CO2	To elaborate the application of advanced technologies of polyploid, mutation and hybridization in medicinal plants
<b>COURSE CODE: PC406</b>	<b>MEDICINAL CHEMISTRY LAB</b>
CO1	To perform assay of various drugs



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CO2	To prepare various drugs and metabolites
COURSE CODE: PS407	PHYSICAL PHARMACEUTICS LAB II
CO1	Determine the surface tension of liquids by drop count and drop weight method
CO2	Determination of sedimentation volume with effect of different suspending agents and effect of concentration of suspending agents
CO3	Determination of Freundlich and Langmuir constants using activated charcoal
COURSE CODE: PC408	PHARMACOLOGY I LAB
CO1	To recall the instruments used in experimental pharmacology
CO2	To recall the instruments used in experimental pharmacology
CO3	To examine the effect of hepatic microsomal enzyme inducers on the phenobarbitone sleeping time in mice and effect of skeletal muscle relaxants using rotarod apparatus
COURSE CODE: PC409	PHARMACOGNOSY AND PHYTOCHEMISTRY I LAB
CO1	Examination of crude drugs by chemical tests.
CO2	To determine number of starch grains by lycopodium spore method
COURSE	GENDER SENSITIZATION LAB



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CODE:MC400	
CO1	To manifest the students to debate on the politics and economics of work
CO2	To come up with a critical perspective on the socialization of men and women.
<b>COURSE OUTCOMES OF B.PHARMACY 3<sup>RD</sup> YEAR 1<sup>ST</sup> SEMESTER</b>	
<b>COURSE CODE:PS501</b>	<b>MEDICINAL CHEMISTRY II</b>
CO1	To understand the chemistry of drugs with respect to their pharmacological activity
CO2	To study the chemical synthesis of selected drugs
<b>COURSE CODE:PS502</b>	<b>INDUSTRIAL PHARMACY I</b>
CO1	To outline the objectives and applications of preformulation studies in the development and stability of dosage forms
CO2	To summarize formulation, manufacturing and evaluation of cosmetic preparations, pharmaceutical aerosols and appraise the science of packaging materials.
<b>COURSE CODE:PS503</b>	<b>PHARMACOLOGY II</b>
CO1	To predict principles of bioassay and to construct the bioassay methods of various compounds
CO2	To identify the role of autocooids and related drugs
<b>COURSE CODE:PS504</b>	<b>PHARMACOGNOSY AND PHYTOCHEMISTRY II</b>
CO1	To carry out isolation and identification of phytoconstituents
CO2	To know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents
<b>COURSE CODE:PS505</b>	<b>GENERIC PRODUCT DEVELOPMENT</b>
CO1	To enhance the knowledge of students with clear information about the scale up studies
CO2	To learn the analytical method development and dossier approval process



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COURSE CODE:PS509	INDUSTRIAL PHARMACY LAB
CO1	To illustrate the formulation and evaluation of tablets
CO2	To evaluate glass containers as per pharmacopoeia specifications
COURSE CODE:PS510	PHARMACOLOGY II LAB
CO1	To determine PA2 and PD values of drugs using rat anococcygeous muscle by schilds plot method
CO2	To predict anti inflammatory and analgesic activity of drugs
COURSE CODE:PS511	PHARMACOGNOSY AND PHYTOCHEMISTRY II LAB
CO1	An exercise involving isolation and detection of active principles
CO2	To remember the wide variety of the crude drugs and their sources by morphological characteristics.
COURSE CODE:MC500	ENVIRONMENTAL SCIENCES
CO1	Create the awareness about environmental problems among learners
CO2	Acquire skills to help the concerned individuals in identifying and solving environmental problems
<b>COURSE OUTCOMES OF B. PHARMACY 3<sup>RD</sup> YEAR 2<sup>ND</sup> SEMESTER</b>	
COURSE CODE:PS601	MEDICINAL CHEMISTRY III
CO1	To discuss the approaches in drug design including QSAR, pharmacophore modelling, docking and combinatorial chemistry
CO2	Understand the importance of drug design and different techniques of drug design.
COURSE CODE:PS602	PHARMACOLOGY III
CO1	Comprehend the principles of toxicology and treatment of various poisonings and appreciate correlation of pharmacology with related medical sciences



  
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CO2	Appreciate the correlation of pharmacology with related medical sciences
CO3	Understand the mechanism of drug action and its relevance in the treatment of different infectious diseases
<b>COURSE CODE:PS603</b>	<b>HERBAL DRUG TECHNOLOGY</b>
CO1	To illustrate the scope and future prospects of the herbal drug industry
CO2	To appreciate patenting of herbal drugs and GMP
<b>COURSE CODE:PS604</b>	<b>BIOPHARMACEUTICS AND PHARMACOKINETICS</b>
CO1	Critically evaluate biopharmaceutic studies involving drug product equivalency
CO2	Use plasma data and derive the pharmacokinetic parameters to describe the process of drug absorption, distribution, metabolism and elimination.
<b>COURSE CODE:PS605</b>	<b>PHARMACEUTICAL QUALITY ASSURANCE</b>
CO1	Understand the aspects of cGMP in pharmaceutical industry
CO2	Appreciate the importance of documentation
<b>COURSE CODE:PS609</b>	<b>MEDICINAL CHEMISTRY III LAB</b>
CO1	Acknowledge the principles underlying the preparation of drugs and intermediates
CO2	Determination of physicochemical properties using drug design software and drug likeliness screening.
<b>COURSE CODE:PS610</b>	<b>PHARMACOLOGY III LAB</b>
CO1	To demonstrate the effect of gastro intestinal motility and effect of agonist/antagonist on Guinee pig ileum
CO2	To predict the pharmacokinetic parametres and adapt the biostatistics methods in experimental pharmacology
<b>COURSE CODE:PS611</b>	<b>HERBAL DRUG TECHNOLOGY LAB</b>



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CO1	To determine aldehyde, phenolic and total alkaloidal content
CO2	To perform preliminary phytochemical screening of crude drugs.
<b>COURSE CODE:MC600</b>	<b>HUMAN VALUES AND PROFESSIONAL ETHICS</b>
CO1	To enable the students to imbibe and internalize the values and ethical behavior in the personal and professional lives.
CO2	Learn the rights and responsibilities as an employee, team member and a global citizen
<b>COURSE OUTCOMES B.PHARMACY 4<sup>TH</sup> YEAR 1<sup>ST</sup> SEMESTER</b>	
<b>COURSE CODE:PS701</b>	<b>INSTRUMENTAL METHODS OF ANALYSIS</b>
CO1	<b>To elaborate various principles, theory and instruments employed for the characterization and analysis of drugs.</b>
CO2	<b>To gain knowledge on interaction of electromagnetic radiation with matter</b>
CO3	<b>To build the analytical understanding at the level of atom, group and molecular structure of organic and inorganic compounds with different functional groups and their application in pharmacy.</b>
CO4	<b>Perform qualitative and quantitative analysis of drugs using various analytical instruments.</b>
<b>COURSE CODE:PS702</b>	<b>INDUSTRIAL PHARMACY II</b>
CO1	<b>To acknowledge the approval process and regulatory requirements for drug products.</b>
CO2	<b>To outline various aspects of technology transfer involved from R&amp;D to production.</b>
CO3	<b>To know different laws and acts that regulate pharmaceutical industry in India and US.</b>
CO4	<b>To notice the process of pilot plant and scale up of pharmaceutical dosage forms.</b>



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<b>COURSE CODE:PS703</b>	<b>PHARMACY PRACTICE</b>
<b>CO1</b>	<b>To appreciate the pharmacy stores management and inventory control.</b>
<b>CO2</b>	<b>To categorize and evaluate the role of hospital pharmacist in pharmacy and therapeutic committee and drug information services.</b>
<b>CO3</b>	<b>Drug therapy monitoring-medication chart review, clinical review, pharmacist intervention and pharmaceutical care.</b>
<b>CO4</b>	<b>Rational use of common over the counter medications.</b>
<b>COURSE CODE:PS704</b>	<b>NOVEL DRUG DELIVERY SYSTEMS</b>
<b>CO1</b>	<b>To understand the criteria for selection of drugs and polymers for the development of novel drug delivery systems.</b>
<b>CO2</b>	<b>Drug delivery systems formulation and evaluation.</b>
<b>CO3</b>	<b>To illustrate the principles and fundamentals of drug targeting in the design of site specific drug delivery systems.</b>
<b>CO4</b>	<b>Various approaches for the development of controlled drug delivery systems.</b>
<b>COURSE CODE:PS705</b>	<b>PHARMACEUTICAL MARKETING</b>
<b>CO1</b>	<b>Provide an understanding of marketing concepts and techniques.</b>
<b>CO2</b>	<b>Application of marketing concepts in the pharmaceutical industry.</b>



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CO3	Overview of Drug price control order and National pharmaceutical pricing authority.
CO4	Product decisions, product life cycle and product portfolio analysis of products in pharmaceutical industry.
COURSE CODE:PS706	PHARMACEUTICAL REGULATORY SCIENCE
CO1	To know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals.
CO2	To understand the regulatory approval process and their registration in Indian and international markets.
CO3	To learn the process of drug discovery and development.
CO4	Developing, managing, and monitoring of clinical trial protocols.
COURSE CODE:PS707	PHARMACOVIGILANCE
CO1	Study of history and development of pharmacovigilance
CO2	Developing international standards for classification of diseases and drugs.
CO3	Advancements in adverse drug reaction reporting systems and communication in pharmacovigilance.
CO4	Overview on adverse drug reactions.
COURSE CODE:PS708	QUALITY CONTROL AND STANDARDIZATION OF HERBALS



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CO1	Be familiar with WHO guidelines for quality control of herbal drugs
CO2	Know the regulatory approval process and their registration in Indian and international markets.
CO3	Be acquainted with quality assurance in herbal drug industry.
CO4	Appreciate EU and ICH guidelines for quality control of herbal drugs.
<b>COURSE CODE:PS709</b>	<b>INSTRUMENTAL METHODS OF ANALYSIS LAB</b>
CO1	To recall the principle involved in spectroscopy and importance of absorption maximum in the estimation of organic compounds
CO2	To estimate the amount of sodium and potassium ions by flame photometry.
CO3	To estimate dextrose and sulphanilamide by calorimetry.
CO4	Conduct demo experiments on HPLC and GC
<b>COURSE CODE:PS710</b>	<b>PRACTICE SCHOOL</b>
CO1	To realize the importance of realistic learning through practice in various domains such as community pharmacy, drug testing and manufacturing, preclinical testing and clinical practice.
CO2	To get familiarize with the aspects of realistic practice in the domain interest.
CO3	Collect and analyze some important cases filed by drug control officers.



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CO4	Collect the data related to the most important prescribed medicines in that area, prescription patterns, medical audit and submit the report.
<b>COURSE CODE:PS711</b>	<b>INDUSTRIAL TRAINING</b>
CO1	To expose the students to real work of environment experience.
CO2	To gain the knowledge through hands on observation and job execution.
CO3	To develop skills in work ethics, communication and management.
CO4	Application of theoretical knowledge to practice and realize their actual potential.
<b>COURSE OUTCOMES OF B. PHARMACY 4<sup>TH</sup> YEAR 2<sup>ND</sup> SEMESTER</b>	
<b>COURSE CODE:PS801</b>	<b>BIOSTATISTICS AND RESEARCH METHODOLOGY.</b>
CO1	To understand the basic aspects of statistics such as central tendency, dispersion and correlation.
CO2	To build the ability to perform various parametric and nonparametric statistical tests and to draw graphs and plots based on type of data.
CO3	To design and analyze the experiments based on factorial design and response surface methodology.
CO4	Know the operation of MS Excel, SPSS, R and MINITAB, Design of experiments.
<b>COURSE CODE: PS802</b>	<b>SOCIAL AND PREVENTIVE PHARMACY</b>
CO1	To create awareness about various preventive measures of stated communicable and non-communicable diseases.



  
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CO2	To elaborate various vaccines under National immunization program and their schedule.
CO3	Have a critical way of thinking based on current healthcare development.
CO4	Acquire high consciousness of current issues related to health and pharmaceutical problems with in the country and worldwide.
COURSE CODE:PS803	PHARMACEUTICAL JURISPRUDENCE
CO1	To relate the significance of drugs and cosmetics act 1940 and its rules 1945 in relation to import, manufacture, sale and distribution of drugs.
CO2	To discuss the salient features of Pharmacy act 1948, Drugs and Magic Remedies act, Prevention of Cruelty to Animal's act and Drug Price Control Order.
CO3	To be familiarized with the code of ethics during the pharmaceutical practice and Pharmaceutical Services in Trade and Profession.
CO4	To understand the pharmaceutical legislations and their implications in the development and marketing of Drugs and Pharmaceuticals.
COURSE CODE:PS804	COMPUTER AIDED DRUG DESIGN
CO1	To perceive the role of drug design in drug discovery process.
CO2	To understand the concept of QSAR and DOCKING.
CO3	To design new drug molecules using molecular modelling software.
CO4	To know the various stages of drug discovery and development and get well acquainted with analog based drug design.



  
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COURSE CODE:PS805	NANO TECHNOLOGY
CO1	Be able to select the right kind of materials In the synthesis of nano materials.
CO2	To develop nano formulations with appropriate technologies.
CO3	To perform characterization, drug release and stability studies of nano materials
CO4	Accustomed with nano technology products used for invitro diagnostics and their applications in imaging.
COURSE CODE:PS806	EXPERIMENTAL PHARMACOLOGY
CO1	Appraise the regulations and ethical requirements for the usage of experimental animals.
CO2	Epitomize various animals and newer screening methods used in drug discovery.
CO3	Be aware of research methodology to be followed in biostatistical data interpretation of the assays.
CO4	To recall the techniques for blood collection and common routes of drug administration in laboratory animals.
COURSE CODE:PS807	ADVANCED INSTRUMENTATION TECHNIQUES
CO1	To elaborate various principles and procedures employed in radio immune assay and extraction techniques.
CO2	To maximize knowledge on characterization and estimation of drugs by spectroscopical and thermal techniques.



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CO3	To impart advanced knowledge on the principles and instrumentation of chromatographic hyphenated techniques.
CO4	Emphasize on theoretical and practical knowledge on modern analytical instruments used for drug testing.
COURSE CODE:PS808	PROJECT WORK
CO1	Challenge's students to think beyond boundaries of the class room.
CO2	Help them to develop the skills, behavior and confidence necessary for success.
CO3	Describe the assessment that evaluates content knowledge as well as additional skills like problem solving and innovation.
CO4	To assess work quality, understanding and participation from the moment students begin to work.



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