Kalinga University
Pharmacy
Bachelor Of Pharmacy

PO

S. No.	Program Outcome (PO) Description
1	Pharmacy Knowledge: Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.
2	Planning Abilities: Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
3	Problem analysis: Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
4	Modern tool usage: Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.
5	Leadership skills: Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.
6	Professional Identity: Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).

7	Pharmaceutical Ethics: Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.
8	Communication: Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
9	The Pharmacist and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.
10	Environment and sustainability: Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
11	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

PSO

S. No.	Program Specific Outcome (PSO) Description
1	Program Specific Outcomes To understand basic knowledge and impart practical skills in various fields of pharmaceutical sciences.
2	To encourage the development of ethics and leadership qualities in students.
3	To aware students about the applications of pharmaceutical sciences for drug discovery and formulation development.
4	To persuade the students with essential regulatory aspects of pharmaceuticals.

CO

S.No.	Course Code	Course Name	Course Outcome (CO's) - Description
1	BP101T	HUMAN ANATOMY AND PHYSIOLOGY-I	**CO1:** Understanding the anatomy and physiology, various levels of organizations basic homeostatic mechanism.
			CO2: Explore the morphology, physiology of skeletal system along with the physiology of muscle contraction in co-ordination with the joints, their articulation and skin.
			CO3: Investigate the composition, function of various body fluids like blood and lymph, their significance and related disorders.
			CO4: To gain knowledge about the peripheral nervous system, nerves and morphology of special senses
			CO5: Understanding the anatomy and physiology and parameters related to CVS and related disorders.
2	BP102T	PHARMACEUTICAL ANALYSIS	**CO1:** Students will learn and gain idea about different techniques of pharmaceutical analysis along with different type error that occur in analysis.
			CO2: Student will gain knowledge about acid base titration and Non Aqueous titrations.
			CO3: After completion of this course student will gain idea about precipitation titration, complexometric titration and gravimetry.
			CO4: This course will help to gain knowledge about redox titrations.
			CO5: Students will gain knowledge about conductometry, potentiometry, and Polarography
3	BP103T	PHARMACEUTICS-I	**CO1:** Student will know the history of profession of Pharmacy in India & Pharmacopeia and its development.
			CO2: Student will learn parts and handling of prescription, posology & dose calculation of drug in children, along with getting knowledge of different types of dosage form
			CO3: Student will gain knowledge about the different types of liquid dosage form, along with their formulation, evaluation and stability
			CO4: Student will gain knowledge about the suppositories formulation and evaluation along with study about pharmaceutical incompatibilities.
			CO5: Student will gain knowledge about different types of semisolid dosage forms.
			CO1: To know the history of pharmacopoeia and sources of impurities along with methods to determine the impurities in inorganic drugs and pharmaceuticals compounds.

4	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	**CO2:**	To understand about the acid base and buffer equation along with its mathematical representation of equations. Its also contain the knowledge about the pH adjustment and isotonicity factor with physiological fluids. To understand about the major intra and extra cellular electrolytes and uses of electrolytes in replacement therapy along with application of inorganic salts. To understand the knowledge about the dental products along with its application of inorganic comp use for preparations.
			CO3:	To understand the basic knowledge about the gastrointestinal with physiological application of GIT and digestive system and to know about the inorganic comp which act as antacids, acidifier, cathartics etc. To understand about the knowledge of antimicrobials and its mechanisms along with its pharmacological classification, it also consist of application about the inorganic comp having antimicrobial activity.
			CO4:	To understand the knowledge about the other pharmaceutical comp like- expectorants, emetics, haematinics along with its application in preparation. It also contain the knowledge about the poison and antidotes which are available in inorganic nature. It also make understanding of astringents comp and its preparations.
			CO5:	To understand the knowledge of application of nuclear substances in pharmaceutical sciences and also provide the knowledge of therapeutic radio active compound.
5	BP105T	Communication Skills	**CO1:**	Understand the behavioural needs for a pharmacist to function effectively in the areas of pharmaceutical operation
			CO2:	Communicate effectively (Verbal and Non-Verbal)
			CO3:	Effectively manage the team as a team player
			CO4:	Develop interview skills
			CO5:	Develop Leadership qualities and essentials
6	BP106RBT	Remedial Biology	**CO1:**	Students shall be able to identify a given plant part based on its macroscopic and microscopic characteristics.
			CO2:	Students shall be able to understand the anatomy and functions of systems of the human body.
			CO3:	Students shall be able to explore the physiological processes in humans.
			CO4:	Students shall be able Investigate about the physiological processes in plants.
			CO5:	Students will be able to understand coordinated growth pattern of plants.
			CO1:	Students will learn about applications of mathematical concepts and principles to perform computations in Pharmaceutical Sciences. Like fraction, logarithm's, function and calculus.

7	BP106RMT	Remedial Mathematics	**CO2:**	Students will learn to Create, use and analyze mathematical representations and mathematical relationships of “matrix and determinants” in Pharmaceutical Sciences
			CO3:	Students will come to know about the use and analyze mathematical representations and mathematical relationships of “differentiation and its application in Pharmaceutical Sciences”.
			CO4:	To understand the application of geometry and appreciate the important of “analytical geometry” mathematics in Pharmaceutical sciences.
			CO5:	To understand the knowledge of “differential equation and its applicative theorems” which is applicable to study the pharmaceutical problems and research methodology for biostatistics in chemical kinetics and biopharmaceutical and pharmacokinetics equations.
8	BP201T	Human Anatomy & Physiology-II	**CO1:**	Students shall be able to understand about the nervous system in human body.
			CO2:	Students shall be able to understand about the anatomy and Physiology of digestive system.
			CO3:	Students gain knowledge about the anatomy and Physiology of urinary and respiratory system and its disorders
			CO4:	Students shall be able to understand about various types of endocrine glands present in human body.
			CO5:	Students shall be able to understand about the anatomy and Physiology of reproductive system and genetics
9	BP202T	PHARMACEUTICAL ORGANIC CHEMISTRY -I	**CO1:**	Students shall be able to understand about the nomenclature of Organic compound, Classification of the organic compound, Knowledge about the type of structure isomerism
			CO2:	Students shall be able to understand about the reaction and orientation of reactions of Alkanes, Alkenes and Conjugated dienes
			CO3:	Students shall be able to understand about the test and orientation of reactions of Alkyl halides, Alcohols.
			CO4:	Students shall be able to understand about the reaction and orientation of reactions of Carbonyl compounds (Aldehydes and ketones)
			CO5:	Students will gain knowledge about the naming reactions of carbonyl compounds Carboxylic acids and Aliphatic amines
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11	BP203T	BIOCHEMISTRY	**CO1:**	To Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.
			CO2:	To Understand the metabolism of nutrient molecules in physiological and pathological conditions.
			CO3:	To Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.
			CO4:	To understanding of the molecular levels of the chemical process associated with living cells.
			CO5:	To understand about the classification, functions and properties of enzyme
12	BP204T	PATHOPHYSIOLOGY	**CO1:**	To understand the Basic principles of Cell injury, adaptation, process of inflammation and repair.
			CO2:	To gain knowledge of signs and symptoms of the cardiovascular, respiratory & renal system disease.
			CO3:	To identify the complications of the Haematological, endocrine system, nervous system, gastrointestinal system related disease.
			CO4:	To know most commonly encountered pathophysiological state(s) and/or disease mechanism of Inflammatory bowel diseases, jaundice, hepatitis (A, B, C, D, E, and F) alcoholic liver disease, Disease of bones and joints & cancer.
			CO5:	To gain knowledge of clinical testing requirements of Infectious diseases & Sexually transmitted diseases.
13	BP205T	COMPUTER APPLICATION IN PHARMACY	**CO1:**	Students gain an insight about the number systems used in computer languages along with information systems and software's.
			CO2:	To know the various types of web technologies, programming languages, and introduction to databases
			CO3:	To know the various types of databases in Pharma field, various diagnostic systems.
			CO4:	To know the various bioinformatics studies, their application and advantages.
			CO5:	Students will gain knowledge about the data analysis using computers in preclinical development.
		ENVIRONMENTAL	**CO1:**	To Create the awareness about environmental problems among learners.
			CO2:	To impart basic knowledge about the environment and its allied problems.

14	BP206T	ENVIRONMENTAL SCIENCES	**CO3:**	To Develop an attitude of concern for the environment.
			CO4:	To Motivate learner to participate in environment protection and environment improvement.
			CO5:	Acquire skills to help the concerned individuals in identifying and solving
15	BP301T	Pharmaceutical Organic Chemistry I	**CO1:**	Understand the reaction, name the reaction and orientation of reactions. Able to acquire knowledge about pharmaceutical organic compounds, with emphasis on their synthetic process, physical and chemical properties and compare them with each other. Able to write mechanisms involved in various reactions.
			CO2:	Able to write mechanisms involved in various reactions that could help the students to understand the synthesis of higher organic compounds. Acidity and effect of substituents on acidity, qualitative tests, Structure and uses of important compounds. Basicity and effect of substituents on basicity.
			CO3:	Understand the chemistry, chemical reactions and analytical constant of fats and oils.
			CO4:	Able to analyze various reactions for the synthesis of higher organic compounds.
			CO5:	Understand the stability and chemical reactions of cycloalkanes. Learn the preparation of organic compounds. Understand the chemical reactions of organic compounds. Learn reactivity/stability of organic compounds.
16	BP302T	PHYSICAL PHARMACEUTICS-I	**CO1:**	Understand the mechanisms of solute solvent interactions
			CO2:	To understand the states of matter and the applications of various physiochemical properties to design dosage forms
			CO3:	To understand the principle of interfacial tension and the applications of surface active agents in drug solubilization.
			CO4:	To perceive and apply the concepts of complexation and protein binding in pharmacy
			CO5:	To gain knowledge of pH and buffers and their use in the stabilization of pharmaceutical formulations.
17	BP303T	PHARMACEUTICAL MICROBIOLOGY	**CO1:**	Explain the anatomy, identification, growth factors of microorganisms which include bacteria, virus, and fungus.
			CO2:	Discuss the cultivation and identification of the microorganisms in the laboratory
			CO3:	Explain different methods of sterilization and its properties and applications in pharmaceutical microbiology
			CO4:	Discuss the concepts and types, antibody, antigen -antibody reactions
			CO5:	Define the terms bacterial vaccines, toxoids, immunization programme, importance of booster dose.
			CO1:	Students shall be able to understand the concept of flow of fluids, size separation and reduction involved in unit operations.

18	BP304T	Pharmaceutical Engineering	**CO2:**	Students shall be able to understand the basic concepts of heat transfer, evaporation and distillation involved in pharmaceutical operations.
			CO3:	Students gain knowledge to perform various processes such as drying and mixing involved in pharmaceutical manufacturing processes.
			CO4:	Students shall be able to understand the process of filtration and centrifugation required for the manufacturing of various pharmaceutical formulations
			CO5:	Students gain knowledge about materials of pharmaceutical plant construction, corrosion and its prevention.
19	BP401T	PHARMACEUTICAL ORGANIC CHEMISTRY -III	**CO1:**	To acquire the knowledge and understanding of the basic experimental principles of heterocyclic chemistry.
			CO2:	To draw the structures and synthesize simple pharmaceutically active organic compounds having five and six membered heterocyclic compounds.
			CO3:	To describe detailed mechanisms for common naming reactions.
			CO4:	To be able to run experimental techniques, procedures and safe laboratory practices.
			CO5:	Student will gain knowledge about stereo-chemical features including conformation and stereo electronic effects; Geometrical isomers
20	BP402T	MEDICINAL CHEMISTRY	**CO1:**	Understand the fundamentals of medicinal chemistry including physicochemical properties effect on drug action and basics of understanding on drug metabolism and factors effecting it.
			CO2:	Understand the structure, SAR and synthesis of different drugs acting on Adrenergic system
			CO3:	Understand the structure, SAR and synthesis of different drugs acting on Cholinergic system
			CO4:	Understand the structure, SAR and synthesis of different drugs acting on CNS including sedative and hypnotics, anti-psychotics and anti convulsants
			CO5:	Understand the structure, SAR and synthesis of general anaesthetics, narcotic and non-narcotic analgesics and anti-inflammatory drugs
21	BP403T	PHYSICAL PHARMACEUTICS	**CO1:**	Students will gain knowledge about the colloidal dosage forms, their formulation and evaluation.
			CO2:	This course will give complete knowledge about rheology and deformation of solids.
			CO3:	Students will gain knowledge about the coarse dosage forms, their formulation and evaluation.
			CO4:	This course will give complete knowledge about Micromeritics and its importance.

			CO5:	This course will give complete knowledge about various stability studies in pharmaceutical formulations
22	BP404T	Pharmacology	**CO1:**	The students will understand the pharmacological actions of different categories of drugs and will be able to explain the mechanism of drug action at organ system/sub cellular/macromolecular levels.
			CO2:	To get an understanding of receptors, their transducer mechanisms, adverse drug reactions and the importance of drug discovery process.
			CO3:	Students will get to know about pharmacology of drugs acting on peripheral nervous system along with neurohumoral transmission in brain.
			CO4:	To get understanding of the pharmacology of drugs acting on central nervous system.
			CO5:	To clear concepts of observe the effect of drugs on animals by simulated experiments and appreciate correlation of pharmacology with other bio medical sciences
23	BP405T	Pharmacognosy	**CO1:**	Herbs, and their Science. Classification of Medicinal Plants, Phytochemistry, Carbohydrates, Lipids,
			CO2:	Terpenes, Polyphenols, Alkaloids, Pharmacology, Toxicity, Formulations and Preparations of Herbal Medicines.
			CO3:	How herbs influence our physiology and can be helpful against several disorders, The recognition of medicinal plants, identification of adulteration and Contamination.
			CO4:	Relations between Phyto -therapy and the Elderly, Phytotherapy and Children, Understanding Herbal Action, and Understanding the MateriaMedica
			CO5:	Ethnobotany Ethnopharmacology in drug discovery process. DNA Finger printing
24	BP501T	MEDICINAL CHEMISTRY	**CO1:**	Students will gain knowledge about correlation between pharmacology of a disease and its mitigation or cure.
			CO2:	Students will gain knowledge about the chemical synthesis of some drugs.
			CO3:	Students will know the structural activity relationship of different class of drugs.
			CO4:	Knowledge about the mechanism pathways of different class of medicinal compounds.
			CO5:	To understand the chemistry of drugs with respect to their pharmacological activity.
25	BP502T	Industrial Pharmacy I– Theory	**CO1:**	Students after completion of this course will gain knowledge about Preformulation studies and different test to be conducted under Preformulation.
			CO2:	Students will gain knowledge about solid dosage form, their classification and knowledge about formulation of tablet and liquid dosage form
			CO3:	This course will give a complete insight about the hard and soft gelatin capsule with their formulation procedure, errors and evaluation along with other dosage forms like pellets
			CO4:	Students will gain knowledge about parenteral and ophthalmic liquid dosage forms.

			CO5: This course will give complete understanding about formulation, evaluation and optimization of cosmetics, Pharmaceutical aerosols and knowledge about different types of packaging materials used in pharmaceutical packaging purpose.
26	BP503T	Pharmacology	**CO1:** To understand the mechanism of drug action and its relevance in the treatment of various cardiovascular diseases.
			CO2: To understand the mechanism of drug action and its relevance in the treatment of urinary system disorders.
			CO3: Will get to know about pharmacology of drugs acting as autacoids and related drugs acting on different chemical mediators.
			CO4: To get understanding of the pharmacology of drugs acting on endocrine system and disorders of the endocrine system.
			CO5: To clear concepts of bioassay and study bioassay of various drugs using isolated tissue preparations
27	BP504T	Pharmacognosy and Phytochemistry	**CO1:** To know the metabolic pathways in higher plants and study the utilization of radioactive isotopes in biogenetic studies
			CO2: To know the composition, chemistry, biosources, therapeutic uses and commercial applications of secondary metabolites
			CO3: To isolate, analyse and identify phytoconstituents
			CO4: To understand the industrial production, estimation and utilization of phytoconstituents
			CO5: To know the modern methods of extraction and application of latest techniques in the isolation, purification and identification of crude drugs.
			CO1: To understand the legal knowledge about the manufacture, packaging, distribution, sale and it's trading of drug and cosmetic's act 1940, and also contain information about the different legal schedule and its rule.
			CO2: To understand the knowledge about the selected schedule in detail study along of sale of drug and cosmetics packaging and labelling along with its legal offence and penalties, even also contain study of administration and government organization.
			CO3: To understand the knowledge about the Pharmacy Act – 1948 and its education regulation. To understand about the knowledge of alcoholic preparation and product manufacturing and distribution under licensing condition as according to medicinal and toilet preparation act -1955. To understand the knowledge about the legal studies of narcotic drugs and psychotropic substance and its legal studies on sale distribution of sedative and hypnotics and its cultivation.

28	BP505T	PHARMACEUTICAL JURISPRUDENCE	**CO4:**	To understand the salient featuring studies of pharmaceutical advertisement and classification of advertisement. . To understand the law and legal protocols behind the experimental animal use for drug trials, and animal ethic committee's organization as per CPCSEA guidelines. To understand the National policy on drug price rate and its various authorities play vital role for its designing.
			CO5:	To understand the historical background of pharmacy law and drafting of pharmaceutical legislations. To understand the pharmacist job and its ethical duty contribution towards society in community. To understand the legal procedure and protocol of pregnancy termination with respect of legal medical knowledge. To understand the knowledge about public information law "Right to Information act 2005" To understand about the knowledge of patent rights, copyright act and other law under section of IPR (Intellectual Property Rights
29	BP601T	MEDICINAL CHEMISTRY	**CO1:**	To develop an understanding of the physico-chemical properties of drugs.
			CO2:	To understand how current drugs were developed by using pharmacophore modeling and docking technique.
			CO3:	To acquire knowledge about the mechanism pathways of different class of medicinal compounds.
			CO4:	To have been introduced to a variety of drug classes and some pharmacological properties.
			CO5:	To acquire knowledge on thrust areas for further research.
30	BP602T	Pharmacology	**CO1:**	To understand the mechanism of drug action and its relevance in the treatment of various respiratory system related disorders.
			CO2:	To understand the mechanism of drug action on the gastrointestinal tract.
			CO3:	Will get to know about the mechanism of drug action in the treatment of
			CO4:	different infectious diseases
			CO5:	To get understanding of biosimilars, immunopharmacology and chemotherapy
31	BP603T	Herbal Drug Technology	**CO1:**	Students will learn about WHO guidelines for Good agricultural and collection practices of herbal raw materials
			CO2:	Students will learn about WHO and ICH guidelines for the assessment of herbal drugs.
			CO3:	Students will learn about phytochemical screening of the extracts
			CO4:	Students will learn about preparation of herbal formulations and herbal cosmetics using standardized extracts
			CO5:	Students will learn about evaluation of excipients of natural origin

32	BP604T	Biopharmaceutics And Pharmacokinetics	**CO1:**	Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance
			CO2:	Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
			CO3:	To understand the concepts of bioavailability and bioequivalence of drug products and their significance
			CO4:	To get an idea about various pharmacokinetic parameters, their significance &applications.
			CO5:	To understand about bioequivalence studies
33	BP605T	Pharmaceutical Biotechnology– Theory	**CO1:**	Students will understand the various techniques used in modern biotechnology.
			CO2:	Students can shall be able to know about recombinant DNA technology and PCR.
			CO3:	Students can able to provide examples of current applications of biotechnology and advances in the different areas like hypersensitivity reactions, hybridoma technology etc
			CO4:	Students can explain the concept and application of blotting techniques and genetics.
			CO5:	Students can gain knowledge for the production of pharmaceutical products with application of biotechnology.
34	BP606T	PHARMACEUTICAL QUALITY ASSURANCE	**CO1:**	To understand the cGMP aspects in a pharmaceutical industry.
			CO2:	To appreciate the importance of documentation in pharma industry
			CO3:	To understand the scope of quality certifications applicable to pharmaceutical industries.
			CO4:	To understand the responsibilities of QA & QC departments.
			CO5:	To understand the concept of TQM.
35	BP701T	INSTRUMENTAL METHODS OF ANALYSIS	**CO1:**	Students shall be able to understand the interaction of matter with electromagnetic radiations and its applications in drug analysis.
			CO2:	Students shall be able to design to impart a fundamental knowledge on the principles and instrumentation of spectroscopic technique.
			CO3:	Students shall be able to understand the chromatographic separation, electrophoresis and analysis of drugs.
			CO4:	Students shall be able to understand on the principles and instrumentation of advanced chromatographic technique.
			CO5:	Students shall be able to design to impart a fundamental knowledge on the principles and instrumentation some more chromatographic techniques.
36	BP702T	INDUSTRIAL PHARMACY	**CO1:**	Discuss the process of pilot plant scale up of pharmaceutical dosage forms.
			CO2:	Demonstrate the practice and the process of technology transfer from lab scale to commercial.
			CO3:	Explain the different laws and acts that regulate pharmaceutical industry.

			CO4:	Describe the common measure use in quality of pharmaceutical dosage form.
			CO5:	Describe the approval process and regulatory requirements of drug products.
37	BP703T	Pharmacy Practice– Theory	**CO1:**	To get an understanding of hospital pharmacy and business professional practice management skills in community pharmacy
			CO2:	Will get to know and understand drug interaction and how to conduct medication history interview and provide patient counseling to patients and understand therapeutic drug monitoring.
			CO3:	Students will identify and resolve various prescription related problems and can help in identifying errors in prescription. It will also create knowledge about pharmacy and therapeutic committee and importance of communication skills.
			CO4:	To understand about budget preparation, clinical pharmacy and Over The Counter sales in hospital pharmacy.
			CO5:	To understand about drug store management and inventory control, and how to interpret the reports of clinical investigations.
38	BP704T	Novel Drug Delivery System – Theory	**CO1:**	Students will gain knowledge about the principles and technology used in the design of sustained release and controlled release drug delivery systems
			CO2:	Students will learn about the criteria for selection of a drugs and polymers for the development of Novel drug delivery systems
			CO3:	Students will gain knowledge about the various approaches for development of novel drug delivery systems.
			CO4:	Students will know the formulation and evaluation of Novel drug delivery systems
			CO5:	Students will know the formulation and characterization of transdermal drug Delivery systems
39	BP801T	Biostatistics and Research Methodology	**CO1:**	Students will gain knowledge about Biostatistics, Central Tendency and Measure of central tendency and correlation
			CO2:	Students will understand the biostatistical parameter of regression, probability, and Parameteric test.
			CO3:	Students will gain understanding about Non-Parameteric test, Introduction of research, Graph, and designing the methodology.
			CO4:	This course will give a highlight and understanding about regression modelling, and practical component of Industrial and clinical trial.
			CO5:	Student will gain knowledge about factorial design about statistical study and response surface methodology.
			CO1:	To understand and acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.

40	BP802T	Social and Preventive Pharmacy	**CO2:**	To get an understanding of the critical way of thinking based on current healthcare development.
			CO3:	Will get to know and understand alternative ways of solving problems related to health and pharmaceutical issues
			CO4:	To get an understanding of various national health programs in India.
			CO5:	To clear concepts of community pharmacy in urban and rural areas.
41	BP803ET	PHARMA MARKETING MANAGEMENT	**CO1:**	Students will gain knowledge about an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry.
			CO2:	Students will learn about the concept of product management in pharmaceutical industry and discuss the various components of promotion of pharmaceutical products
			CO3:	Students will gain knowledge about the different pharmaceutical marketing channels and the role and responsibility of professional sales representative
			CO4:	Students will able to understand the roles and responsibilities of pricing authorities in India
			CO5:	Students will come to know about the emerging concepts of marketing and discuss the role market research
42	BP805ET	PHARMACOVIGILANCE	**CO1:**	This Course develops the skills of classifying drugs, diseases and adverse drug reactions.
			CO2:	Pharmacovigilance Program of India (PvPI) requirement for ADR reporting in India
			CO3:	ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning
			CO4:	CIOMS requirements for ADR reporting
			CO5:	Writing case narratives of adverse events and their quality.
			CO6:	National and international scenario of pharmacovigilance
			CO7:	Drug safety evaluation in paediatrics, geriatrics, pregnancy and lactation