Program Name	Course Code	Course Name	CO No.	Course Outcome Upon completion of the course, the learner shall be able to:
B. PHARM SEM I	BP101T	Human Anatomy and Physiology I Theory	B101T.1	Explain how the separate systems interact to yield integrated physiological responses.
			B101T.2	Apply detailed concepts related to integumentary, skeletal, body fluids, lymphatic, special senses, peripheral nervous & cardiovascular system to novel technical and/or clinical scenarios.
			B101T.3	Critically interpret how different physiological systems of the body function with its mechanisms.
	BP102T	Pharmaceutical Analysis I – Theory	B102T.1	Recognize and explain the fundamental concepts and tenets behind different analytical techniques of pharmaceutical analysis in order to specify the concentration, it's calculation, preparation and standardization of pharmaceutical substances.
			B102T.2	Apply the principles of titrimetric and gravimetric techniques while analyzing drugs and to illustrate the methods of conductometry, potentiometry and polarography and how they are used to analyze drugs for maintaining its purity and standards.
			B102T.3	Point out causes of errors that frequently occur during pharmaceutical analysis along with indicators used and offer solutions to overcome errors.
	BP103T	Pharmaceutics I – Theory	B103T.1	Elucidate historical development of profession of pharmacy & pharmacopoeia in India
			B103T.2	Comprehend the concepts of prescription, posology, pharmaceutical incompatibility and pharmaceutical calculations
			B103T.3	Classify and describe the formulation and evaluation of powder, liquid & semisolid dosage forms

B. PHARM SEM I	**BP104T**	**Pharmaceutical Inorganic Chemistry – Theory**	B104T.1	Explain the basic fundamental principles of Pharm. Inorganic Chemistry and provide the updated knowledge of sources and determination of impurities in pharmaceutical substances and communicate in public for better health of society.
			B104T.2	Categorize and analyze the role of ions in human physiology and monographs of inorganic compounds with its pharmaceutical and medicinal importance useful to health care professionals.
			B104T.3	Summarize the different aspects of radiopharmaceuticals and its pharmaceutical applications associated with environmental sustainability
	BP105T	**Communication skills – Theory**	B105T.1	Understand the communication and its process, they will be identify barriers and how perception influences communication. Furthermore, they will learn how to communicate effectively face-to-face and use non-verbal communications
			B105T.2	Improve basic listening skill and to identify situations in which written communication is appropriate and comprehend the challenges of effective writing.
			B105T.3	Enables students to prepare and structure effective presentations, deliver them confidently, and overcome their fear of public speaking. They will also learn interview tips and practice effective communication skills in group discussions.
	BP106RBT	**Remedial Biology**	B106T.1	Identify the living world and morphology of different parts of flowering plants
			B106T.2	Summarize functions of cells and organs in CVS, Digestive, Respiratory, Excretory, Nervous, Endocrine and Reproductive system
			B106T.3	Elaborate the physiology, nutritional requirement for plants and animals

B. PHARM SEM1	**BP106RMT**	**Remedial Mathematics – Theory**	B106RMT.1	Know the theory and their application in Pharmacy
			B106RMT.2	Solve the different types of problems by applying theory
			B106RMT.3	Appreciate the important application of mathematics in Pharmacy
	BP107P	**Human Anatomy and Physiology – Practical**	B107P.1	Demonstrate the principle and working of various instruments used in Human Anatomy & Physiology.
			B107P.2	Identify microscopic features of various types of cells and tissues as well as gross anatomy and physiology of various bones.
			B107P.3	Perform hematological tests and also record Blood Pressure, heart rate & pulse rate.
	BP108P	**Pharmaceutical Analysis I – Practical**	B108P.1	Perform titrimetric analysis and limit tests to ascertain the purity of given pharmaceutical sample and operate equipment instruments required for the pharmaceutical analysis of given samples.
			B108P.2	Formulate and standardize primary and secondary standard solutions and estimate normality of a solution by analytical methods.
			B108P.3	Prepare students with formulas and calculations involved during pharmaceutical analysis.
	BP109P	**Pharmaceutics I – Practical**	B109P.1	Recall the principles used in the preparation of solid, liquid and semi solid dosage forms.
			B109P.2	Experiment with monophasic & biphasic liquid dosage forms for internal and external administration.
			B109P.3	Design powders and granules, semi solid dosage forms & suppositories.

B. PHARM SEM I	**BP110P**	**Pharmaceutical Inorganic Chemistry – Practical**	B110P.1	Update the basic practical knowledge of Pharmaceutical Inorganic chemistry and Analyze; identify the Inorganic compounds qualitatively associate with good laboratory practices.
			B110P.2	Plan and prepare medicinally important inorganic compounds associate in safely handling of chemicals for environment sustainability.
			B110P.3	Analyze levels of impurities in inorganic compounds as per Pharmacopoeial standards and confirm the purity of Inorganic compounds by its physical and chemical properties.
	BP111P	**Communication skills – Practical**	B111P.1	Emphasise the key elements of skilled written communication required for professional success with effective presentations and to acquire confidence in facing job interviews
			B111P.2	Students should be able to apply verbal and nonverbal communication techniques in a professional environment, as well as promote optimism and self-confidence.
			B111P.3	Gain knowledge, abilities, and judgment in human communication that will help them work productively with others
	BP112RBP	**Remedial Biology – Practical**	B112RBP.1	Explain techniques for handling microscope and preparation of permanent slides, ultra structure of cells and bones, and discuss anatomy & physiology of frog using computer models
			B112RBP.2	Examine and summarize morphology and microscopy of stem, root, leaf, seed, fruit, flower and their modifications
			B112RBP.3	Evaluate physiological parameters like blood group, blood pressure, tidal volume

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM II	BP201T	Human Anatomy and Physiology II – Theory	B201T.1	Explain the gross morphology, anatomy and physiology of various systems of the human body.
			B201T.2	Summarize how the separate systems interact to yield integrated physiological responses.
			B201T.3	Predict factors or situations affecting various organ systems that could disrupt homeostasis and the types of problems that would occur in the body if various organ systems could not maintain homeostasis and allowed regulated variables (body conditions) to deviate from normal.
	BP202T	Pharmaceutical Organic Chemistry I – Theory	B202T.1	Provide the basic and updated knowledge needed in the area of Pharm. Organic Chemistry associated withthe classification, IUPAC nomenclature, Isomerism and drawing the structure of organic compound.
			B202T.2	Summarize the methods of preparation and analyze the reaction kinetics, Orientation, reactivity and stability of organic compound from its structure and functional group.
			B202T.3	Apply the contextual knowledge of different uses of organic compound to assess public health and safety benefits.
	BP203T	Biochemistry – Theory	B203T.1	Illustrate the chemistry and biological significance of biological macromolecules along with fundamentals of bioenergetics and biological oxidation
			B203T.2	Explain the metabolism of nutrient molecules in physiological and pathological conditions and catabolic processes that occur with respect to carbohydrates, lipids, amino acids etc.
			B203T.3	Classify enzymes, their functions, mechanism and factors that influence their action, and relate the structure of DNA with its function in replication and gene expression with organization of mammalian genome

B. PHARM SEM II	**BP204T**	**Pathophysiology – Theory**	B204T.1	Explain basic principles involved in cell injury, cellular adaptations, apoptosis, inflammation and healing, atherosclerosis and disturbances of homeostasis like pH and electrolyte imbalances
			B204T.2	Summarize the etiopathogenesis and clinical manifestations of Cardiovascular, Respiratory, Renal, Hematologic, Gastrointestinal, Nervous, Endocrine, Integumentary, Neoplastic and Infectious Disorders
			B204T.3	Identify and differentiate diagnostically relevant clinical complications of Cardiovascular, Respiratory, Renal, Hematologic, Gastrointestinal, Nervous, Endocrine, Integumentary, Neoplastic and Infectious Disorders
	BP205T	**Computer Applications in Pharmacy – Theory**	B205T.1	Ability to understand, classify and utilize computers, recognize different input and output devices, and illustrate how a computer's numerical system works.
			B205T.2	Apply basic learning and assessment for designing and development of databases and websites using HTML, XML, CSS.
			B205T.3	Integrate and effectively use computers in all pharmacy-related tasks such as drug information services, pharmacokinetics, mathematical model in drug design, preclinical development etc.
			B205T.4	Understand about bioinformatics and their impact in vaccine discovery.
	BP206T	**Environmental sciences – Theory**	B206T.1	Understand multidisciplinary nature of environmental studies
			B206T.2	Acquire skills to help the concerned individuals in identifying and solving environmental problems
			B206T.3	Describe Environmental Pollution: Air pollution; Water pollution; Soil pollution

B. PHARM SEM II	**BP207P**	**Human Anatomy and Physiology II – Practical**	B207P.1	Describe anatomy & physiology of various organ systems with special reference to vital organs & gonads.
			B207P.2	Perform and interpret general neurological examinations to assess the physiology and functions of olfactory, hypoglossal, optic nerves and central as well as spinal reflexes
			B207P.3	Evaluate respiratory, metabolic and hematologic parameters of human body & relate the condition with clinical significance
	BP208P	**Pharmaceutical Organic Chemistry I– Practical**	B208P.1	Update the basic practical knowledge of Pharmaceutical Organic Chemistry and analyze, identify Organic compounds qualitatively associate with good laboratory practices.
			B208P.2	Plan and prepare solid derivatives of Organic compound associate within safely handling of chemicals for environment sustainability.
			B208P.3	Construct different molecular models of organic compounds by using modern tools.
	BP209P	**Biochemistry – Practical**	B209P.1	Elaborate the principles and Qualitative analysis of Carbohydrates & proteins.
			B209P.2	Examine and identify the variables influencing enzyme activity and interpret the correlation of concentration of proteins or carbohydrates to optical density.
			B209P.3	Analyze physiological and pathological components of urine and formulate buffer solutions with defined pH.
	BP210P	**Computer Applications in Pharmacy – Practical**	B210P.1	Demonstrate and make use of MS Word, for designing questionnaire for diseases and labels as well as HTML to create web page to show personal information
			B210P.2	Utilization of online tools, to gather more information about such a medicine and its adverse effects.
			B210P.3	Create, design and generate database by using MS Access which can be exported into html and xml format and this may be implemented in numerous pharmaceutical specialties

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM III	BP301T	Pharmaceutical Organic Chemistry II – Theory	B301T.1	Explain methods of preparations, reactions, properties, mechanism, aromaticity, stability and uses of different organic compounds.
			B301T.2	Illustrate the different analytical constants of fats and oils and evidences in derivation of structure of Benzene.
			B301T.3	Analyze effect of different substituents on orientation, reactivity and properties of organic compounds.
	BP302T	Physical Pharmaceutics I – Theory	B302T.1	Acquire detail knowledge on different types of states of matter and solubility, as well as how to utilize them in the development of drugs and drug delivery systems.
			B302T.2	Demonstrate the basic principles of adsorption, solubilization and differentiate type of interfaces by applying relevant examples from pharmaceutical sciences.
			B302T.3	Describe, characterize, and distinguish the different forms of complexes and how they relate to drug action and protein binding and also acquire skills and working knowledge of the principles and concepts of pH buffers
	BP303T	Pharmaceutical Microbiology – Theory	B303T.1	Learn about bacteriology and animal cell culture comprising understanding of methods of cultivation, isolation, identification, processing & storage of microorganisms and application of animal cell culture in production of Bio similar
			B303T.2	Get expertise in sterilization includes methods, principle and instrumentation & sterility testing of various pharmaceutical products according to official pharmacopoeias.
			B303T.3	Acquire knowledge of bioassay & microbial spoilage, assessment of microbial contamination, spoilage and preservation of pharmaceutical products
	BP304T	Pharmaceutical Engineering – Theory	B 304T.1	Know various unit operations used in Pharmaceutical industries.
			B 304T.2	Understand the material handling techniques which is used in pharmaceutical Industry.
			B 304T.3	Perform various processes involved in pharmaceutical manufacturing Unit.

B. PHARM SEM III	**BP305P**	**Pharmaceutical Organic Chemistry II – Practical**	B305P.1	Explain principle, reaction, mechanism, procedure and uses of synthesis and analytical constant determination
			B305P.2	Perform synthesis, recrystallization and analytical constant determination of different organic compounds
			B305P.3	Analyze the percentage yield and analytical constant of the given organic compounds
	BP306P	**Physical Pharmaceutics I – Practical**	B306P.1	Acquire skills and working knowledge of the principles and concepts of phase diagram
			B306P.2	Perform, determine and analyze the physical parameters such as solubility, surface tension, partition coefficient, and pKa in dosage form design.
			B306P.3	Analyze the drug complexes by various methods an interpret the data
	BP307P	**Pharmaceutical Microbiology – Practical**	B307P.1	Learn preparation & maintenance of class 100 area, personal hygiene & sterilization of glassware, nutrition media for conductance of microbiology experiments aseptically.
			B307P.2	Acquire abilities of handling different equipment used in microbiology practical Sterilization
			B307P.3	After completion of the course student will be able To implement different techniques for isolation of micro-organisms from various substances & to identify various types of micro-organisms
			B307P.4	Analyzing and solving the microbial analytical issue of various samples like water, Pharmaceutical dosage forms etc.
	BP 308P	**Pharmaceutical Engineering – Practical**	B308P.1	Know various unit operations used in Pharmaceutical industries.
			B308P-2	Understand the material handling techniques which is used in pharmaceutical Industry
			B308P.3	Perform various processes involved in pharmaceutical manufacturing Unit

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM IV	BP401T	Pharmaceutical Organic Chemistry III– Theory	B401T.1	Explain the stereo-chemical aspects of optical isomerism Geometrical, Conformation and atropisomerism.
			B401T.2	Describe the methods of preparation, properties, reactions, mechanism and application of heterocyclic compound.
			B401T.3	Discuss the principal, properties, reaction, mechanism and application of synthetically important reactions.
	BP402T	Medicinal Chemistry I – Theory	B402T.1	Explain history, fundamental concepts, classification, distribution and actions related to receptors and drugs.
			B402T.2	Describe SAR, structure, IUPAC name, properties, mechanism of action, uses, adverse effects, synthesis and metabolism of different medicinal compounds, Hormones or neurotransmitters.
			B402T.3	Analyze therapeutic and adverse effect of different medicinal compounds.
	BP403T	Physical Pharmaceutics II – Theory	B403T.1	Study physicochemical properties of drug and the flow behavior of fluid, deformation of solids.
			B403T.2	Describe various chemical and kinetic properties of system and explain the different reaction kinetics i.e. Zero, first and second order.
			B403T.3	Estimation of derived properties of powders and Compile the stability data for determination of expiry date of pharmaceutical drug products.
	BP404T	Pharmacology I – Theory	B404T.1	Classify drugs acting on various organ system on the basis of its therapeutic use
			B404T.2	Describe concept of pharmacology, pharmacodynamics and pharmacokinetics of drugs and steps and regulations concerned with drug discovery and clinical evaluation of new drugs
			B404T.3	Illustrate pharmacological effects, mechanism of action, indications, contraindications and adverse effects of drugs, pharmacological understanding in the averting and treatment of a variety of diseases

B. PHARM SEM IV	**BP405T**	**Pharmacognosy and Phytochemistry I– Theory**	B405T.1	Describe the development and scope of pharmacognosy and describe the chemical properties, applications, and evaluation of crude medications.
			B405T.2	Describe the cultivation, collection and preparation of medications with natural sources and describe the role of herbal medicines and of marine drugs in conventional medical practices.
			B405T.3	Describe Plant tissue culture, types of medicinal system and Primary metabolides
	BP406P	**Medicinal Chemistry I – Practical**	B406P.1	Explain principle reaction, mechanism, procedure and uses in relation with synthesis, assay and determination of partition coefficient of different drugs.
			B406P.2	Perform synthesis, assay and determination of partition coefficient of different drugs.
			B406P.3	Analyze results of the synthesis, assay and determination of partition coefficient of different drugs.
	BP407P	**Physical Pharmaceutics II – Practical**	B407P.1	Know the principle of separation method & calculate particle size by sieving, microscopic method.
			B407P.2	Study different technique for measurement of viscosity and Characterize the derived properties of powder
			B407P.3	Analyze the reaction rate constant of first andsecond order and construct the accelerated stability data.
	BP408P	**Pharmacology I – Practical**	B408P.1	Describe use of various animals in laboratory experiment for evaluation of pharmacological activities and as per CPCSEA guideline
			B408P.2	Demonstrate different routes of administration and common laboratory techniques for the animal studies, principle and procedures of various instruments /apparatus used in experimental pharmacology.
			B408P.3	Interpret effect of drug on animal testing model based on simulated models.
	BP409P	**Pharmacognosy and Phytochemistry I – Practical**	B409P.1	Demonstrate chemical tests to identify unorganized crude drugs and evaluate the quality and purity of crude drugs
			B409P.2	Perform linear measurements for crude drug identification
			B409P.3	Develop quality control methods for standardization of herbal drugs

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM V	BP501T	Medicinal Chemistry II – Theory	B501T.1	Explain fundamental concepts, classification, distribution and actions related to receptors and drugs.
			B501T.2	Describe SAR, structure, IUPAC name, properties, and mechanism of action, uses, adverse effects, synthesis and metabolism of different medicinal compounds, Hormones or neurotransmitters.
			B501T.3	Compare therapeutic and adverse effect of different medicinal compounds.
	BP502T	Industrial Pharmacy I– Theory	B502T.1	Understand the dosage forms such as tablets and capsules its design, formulation strategies, concept of mechanisms and packaging
			B502T.2	Describe formulation development, manufacturing, excipients used and evaluation of pellets, suspension, emulsion and semisolid dosage forms
			B502T.3	Outline formulation, manufacturing, environmental processing, validation, packaging of parenteral and ophthalmic dosage form
	BP503T	Pharmacology II – Theory	B503T.1	Classify the anti-inflammatory agents, drugs acting on Urinary, Cardiovascular and Endocrine system.
			B503T.2	Illustrate the pharmacology of autacoids, anti-inflammatory agents, drugs acting on Urinary, Cardiovascular and Endocrine system.
			B503T.3	Compare the bioassay of various drugs.
	BP504T	Pharmacognosy and Phytochemistry II– Theory	B504T.1	Emphasizes on basic metabolic pathways, techniques employed in the elucidation of biosynthetic pathway and formation of different secondary metabolites through these pathways.
			B504T.2	Describes the source, chemistry and analysis secondary metabolites.
			B504T.3	Describes the source, chemistry and Production therapeutic/commercial applications of secondary metabolites.
	BP405T	Pharmacognosy and Phytochemistry I– Theory	B405T.1	Describe the development and scope of pharmacognosy and describe the chemical properties, applications, and evaluation of crude medications.
			B405T.2	Describe the cultivation, collection and preparation of medications with natural sources and describe the role of herbal medicines and of marine drugs in conventional medical practices.
			B405T.3	Describe Plant tissue culture, types of medicinal system and Primary metabolides

B. PHARM SEM V	**BP505T**	**Pharmaceutical Jurisprudence – Theory**	B505T.1	Inculcate in students the ability to practice the code of pharmaceutical ethics and understand the various domains of the pharmaceutical legislation in India and its scope.
			B505T.2	Acquaint the students with the regulatory bodies monitoring Pharmacy education in India; various administrative authorities and agencies governing import, manufacture, distribution and sale of pharmaceuticals and to maintain standards and quality of drug product.
			B505T.3	study of various forensic laws with its objectives like Drug and Cosmetics Act 1940, Medical Termination Of Pregnancy Act 1971 and rules there under 1975, Narcotic and Psychotropic Substances Act 1985, Poisons Act 1919, Drug Price Control Order 1995, Medicinal and Toilet Preparations Act, Drug and Magic Remedies 1954,1955 etc
	BP506P	**Industrial Pharmacy I – Practical**	B506P.1	Perform preformulation, preparation and evaluation of tablets, capsules and liquid dosage forms
			B506P.2	Understand formulation of cosmetics and packaging material sciences
			B506P.3	Knowledge on sterile product preparation, tablet coating and its evaluation
	BP507P	**Pharmacology II – Practical**	B507P.1	Describe the analgesic, anti-inflammatory and diuretic activity, In vitro Pharmacology, Physiological salt solution, effects of spasmogens and spasmolytics using rabbit jejunum as well as effects of drugs on blood pressure and heart rate of dog.
			B507P.2	Apply the appropriate method and procedure to carry out bioassay of various drugs.
			B507P.3	Interpret the bioassay of various dugs, pA_2, pD_2 Value as well as effects of drugs on isolated frog heart.
	BP508P	**Pharmacognosy and Phytochemistry II – Practical**	B508P.1	Identify crude drugs by morphological and microscopical characteristics
			B508P.2	Isolate phytoconstituents from crude drugs and Perform Paper and Thin Layer Chromatography
			B508P.3	Carry out chemical tests for the identification of unorganized crude drugs

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM VI	BP601T	Medicinal Chemistry III – Theory	B601T.1	Discuss the nomenclature, Classification, SAR, MOA, metabolism, synthesis, uses and adverse effect of antibiotics, anti-tubercular and antiviral, antifungal, antibacterial, antimalarial and antiprotozoal drugs
			B601T.2	Describe the basic concept and applications of prodrug
			B601T.3	Illustrate the importance of drug design and different techniques of drug design.
	BP602T	Pharmacology III – Theory	B602T.1	Classify chemotherapeutic agents, drugs for respiratory & gastrointestinal tract diseases as well as immunostimulants and immunosuppressants.
			B602T.2	Illustrate the pharmacology of chemotherapeutic agents, drugs acting on immune system drugs used in the management of respiratory and gastrointestinal tract diseases. chronopharmacology
			B602T.3	Compare the clinical symptoms and management of various poisoning as well as acute, sub acute and chronic toxicity.
	BP603T	Herbal Drug Technology – Theory	B603T.1	Describe the WHO guidelines for Good agricultural and collection practices of herbal raw material.
			B603T.2	Describe tradition system of medicine, benefits of various plants as nutraceuticals in ailments, herb-food interaction of various plant drugs and benefits of herbal cosmetics.
			B603T.3	Discuss WHO and ICH guidelines for the assessment of herbal drugs.
	BP604T	Biopharmaceutics and Pharmacokinetics – Theory	B604T.1	Explain and recall basic concepts in biopharmaceutics and pharmacokinetics also discuss, analyze their significance.
			B604T.2	Demonstrate the plasma drug concentration for construction of pharmacokinetic model , development of relation, analyze & interpretation of pharmacokinetic parameter
			B604T.3	Outline & relate concepts of bioavailability and bioequivalence of drug products to identify, categorize and to prove bioequivalence.

B. PHARM SEM VI	**BP605T**	**Pharmaceutical Biotechnology– Theory**	B605T.1	Study fundamental principles of biotechnology in the field of genetic engineering, medicine and fermentation technology ultimately will comprehend the many methods employed in contemporary biotechnology.
			B605T.2	Acquire scientific knowledge of production of monoclonal antibody, bio-similar, transgenic (genetically modified) crops and animals, also various pharmaceuticals using microorganisms and mammalian cells.
			B605T.3	Gain knowledge about the evolution of the immune system, the structural characteristics of its components, and the procedures by which our body produces an immunological response. It will assist students in making predictions about the type of immune response that arises in response to bacterial, viral, or parasite infection and supporting those predictions with innovative experimental designs.
	BP606T	**Quality Assurance– Theory**	B606T.1	Explain fundamental knowledge about GMP and cGMP
			B606T.2	Understand validation and calibration of instruments in industry
			B606T.3	Learn importance of QA and QC departments in pharmaceutical industry.
	BP607P	**Medicinal chemistry III – Practical**	B607P.1	Plan and synthesize medicinally important compounds by conventional and microwave method.
			B607P.2	Utilize drug design tools software to assertion the physicochemical characteristics of substance
			B607P.3	Determine the percentage yield purity of some pharmaceuticals by assay or by Method ,construct the structure reaction of medicinally important drugs by chem draw software
	BP608P	**Pharmacology III – Practical**	B608P.1	Describe the antiallergic, anti-ulcer, hypoglycemic activity, dose calculation, pyrogen testing as well as effect of drugs on gastrointestinal motility, guinea pig ileum and frog intestine.
			B608P.2	Explain the acute skin and eye irritation/corrosion test, acute oral toxicity test.
			B608P.3	Interpret serum biochemical parameters, pharmacokinetic parameters and bio statistical methods in experimental pharmacology.
	BP609P	**Herbal Drug Technology – Practical**	B609P.1	Prepare herbal formulations and herbal cosmetics using standardized extracts
			B609P.2	Evaluate excipients of natural origin
			B609P.3	After undergoing this course students will be able carryout monograph analysis of herbal drugs determine alcohol content, aldehyde content, total alkaloids and phenol

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM VII	BP701T	Instrumental Methods of Analysis – Theory	B701T.1	Learn about the interaction of matter with electromagnetic radiations as well as with present other solvents for drugs as well as related problems analysis.
			B701T.2	Fully comprehend concepts of Spectroscopic methods and Chromatographic techniques for analysis purpose.
			B701T.3	Recall use of various modern tools for analysis of organic, inorganic, and natural products. Also upgrade with advanced technology for better outcomes.
	BP702T	Industrial Pharmacy II – Theory	B702T.1	Discuss the process of pilot plant scale up of pharmaceutical dosage forms.
			B702T.2	Demonstrate the practice and the process of technology transfer from lab scale to commercial.
			B702T.3	Explain the different laws and acts that regulate pharmaceutical industry.
	BP703T	Pharmacy Practice – Theory	B703T.1	Define various terminologies used in the pharmacy practice
			B703T.2	Illustrate the organizational structure, classification, functions and policies (including formularies) of hospitals and pharmacy organizations, distribution, use and monitoring of drug, clinical interpretations, Patient counseling and pharmacy management.
			B703T.3	Describe the personnel and their responsibilities in hospital and pharmacy organizations, importance of drug information services, education and training programmes in hospitals and the role of pharmacist in pharmacy stores management, inventory control, Budget preparation, adverse drug reactions, community pharmacy
	BP704T	Novel Drug Delivery System – Theory	B704T.1	Understand various approaches and applications for development of Novel Drug Delivery Systems
			B704T.2	Discuss and study oral, mucosal, dermal, pulmonary and nasal drug delivery systems over conventional dosage forms for prolonged action
			B704T.3	Illustrate the principles and fundamentals of drug targeting in the design of site-specific drug delivery system
	BP705 P	Instrumental Methods of Analysis – Practical	B705P.1	Fully comprehend concepts of modern tools for evaluation, separation and analysis purpose.
			B705P.2	Analyze drugs quantitatively and qualitatively using various analytical modern tools.
			B705P.3	Demonstrate proficiency in the use of various analytical modern.

Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM VIII	BP801T	Biostatistics and Research Methodology – Theory	B801T.1	Understand the fundamental concepts of statistics and to draw graphs and plots based on type of data
			B801T.2	Apply probability, regression, hypothesis while using statistical tools to analyse data
			B801T.3	Recognize the purpose of research, its methods, and its uses, as well as to explain experimental design in research.
	BP802T	Social and Preventive Pharmacy – Theory	B802T.1	Review Concept of health And examine general principles of prevention and control of various diseases.
			B802T.2	Facilitate information about various National health programs and understand objectives and outcome of the program
			B803T.3	Access and manage Community services in rural, urban and school health.
	BP805ET	Pharmacovigilance – Theory	B805ET.1	Describe History, development, Pharmacovigilance Program of India (PvPI), vaccine safety surveillance, various terminologies used in Pharmacovigilance, significance of drug safety monitoring and evaluation of Medicine and in pediatrics, geriatrics, pregnancy and lactation and in special population respectively, WHO international drug monitoring program, Pharmacogenomics of adverse drug reactions.
			B805ET.2	Categorize methods for safety data generation of drugs life cycle at the phases of pre-clinical, clinical and post approval stages, drugs on the basis of anatomical, chemical and therapeutic use, drug dictionaries and coding, Pharmacovigilance methods, adverse drug reactions and its reporting systems and communication in Pharmacovigilance.
			B805ET.3	Discuss Pharmacovigilance planning, expedited reporting, CIOMS requirements for ADR reporting, ICH guidelines for ICSR, PSUR
	BP811ET	Advanced Instrumentation Techniques – Theory	B811ET.1	Understand about the interaction of matter with electromagnetic radiations, as well as the challenges that arise as a result of this interaction in drug analysis.
			B811ET.2	Completely comprehend the concept of modern technologies as well as the calibration of advanced analytical modern instruments.
			B811ET.3	Recall the use of numerous modern tools for organic, inorganic, and natural product analysis, such as NMR, MASS spectroscopy, Thermal analysis, XRD, RIA, Extraction techniques, and Hyphenated techniques. Upgrade utilizing advanced technologies in order to achieve excellent outcomes.