BP204T – PATHOPHYSIOLOGY (Theory)
Programme: B.Pharm Course
Type: Theory Credits/Hours: 45 Hours

CO No.	Course Outcome Statement	Bloom's Level
CO1	Explain the basic principles of cell injury, adaptation, inflammation, and repair mechanisms involved in disease processes.	BTL-2
CO2	Describe the etiology, pathogenesis, and pathophysiological mechanisms of cardiovascular, respiratory, and renal diseases.	BTL-2
CO3	Illustrate the pathophysiology, clinical manifestations, and complications of hematological, endocrine, nervous, and gastrointestinal disorders.	BTL-3
CO4	Explain the pathogenesis and complications of inflammatory, hepatic, bone, joint, and neoplastic diseases.	BTL-2
CO5	Describe the causes, pathogenesis, and clinical features of infectious and sexually transmitted diseases.	BTL-3

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2		2	1		1	2		1	2
CO2	3	2	1		1		1		1	1	2
CO3	3	2	2	1	1	1		2	1	2	2
CO4	3	2	1		1		2		1	2	2
CO5	3	2	2		1	2		1	2	1	2

BP101T Human Anatomy and Physiology I

Course Outcomes

CO No.	Course Outcome
CO1	Explain structural organization, life processes, cell functions & tissues.
CO2	Describe integumentary, skeletal & muscular systems and joint functions.
CO3	Analyze blood composition, hemopoiesis, coagulation & lymphatic circulation.
CO4	Differentiate PNS divisions & interpret special senses functioning.
CO5	Evaluate cardiac cycle, ECG, BP regulation & cardiovascular homeostasis.

BP107P Human Anatomy and Physiology I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	Identify tissues microscopically using compound microscope.
CO2	Demonstrate correct bone identification (axial & appendicular).
CO3	Perform hematological estimations (RBC, WBC, Hb, ESR).
CO4	Measure physiological parameters (BP, pulse, bleeding/clotting time).
CO5	Interpret hematological and cardiovascular results for clinical relevance.

BP102T Pharmaceutical Analysis I

Course Outcomes

CO No.	Course Outcome
CO1	Explain principles, errors & standards in pharmaceutical analysis.
CO2	Apply acid–base & non-aqueous titration concepts in drug estimation.
CO3	Analyze precipitation, complexometric & gravimetric methods.
CO4	Differentiate redox analytical techniques & interpret titration data.
CO5	Evaluate electrochemical methods (conductometry, potentiometry).

BP108P Pharmaceutical Analysis I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	Perform limit tests for impurities using pharmacopoeial procedures.

CO2	Standardize titrants for volumetric analysis.
CO3	Execute assays using acid-base, redox & precipitation methods.
CO4	Conduct complexometric & non-aqueous titrations accurately.
CO5	Interpret electroanalytical titration curves for endpoint detection.

BP103T Pharmaceutics I
Course Outcomes

CO No.	**Course Outcome**
CO1	Explain the history of pharmacy, dosage forms & prescription handling.
CO2	Apply pharmaceutical calculations in formulation scenarios.
CO3	Differentiate monophasic & biphasic liquid dosage forms.
CO4	Analyze suppositories & incompatibilities in formulations.
CO5	Evaluate semi-solid dosage forms and factors influencing dermal delivery.

BP109P Pharmaceutics I (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	Prepare monophasic formulations like syrups & elixirs.
CO2	Formulate suspensions & emulsions with stability considerations.
CO3	Develop powder & granule formulations accurately.
CO4	Prepare suppositories & evaluate displacement values.
CO5	Assess semi-solid preparations for quality and uniformity.

BP104T Pharmaceutical Inorganic Chemistry
Course Outcomes

CO No.	Course Outcome
CO1	Explain impurities & limit tests as per pharmacopoeia.

CO2	Describe buffers, electrolytes, isotonicity & dental products.
CO3	Analyze GI agents, antimicrobials & cathartics.
CO4	Differentiate expectorants, emetics, haematinics & antidotes.
CO5	Evaluate radiopharmaceuticals & applications.

BP110P Pharmaceutical Inorganic Chemistry (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	Perform limit tests for chloride, sulphate, iron & heavy metals.
CO2	Identify inorganic compounds via confirmatory tests.
CO3	Determine purity tests (swelling power, neutralizing capacity).
CO4	Prepare inorganic pharmaceuticals as per pharmacopoeia.
CO5	Interpret analytical results for quality assessment.

BP105T Communication Skills
Course Outcomes

CO No.	Course Outcome
CO1	Explain principles of verbal & non-verbal communication.
CO2	Apply effective listening, speaking & presentation skills.
CO3	Demonstrate interview, GD & negotiation skills.
CO4	Analyze barriers to communication & strategies to overcome.
CO5	Evaluate professional communication in pharmacy settings.

BP111P Communication Skills (Practical)
Course Outcomes

CO No.	Course Outcome

CO1	Demonstrate correct pronunciation & phonetics.
CO2	Perform role-plays for counselling, GDs & interviews.
CO3	Prepare written communication (emails, reports).
CO4	Deliver oral presentations confidently.
CO5	Evaluate communication effectiveness using feedback.

BP106RBT Remedial Biology
Course Outcomes

CO No.	Course Outcome
CO1	Explain plant & animal cell structures & functions.
CO2	Describe plant tissues, morphology & anatomy.
CO3	Differentiate animal tissues & organ systems.
CO4	Explain plant physiology concepts.
CO5	Summarize genetics & biodiversity concepts.

BP112RBP Remedial Biology (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	Identify plant tissues microscopically.
CO2	Examine animal tissues through microscopy.
CO3	Dissect simple organisms to study anatomy.
CO4	Perform physiological tests like plasmolysis.
CO5	Interpret biological experimental findings.

BP106RMT Remedial Mathematics
Course Outcomes

CO No.	Course Outcome
CO1	Explain algebraic functions & equations.
CO2	Apply logarithms & partial fractions.
CO3	Solve differentiation & integration problems.
CO4	Analyze matrices & determinants.
CO5	Use basic stats & probability.

BP201T Human Anatomy and Physiology II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the structure and functions of endocrine glands.
CO2	**Describe** digestive system anatomy and physiology.
CO3	**Apply** concepts of respiratory mechanics and gas transport.
CO4	**Analyze** renal functions including filtration and urine formation.
CO5	**Explain** reproductive physiology and hormonal regulation.

BP207P Human Anatomy and Physiology II (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** endocrine glands and their histological features.
CO2	**Perform** experiments related to salivary and digestive functions.
CO3	**Measure** respiratory volumes and interpret results.
CO4	**Analyze** urine parameters experimentally.
CO5	**Apply** clinical physiological tests and record observations.

BP202T Pharmaceutical Organic Chemistry I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** classification and properties of organic compounds.
CO2	**Describe** structure, nomenclature and reactions of alkanes & alkenes.
CO3	**Apply** reaction mechanisms of aromatic compounds.
CO4	**Analyze** stereochemistry and isomerism.
CO5	**Explain** alcohols, phenols and ethers reactions.

BP208P Pharmaceutical Organic Chemistry I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** organic functional groups using preliminary tests.
CO2	**Perform** purification techniques such as crystallization.
CO3	**Apply** melting and boiling point determination methods.
CO4	**Analyze** organic compounds using derivative preparation.
CO5	**Execute** separation techniques for binary mixtures.

BP203T Biochemistry

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** structure and functions of carbohydrates.
CO2	**Describe** amino acids and protein metabolism.
CO3	**Apply** enzyme kinetics and regulatory mechanisms.
CO4	**Analyze** lipid metabolism pathways.
CO5	**Explain** nucleic acids and genetic information flow.

BP209P Biochemistry (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Perform** qualitative tests for carbohydrates.
CO2	**Perform** qualitative tests for proteins and amino acids.
CO3	**Analyze** lipids using standard biochemical procedures.
CO4	**Apply** enzyme assays and determine activity.
CO5	**Interpret** biochemical test results.

BP204T Computer Applications in Pharmacy

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** fundamentals of computer hardware & software.
CO2	**Describe** data storage, operating systems & internet concepts.
CO3	**Apply** MS Office tools for pharmaceutical tasks.
CO4	**Explain** database concepts & pharmacy applications.
CO5	**Apply** computational tools for research and data analysis.

BP210P Computer Applications in Pharmacy (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Use** MS Word for documentation.
CO2	**Use** MS Excel for calculations & charts.
CO3	**Prepare** PowerPoint presentations.
CO4	**Apply** internet tools for academic purposes.
CO5	**Operate** pharmacy-related software.

BP205T Environmental Sciences

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** ecosystem structure and functions.

CO2	**Describe** natural resources & conservation.
CO3	**Analyze** environmental pollution & control measures.
CO4	**Explain** biodiversity & its significance.
CO5	**Describe** social issues related to environment & sustainability.

BP205RBT Remedial Biology
Course Outcomes

CO No.	Course Outcome
CO1	**Explain** structure and function of plant and animal cells.
CO2	**Describe** plant tissues, morphology and anatomy.
CO3	**Apply** knowledge of animal tissues and organ systems.
CO4	**Explain** plant physiology including photosynthesis and transpiration.
CO5	**Summarize** basics of genetics and biodiversity.

BP206RBP Remedial Biology (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** plant tissues microscopically.
CO2	**Identify** animal tissues using microscopy.
CO3	**Perform** dissections for anatomical study.
CO4	**Apply** physiological experiments such as plasmolysis.
CO5	**Interpret** experimental results.

BP206RMT Remedial Mathematics
Course Outcomes

CO No.	Course Outcome
CO1	**Explain** algebraic expressions and fundamental operations.
CO2	**Apply** logarithms and partial fractions.
CO3	**Solve** problems on differentiation and integration.
CO4	**Analyze** matrices and determinants.
CO5	**Apply** probability and statistical concepts.

BP301T Pharmaceutical Organic Chemistry II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the reactions and properties of carboxylic acids and their derivatives.
CO2	**Describe** the chemistry of nitrogen-containing compounds such as amines.
CO3	**Apply** principles of reaction mechanisms involving carbonyl compounds.
CO4	**Analyze** stereochemical aspects and conformational features of organic molecules.
CO5	**Explain** heterocyclic chemistry for pharmaceutical relevance.

BP302T Physical Pharmaceutics I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** physical properties of matter relevant to pharmaceutics.
CO2	**Describe** rheology and interfacial phenomena.
CO3	**Apply** principles of solubility and dissolution.
CO4	**Analyze** complexation and protein binding.
CO5	**Explain** buffers, tonicity, and their pharmaceutical applications.

BP303T Pharmaceutical Microbiology

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** microbial structure, classification & cultivation.
CO2	**Describe** sterilization techniques & validation.
CO3	**Apply** principles of disinfection & antimicrobial assays.
CO4	**Analyze** contamination control & aseptic techniques.
CO5	**Explain** immunology and vaccine types.

BP304T Pharmaceutical Engineering

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** unit operations and material handling.
CO2	**Describe** heat transfer and evaporation processes.
CO3	**Apply** filtration, centrifugation & crystallization principles.
CO4	**Analyze** drying, mixing & size reduction operations.
CO5	**Explain** extraction and distillation

techniques.

BP305P Pharmaceutical Organic Chemistry II (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** organic compounds using functional group tests.
CO2	**Perform** synthesis of simple organic compounds.
CO3	**Apply** purification techniques such as recrystallization.
CO4	**Analyze** melting point and boiling point data.
CO5	**Perform** derivative preparation for compound confirmation.

BP306P Physical Pharmaceutics I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Determine** surface tension & viscosity of formulations.
CO2	**Apply** solubility and partition coefficient experiments.
CO3	**Analyze** dissolution profiles of dosage forms.
CO4	**Perform** complexation and protein binding experiments.
CO5	**Interpret** experimental results in relation to physicochemical properties.

BP307P Pharmaceutical Microbiology (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Perform** microbial staining and microscopy.
CO2	**Prepare** culture media and carry out sterilization.
CO3	**Apply** aseptic techniques for microbial transfer.
CO4	**Analyze** antimicrobial assay results.
CO5	**Perform** contamination control and microbiological quality tests.

BP308P Pharmaceutical Engineering (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Demonstrate** working of pharmaceutical engineering equipment.
CO2	**Apply** size reduction and mixing principles in experiments.
CO3	**Analyze** filtration and centrifugation performance.
CO4	**Perform** drying and evaporation experiments.
CO5	**Interpret** engineering data for efficiency analysis.

BP401T Pharmaceutical Organic Chemistry III

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** reactions and properties of aldehydes and ketones.
CO2	**Describe** chemistry and reactivity of carboxylic acids and derivatives.
CO3	**Apply** mechanisms of condensation and rearrangement reactions.
CO4	**Analyze** stereochemical implications in organic transformations.
CO5	**Evaluate** heterocyclic synthetic strategies for drug molecules.

P402T Medicinal Chemistry I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** basic principles of medicinal chemistry and drug design.
CO2	**Describe** structure–activity relationships of selected drug classes.
CO3	**Apply** physicochemical properties for predicting drug behavior.
CO4	**Analyze** metabolic pathways influencing drug activity.
CO5	**Evaluate** molecular modifications to improve pharmacological profile.

BP403T Physical Pharmaceutics II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** principles of thermodynamics and phase equilibria.
CO2	**Describe** concepts of diffusion and dissolution.
CO3	**Apply** principles of polymer science and viscosity.
CO4	**Analyze** complex pharmaceutical systems and colloids.
CO5	**Evaluate** formulation behavior based on physical stability data.

BP404T Pharmacology I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** general pharmacological principles and mechanisms.
CO2	**Describe** autonomic nervous system pharmacology.
CO3	**Apply** drug mechanisms to clinical scenarios.
CO4	**Analyze** pharmacodynamic and

	pharmacokinetic interactions.
CO5	**Evaluate** therapeutic and adverse effects of prototype drugs.

BP405T Pharmacognosy & Phytochemistry I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** classification and sources of crude drugs.
CO2	**Describe** morphological and microscopic characteristics of crude drugs.
CO3	**Apply** extraction and purification techniques.
CO4	**Analyze** phytochemical screening tests.
CO5	**Evaluate** quality control parameters for herbal drugs.

BP406P Pharmaceutical Organic Chemistry III (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** organic compounds through functional group tests.
CO2	**Perform** multi-step synthesis of organic intermediates.
CO3	**Apply** purification methods such as distillation and crystallization.
CO4	**Analyze** spectral or analytical data for compound confirmation.
CO5	**Perform** derivative preparation for structural verification.

BP407P Medicinal Chemistry I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Perform** synthesis of medicinal compounds following standard protocols.
CO2	**Apply** qualitative analysis to identify medicinal agents.
CO3	**Analyze** purity of synthesized drugs using standard quality tests.
CO4	**Perform** assay procedures for selected pharmaceutical APIs.
CO5	**Interpret** experimental findings to validate drug properties.

BP408P Physical Pharmaceutics II (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Determine** diffusion and dissolution parameters experimentally.
CO2	**Apply** viscosity and rheology tests on pharmaceutical systems.
CO3	**Analyze** physical stability of dosage forms.
CO4	**Perform** experiments on polymer science and colloidal systems.

CO5	**Interpret** results to understand formulation behavior.

BP409P Pharmacology I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** basic instruments and animal models used in pharmacology.
CO2	**Perform** dose–response experiments on isolated tissues.
CO3	**Apply** pharmacological screening for selected drug classes.
CO4	**Analyze** pharmacodynamic interactions from experimental data.
CO5	**Interpret** in vivo and in vitro pharmacology results.

BP410P Pharmacognosy & Phytochemistry I (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** crude drugs using morphological and microscopic evaluation.
CO2	**Perform** phytochemical screening tests.
CO3	**Apply** extraction and separation techniques.
CO4	**Analyze** quality of herbal raw materials.
CO5	**Interpret** experimental results for phytochemical purity.

BP501T Medicinal Chemistry II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the basic principles and classification of drugs acting on the autonomic and central nervous systems.
CO2	**Describe** structure–activity relationships (SAR) of selected therapeutic drug classes.
CO3	**Apply** physicochemical properties to predict biological activity of drug molecules.
CO4	**Analyze** metabolic pathways influencing drug design and modification.
CO5	**Evaluate** structural features responsible for pharmacological activity and toxicity.

BP502T Industrial Pharmacy I

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** principles and processes involved in large-scale pharmaceutical manufacturing.
CO2	**Describe** quality assurance and GMP requirements.
CO3	**Apply** preformulation and formulation concepts for solid and liquid dosage forms.
CO4	**Analyze** factors influencing stability and shelf-life of pharmaceutical products.
CO5	**Evaluate** production challenges and propose improvements in manufacturing processes.

BP503T Pharmacology II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** pharmacology of drugs acting on cardiovascular and renal systems.
CO2	**Describe** pharmacological effects of endocrine and autacoid drugs.
CO3	**Apply** mechanisms of action to therapeutic decision-making.
CO4	**Analyze** adverse drug reactions and drug interactions.
CO5	**Evaluate** clinical use of prototype drugs for major diseases.

BP504T Pharmacognosy & Phytochemistry II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** chemistry and occurrence of important phytoconstituents.
CO2	**Describe** biosynthesis and biogenesis pathways.
CO3	**Apply** chromatographic techniques for

	phytoconstituent analysis.
CO4	**Analyze** structural elucidation data of natural compounds.
CO5	**Evaluate** crude drugs and herbal formulations based on quality parameters.

BP505T Pharmaceutical Jurisprudence
Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the legal framework governing drug and cosmetic regulations.
CO2	**Describe** important acts such as D&C Act, Pharmacy Act, and NDPS Act.
CO3	**Apply** regulatory requirements in pharmacy practice scenarios.
CO4	**Analyze** ethical issues and responsibilities of pharmacists.
CO5	**Evaluate** legal compliance and implications for pharmaceutical establishments.

BP506P Medicinal Chemistry II (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** medicinal compounds using standard laboratory tests.
CO2	**Perform** multi-step synthesis of selected drug molecules.
CO3	**Apply** chromatographic techniques for purity evaluation.
CO4	**Analyze** spectral data for structural interpretation.
CO5	**Perform** quantitative assay procedures for APIs.

BP507P Industrial Pharmacy I (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** equipment used in industrial manufacturing.
CO2	**Perform** preformulation studies for solid dosage forms.
CO3	**Apply** granulation and compression techniques.
CO4	**Analyze** stability parameters of formulations.
CO5	**Interpret** in-process and finished product quality tests.

BP508P Pharmacology II (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** animal models and research instruments.
CO2	**Perform** experiments on cardiovascular

	and renal pharmacology.
CO3	**Apply** dose–response principles in pharmacological testing.
CO4	**Analyze** drug interactions using experimental data.
CO5	**Interpret** results of pharmacological screening.

BP509P Pharmacognosy & Phytochemistry II (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** crude drugs using morphological and histological features.
CO2	**Perform** phytochemical extraction and isolation.
CO3	**Apply** chromatographic techniques for constituent identification.
CO4	**Analyze** quality of herbal samples using standard tests.
CO5	**Interpret** profiles of phytochemical constituents.

BP601T Medicinal Chemistry III

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the classification and chemistry of antineoplastic and antiviral agents.
CO2	**Describe** SAR and mechanisms of action of key therapeutic drug classes.
CO3	**Apply** physicochemical and structural properties to predict biological activity.
CO4	**Analyze** metabolic pathways influencing drug design and toxicity.
CO5	**Evaluate** structural modifications to optimize pharmacological profiles.

BP602T Pharmacology III

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the pharmacology of anti-infective and chemotherapeutic agents.
CO2	**Describe** mechanisms of action of immunosuppressant and anticancer drugs.
CO3	**Apply** pharmacological principles to therapeutic decision-making.
CO4	**Analyze** adverse drug reactions, resistance, and drug interactions.
CO5	**Evaluate** drug therapy regimens based on clinical evidence.

BP603T Herbal Drug Technology

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** basic concepts of herbal drug standardization and quality control.
CO2	**Describe** various herbal excipients and their applications.
CO3	**Apply** extraction and formulation techniques for herbal preparations.
CO4	**Analyze** stability and evaluation parameters of herbal formulations.
CO5	**Evaluate** regulatory and quality requirements for herbal drugs.

BP604T Biopharmaceutics & Pharmacokinetics

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** ADME processes and their biopharmaceutical relevance.
CO2	**Describe** pharmacokinetic models and parameters.
CO3	**Apply** equations to determine bioavailability and pharmacokinetic variables.
CO4	**Analyze** drug absorption and disposition profiles.

CO5	**Evaluate** dosage regimens using pharmacokinetic principles.

BP605T Pharmaceutical Biotechnology
Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the basics of biotechnology and genetic engineering.
CO2	**Describe** production and applications of biotechnological products.
CO3	**Apply** principles of fermentation and downstream processing.
CO4	**Analyze** immunological and molecular biology techniques.
CO5	**Evaluate** biosafety, quality, and regulatory aspects of biotech products.

BP606T Quality Assurance
Course Outcomes

CO No.	Course Outcome
CO1	**Explain** quality concepts including QA, QC, and TQM.
CO2	**Describe** documentation practices including SOPs, GMP, and GLP.
CO3	**Apply** validation and calibration principles in pharmaceutical systems.
CO4	**Analyze** quality audits and deviation management.
CO5	**Evaluate** quality assurance strategies to improve compliance.

BP607P Medicinal Chemistry III (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** medicinal compounds using standard qualitative tests.
CO2	**Perform** synthesis of selected therapeutic agents.
CO3	**Apply** chromatographic and spectroscopic techniques for purity assessment.
CO4	**Analyze** analytical data for structural confirmation.
CO5	**Interpret** assay results to determine drug quality.

BP608P Pharmacology III (Practical)
Course Outcomes

CO No.	Course Outcome
CO1	**Identify** instruments and models used in experimental pharmacology.
CO2	**Perform** experiments on anti-inflammatory and analgesic activity.
CO3	**Apply** toxicological and safety evaluation procedures.
CO4	**Analyze** pharmacological responses from

	experimental data.
CO5	**Interpret** results of various pharmacological screening tests.

BP609P Herbal Drug Technology (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** crude drugs based on morphological and microscopic characters.
CO2	**Perform** extraction methods for herbal preparations.
CO3	**Apply** chromatographic techniques for herbal constituent analysis.
CO4	**Analyze** physicochemical properties of herbal drugs.
CO5	**Interpret** standardization and quality control data.

BP610P Biopharmaceutics & Pharmacokinetics (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** pharmacokinetic parameters using experimental models.
CO2	**Perform** dissolution and drug release studies.
CO3	**Apply** calculations for bioavailability and pharmacokinetics.
CO4	**Analyze** plasma concentration–time data.
CO5	**Interpret** absorption and disposition profiles of drugs.

BP701T Instrumental Methods of Analysis

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the principles of UV, IR, and NMR spectroscopy.
CO2	**Apply** chromatographic and electrophoretic methods for analysis.
CO3	**Apply** calibration techniques and quantitative analytical methods.
CO4	**Evaluate** analytical methods for sensitivity, accuracy, and precision.
CO5	**Evaluate** suitability of analytical techniques for pharmaceutical products.

BP702T Industrial Pharmacy II

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** technology and operations involved in scale-up and technology transfer.
CO2	**Apply** principles of production planning and warehousing.
CO3	**Apply** regulatory and documentation requirements in manufacturing.
CO4	**Evaluate** quality systems and validation procedures.
CO5	**Evaluate** industrial control strategies for optimized production.

BP703T Pharmacy Practice

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** organization and structure of hospital and clinical pharmacy.
CO2	**Apply** drug distribution and inventory management systems.
CO3	**Apply** clinical pharmacy services including medication chart review.
CO4	**Evaluate** rational drug use and patient counseling strategies.
CO5	**Evaluate** drug therapy monitoring and pharmaceutical care models.

BP704T Novel Drug Delivery Systems

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** concepts and classification of novel drug delivery systems.
CO2	**Apply** principles of controlled and targeted drug delivery.
CO3	**Apply** formulation techniques for various NDDS systems.
CO4	**Evaluate** release kinetics and performance of NDDS formulations. (BTL-5)

CO5	**Evaluate** suitability of NDDS for specific therapeutic needs.

BP705P Instrumental Methods of Analysis (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** analytical instruments and their operating principles.
CO2	**Perform** calibration and validation of analytical instruments.
CO3	**Apply** spectroscopic and chromatographic methods for analysis.
CO4	**Analyze** accuracy, precision, and sensitivity of analytical results.
CO5	**Interpret** analytical data for qualitative and quantitative evaluation.

BP706P Pharmacy Practice (Practical)

Course Outcomes

CO No.	Course Outcome
CO1	**Identify** hospital pharmacy records and documentation systems.
CO2	**Perform** medication chart review and prescription auditing.
CO3	**Apply** drug information and patient counseling techniques.
CO4	**Analyze** medication errors and drug interactions.
CO5	**Interpret** clinical case data for therapeutic decision-making.

BP801T Biostatistics & Research Methodology

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** fundamental statistical concepts and data types.
CO2	**Apply** statistical tools for data summarization and interpretation.
CO3	**Apply** hypothesis testing and probability techniques in research.
CO4	**Evaluate** research designs and sampling methods for scientific studies.
CO5	**Evaluate** reliability and validity of research outcomes.

BP802T Social & Preventive Pharmacy

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the role of social sciences in public health and pharmacy.
CO2	**Apply** epidemiological concepts to disease prevention strategies.
CO3	**Apply** health education methods for community well-being.
CO4	**Evaluate** national health programs and policies.
CO5	**Evaluate** public health interventions for effectiveness and impact.

Pharma Marketing Management

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** fundamentals of pharmaceutical marketing.
CO2	**Apply** segmentation, targeting, and positioning strategies.
CO3	**Apply** marketing mix concepts in pharma products.
CO4	**Evaluate** promotional and branding strategies.
CO5	**Evaluate** market research data for strategic decision-making.

Pharmaceutical Regulatory Science

Course Outcomes

CO No.	Course Outcome
CO1	**Explain** the drug regulatory framework in India and abroad.
CO2	**Apply** regulatory documentation and submission procedures.
CO3	**Apply** guidelines for clinical and nonclinical studies.
CO4	**Evaluate** regulatory compliance strategies.
CO5	approval pathways for innovative products .