

Course Outcomes of the Courses

| Course code/Title | Course Outcomes | Bloom Level |
|--|---|---------------|
| B. Pharm –I(Sem I) | | |
| BP101T Human Anatomy and Physiology-I | On successful completion of the course, the students will be able to; | |
| | 1. Recall morphology, structure and functions of cell, skeletal, muscular, cardiovascular system of the human body. | Remembering |
| | 2. Tell various homeostatic mechanisms and their imbalances | Remembering |
| | 3. Explain various tissues of different systems of human body. | Understanding |
| | 4. Explain coordinated working pattern of different organs of each system | Understanding |
| | 5. Classify different types of bones in human body | Understanding |
| BP107 P Human Anatomy and Physiology-I | On successful completion of the course, the students will be able to; | |
| | 1. Recall relevance and significance of Human Anatomy and Physiology to Pharmaceutical Sciences. | Remembering |
| | 2. Summarize the various tissues of different systems of human body. | Understanding |
| | 3. Understand the composition and functions of blood component and mechanism of blood coagulation. | Understanding |
| | 4. Demonstrate experimental techniques related to physiology. | Understanding |
| | 5. Experiment with blood group determination, blood pressure measurement, blood cells counting. | Applying |

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
|--|--|---------------|
| B.Pharm –I(SemI) | | |
| BP102T Pharmaceutical Analysis –I | On successful completion of the course, the students will be able to; | |
| | 1. Define the terminologies of volumetric analysis | Remembering |
| | 2. Classify the types of titrimetric processes | Understanding |
| | 3. Explain the principle of titrimetric analytical techniques | Understanding |
| | 4. Compare the advantages and disadvantages of different titrimetric processes | Analyzing |
| 5. Identify the appropriate analytical method for the analysis of drugs | Applying | |
| BP108 P Pharmaceutical Analysis –I | On successful completion of the course, the students will be able to; | |
| | 1. Name various volumetric glassware's | Remembering |
| | 2. Demonstrate the titration process | Understanding |
| | 3. Relate the theoretical concepts to the designed experiments | Understanding |
| | 4. Interpret the analytical data | Understanding |
| 5. Apply the knowledge of volumetric analysis in the preparation of reagents and solutions | Applying | |

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
|---------------------------|--|---------------|
| B.Pharm –I(SemI) | | |
| BP103T Pharmaceutics-I | On successful completion of the course, the students will be able to; | |
| | 1. classify pharmaceutical dosage forms | Understanding |
| | 2. Identify their professional role in the healthcare system | Understanding |
| | 3. Apply principles of pharmaceutical science in formulation and dispensing the various dosage forms | Applying |
| | 4. Solve the problem through the application of fundamental principles of pharmaceutical metrology | Applying |
| | 5. Apply pharmacopoeial standards for the preparation of various dosage forms | Applying |
| BP109P Pharmaceutics-I | On successful completion of the course, the students will be able to; | |
| | 1. Extend the acquired knowledge for the preparation of dosage forms | Understanding |
| | 2. Recommend and follow approaches to avoid incompatibilities and unwanted interactions | Understanding |
| | 3. Experiment with correct quantity of active and inactive pharmaceutical ingredients | Applying |
| | 4. Apply the knowledge for selection of dosage form for treatment of diseases | Applying |
| | 5. Demonstrate the quality control test for dosage forms | Understanding |

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
|--|--|---------------|
| B.Pharm –I(SemI) | | |
| BP104T Pharmaceutical Inorganic Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1.Recall the significance of inorganic compounds as medicines | Remembering |
| | 2.Classify the inorganic compounds according to therapeutic category | Understanding |
| | 3.Explain the mechanism of action of pharmaceutically useful Inorganic compounds | Understanding |
| | 4.Summarize the official pharmaceutical Inorganic compounds | Understanding |
| | 5.Extend the acquired knowledge towards newly launched inorganic formulations | Understanding |
| BP110 P Pharmaceutical Inorganic Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1.Name various pharmaceutical inorganic compounds | Remembering |
| | 2. Compare the properties inorganic compounds | Understanding |
| | 3. Demonstrate the identification tests for inorganic compounds | Understanding |
| | 4.Apply the knowledge for inorganic compounds | Applying |
| | 5.Develop skill for performing monograph studies | Applying |

Student Performance and Learning Outcomes (40)

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
|--------------------------------|---|---------------|
| B.Pharm –I(SemI) | | |
| BP105T Communication Skill | On successful completion of the course, the students will be able to; | |
| | 1. Understand the knowledge of soft's kills and communication skill. | Understanding |
| | 2. Understand the concept of teamwork, leadership, personal development skills | Understanding |
| | 3. Acquire the knowledge of body language and presentation skill | Applying |
| | 4. Acquire the knowledge of technical writing skill | Applying |
| | 5. Identify the concept of positive thinking that keeps the students in a good stead at the time of crisis. | Remembering |
| BP111 P Communication Skill | On successful completion of the course, the students will be able to; | |
| | 1. Demonstrate interview skills | Understanding |
| | 2. Develop Leadership qualities and essentials | Applying |
| | 3. Explain behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation | Understanding |
| | 4. Demonstrate communicate effectively (Verbal and Non Verbal) | Understanding |

Student Performance and Learning Outcomes (40)

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
|-----------------------------|---|---------------|
| B.Pharm –I(SemI) | | |
| BP106 RBT Remedial Biology | On successful completion of the course, the students will be able to; | |
| | 1. Recall animal & plant cellular biology | Remembering |
| | 2. Know classification system of both plants & animals | Understanding |
| | 3. Describe various tissue system and organ system in plant and animals | Understanding |
| | 4. Discuss theory of evolution | Understanding |
| | 5. Describe Anatomy and Physiology of plants and animals | Understanding |
| BP 112 RBP Remedial Biology | On successful completion of the course, the students will be able to; | |
| | 1. Identify various body component | Applying |
| | 2. Demonstrate basic components of anatomy & physiology of plant | Understanding |
| | 3. List components of anatomy & physiology animal with special reference to human | Remembering |
| | 4. Experiment with microscope for study of plant | Applying |

2.6.1 Course outcomes for all programs offered by the institution.

| Course code/Title | Course Outcomes | Bloom Level |
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| B.Pharm –I(SemI) | | |
| BP106 RMT Remedial Mathematics | On successful completion of the course, the students will be able to; | |
| | 1. Express abstract mathematical reasoning | Applying |
| | 2. Describe mathematical knowledge and understanding to help in the field of Clinical Pharmacy | Understanding |
| | 3. Apply mathematical concepts and principles to perform computations for Pharmaceutical Sciences. | Applying |
| | 4. Create, use and analyze mathematical representations and mathematical relationships | Creating |

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| B.Pharm –I(SemII) | | |
| BP201THuman Anatomy and Physiology-II | On successful completion of the course, the students will be able to; | |
| | 1. Define morphology, structure and functions of various organs of the human body | Remembering |
| | 2. Identify the various tissues and organs of different systems of human body | Applying |
| | 3. Explain mechanisms in the maintenance of normal functioning (homeostasis) of human body. | Understanding |
| | 4. Explain detailed about energy and metabolism | Understanding |
| BP207P Human Anatomy and Physiology-II | On successful completion of the course, the students will be able to; | |
| | 1. Perform experiments with like neurological reflex, body temperature measurement | Applying |
| | 2. Perform experiments like olfaction, gestation reflex and eye sight | Applying |
| | 3. Perform the hematological tests like blood cell counts, hemoglobin estimation, bleeding/clotting time etc. | Applying |

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| B.Pharm –I(SemII) | | |
| BP202T Pharmaceutical Organic Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1.Classify the organic compounds | Understanding |
| | 2.Explain the applications of organic Chemistry | Understanding |
| | 3.Demonstrate the stereo models for the study of stereochemistry | Understanding |
| | 4.Apply the principle of organic chemistry for pharmaceuticals | Applying |
| | 5.Develop an approach for organic synthesis | Applying |
| BP208P Pharmaceutical Organic Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1. Recognize the various organic compounds by their structures. | Remembering |
| | 2. Classify the heterocyclic compounds based on their ring structures | Understanding |
| | 3. Apply IUPAC nomenclature to the simple heterocyclic compounds | Applying |
| | 4. Draw structures of the simple heterocyclic compounds | Applying |
| | 5. Write the reactions of heterocyclic compounds | Applying |

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| B.Pharm –I(SemII) | | |
| BP203T Biochemistry-I | On successful completion of the course, the students will be able to; | |
| | 1. Know catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes | Remembering |
| | 2. Recall Structure and function of genome | Remembering |
| | 3. Explain nutrient metabolism in physiological & pathological conditions | Understanding |
| | 4. Explain functions of DNA in the synthesis of RNAs and proteins. | Understanding |
| BP209 P BiochemistryI | On successful completion of the course, the students will be able to; | |
| | 1. Perform experiments with qualitative and quantitative estimation of the biological macromolecules. | Applying |
| | 2. Interpretation of data emanating from a clinical test lab. | Evaluating |
| | 3. Explain physiological conditions influence the structures and re -activities of biomolecules. | Evaluating |
| | | |

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| B.Pharm –I(SemII) | | |
| BP204TPathophysiology in Pharmacy | On successful completion of the course, the students will be able to; | |
| | 1.Name the signs and symptoms of the diseases | Remembering |
| | 2.Describe the etiology and pathogenesis of the selected disease states | Understanding |
| | 3.Explain the complications of the diseases | Understanding |
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| B.Pharm –I(SemII) | | |
| BP205T Computer Application in Pharmacy | On successful completion of the course, the students will be able to; | |
| | 1.Know the various types of application of computer in pharmacy | Remembering |
| | 2. Know the various types of database | Understanding |
| | 3.Know the various application of database in pharmacy | Understanding |
| | 4.Applying data analysis in preclinical development | Applying |
| | | |
| P210P Computer Application in Pharmacy | On successful completion of the course, the students will be able to; | |
| | 1.Creating and working with database | Creating |
| | 2.Design and development of database | Evaluating |
| | 3.Evaluate table form database | Evaluating |
| | 4. retrieving information from database | Analyzing |
| | | |

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| B.Pharm –I(SemII) | | |
| BP206T Environmental Science | On successful completion of the course, the students will be able to; | |
| | 1.Know about the environment and its allied problems | Remembering |
| | 2.Support to attain harmony withNature | Evaluating |
| | 3.Create the awareness about environmental problems among learners | Creating |
| | 4.Develop skills to identifying and solving environmental problems | Applying |
| | | |

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| B.Pharm –II(SemIII) | | |
| BP301T Pharmaceutical Organic chemistry-II | On successful completion of the course, the students will be able to; | |
| | 1. Recall structure, name and the type of isomerism of the organic compound | Remembering |
| | 2. List of reaction, name the reaction and orientation of reactions | Remembering |
| | 3. Explain reactivity/stability of compounds | Understanding |
| | 4. Explain general methods of preparation of organic compounds | Understanding |
| | | |
| BP305P Pharmaceutical Organic Chemistry-II | On successful completion of the course, the students will be able to; | |
| | 1. Identify mechanisms and orientation of chemical reactions | Applying |
| | 2. Perform experiment with synthesis of organic compounds | Applying |
| | 3. Explain about the electrophilic and nucleophilic reactions. | Understanding |
| | | |
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| B.Pharm –II(SemIII) | | |
| BP302T Physical Pharmaceutics-I | On successful completion of the course, the students will be able to; | |
| | 1. understand various physicochemical properties of drug molecules in the designing the dosage forms | Understanding |
| | 2. calculate and adjust dosage and dose regimen of medication | Remembering |
| | 3. choose rationally the adjuvants used for delivery and in formulation of biologically active molecules | Remembering |
| | 4. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms. | Applying |
| | | |
| BP306P Physical Pharmaceutics-I | On successful completion of the course, the students will be able to; | |
| | 1. Operate different pharmaceutical laboratory instruments used in determining various physical properties | Remembering |
| | 2. Recommend, counsel and help patients to understand the method of administration of different disperse systems | Understanding |
| | 3. Perform skillfully laboratory processes needed in pharmacy practice as determination of physical properties of solution and suspensions | Applying |
| | 4. Perform compounding, packing, labeling and dispensing of disperse systems accurately and safely | Applying |
| | | |

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| B.Pharm –II(SemIII) | | |
| BP303T Pharmaceutical Microbiology-I | On successful completion of the course, the students will be able to; | |
| | 1. Basic Knowledge of morphological identification, nutrition, cultivation and preservation of various microorganisms | Remembering |
| | 2.Explain importance and implementation of sterilization in pharmaceutical processing and industry | Understanding |
| | 3. Explain cell culture technology and its applications in pharmaceutical industries. | Understanding |
| | 4. Plan in aseptic area without microbial contamination | Applying |
| | | |
| P307P Pharmaceutical Microbiology-I | On successful completion of the course, the students will be able to; | |
| | 1. Name equipment used for sterilization of pharmaceuticals | Remembering |
| | 2. Demonstrate microbiological standardization of Pharmaceuticals | Understanding |
| | 3. Identify various types of microorganism | Applying |
| | 4. Perform sterility testing of pharmaceutical products | Applying |
| | | |

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| B.Pharm –II(SemIII) | | |
| BP304T Pharmaceutical Engineering | On successful completion of the course, the students will be able to; | |
| | 1. Define various unit operations and explain their importance | Remembering |
| | 2. Define various separation& purification techniques and its significance in pharmacy | Remembering |
| | 3. Name the devices controls the fluid flow for pharmaceutical liquid. | Remembering |
| | 4. Demonstrate newly emerging aspects of pharmaceutical engineering | Understanding |
| | 5. Apply engineering principles to address issues in various pharmaceutical processes | Applying |
| BP308PPharmaceutical Engineering | On successful completion of the course, the students will be able to; | |
| | 1.Recall fundamentals of unit operation& its significance in pharmacy | Remembering |
| | 2.Name the various unit operation used in Pharma Industry | Remembering |
| | 3.Explain importance of purification during pharmaceutical processing | Remembering |
| | 4.Demonstrate application of unit operation in formulation development | Understanding |
| | 5.Apply engineering principle for enhancement product output | Applying |

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| B.Pharm –II(SemIV) | | |
| BP401T Pharmaceutical Organic chemistry-III | On successful completion of the course, the students will be able to; | |
| | 1.Know the medicinal uses and other applications of organic compounds | Remembering |
| | 2.Understand the methods of preparation and properties of organic compounds | Understanding |
| | 3.Explain the stereo chemical aspects of organic compounds and stereo chemical reactions | Understanding |
| | 4.Explain isomerism phenomena of drug | Understanding |
| | | |

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| B.Pharm –II(SemIV) | | |
| BP402T Medicinal Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1.Understand general structural features of substances having therapeutic value | Understanding |
| | 2.Detailed chemistry, nomenclature along with physicochemical properties of the drugs | Understanding |
| | 3.Know modes of actions and related adverse effects | Remembering |
| | 4.Understand chemical influences on biodisposition, drug-drug interactions | Understanding |
| | 5. Identify pathways for drug metabolism | Applying |
| BP406P Medicinal Chemistry-I | On successful completion of the course, the students will be able to; | |
| | 1.Recall the basic requirements for synthesis and assay of drugs | Remembering |
| | 2. Explain the techniques involved in isolation and purification of drugs and intermediates | Understanding |
| | 3.Analyze the selected drugs present in dosage forms and to determine the percentage purity | Analyzing |
| | 4.Determine the physicochemical property of drugs and draw its importance | Understanding |

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| B.Pharm –I(SemII) | | |
| BP403T Physical Pharmaceutics-II | On successful completion of the course, the students will be able to; | |
| | 1 explain the role of particle size, electrolyte and rheology in pharmaceuticals | Understanding |
| | 2 identify and explain the physicochemical and formulation properties of a drug that influence its absorption and stability | Remembering |
| | 3 Know the principles of chemical kinetics and to use them for stability testing and determination of expiry date of formulations | Understanding |
| | 4 Recognize basic rules and equations regarding physical principles essential for pharmaceutical applications | Applying |
| | 5 Demonstrate uses of physicochemical properties in the formulation development and evaluation of dosage forms. | Applying |
| BP407P Physical Pharmaceutics-II | On successful completion of the course, the students will be able to; | |
| | 1 Operate different pharmaceutical laboratory instruments used in determining various physical properties such as surface tension, viscosity, particle size and complexes | Remembering |
| | 2 Work effectively in a team to measure and understand various physical properties | Understanding |
| | 3 Solve problems related to stability, flow property and compressibility | Understanding |
| | 4 Perform skillfully some laboratory processes needed in pharmacy practice as determination of physical properties of powders and liquid dosage form | Applying |

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| B.Pharm –II(SemIV) | | |
| BP404T Pharmacology-I | On successful completion of the course, the students will be able to; | |
| | 1. Define the fundamental concepts of pharmacology and pharmacokinetics | Remembering |
| | 2. Understand the basics of pharmacodynamics, adverse reactions, drug interactions and drug discovery | Understanding |
| | 3. Identify the role of neurohumoral transmission and drugs acting on peripheral nervous system. | Applying |
| | 4. Analyze the functions of neurotransmitters and drugs acting on central nervous system. | Analyzing |
| | 5. Appraise the pharmacology of psychopharmacological agents | Evaluating |
| BP408P Pharmacology-I | On successful completion of the course, the students will be able to; | |
| | 1. Learn about basic instruments, common laboratory animals used in experimental pharmacology and to organize animal house as per the CPCSEA guidelines. | Understanding |
| | 2. Demonstrate the common laboratory techniques like routes of administration, blood withdrawal for animal studies | Understanding |
| | 3. Interpret the effects of various drugs on animals and correlate with humans | Applying |
| | 4. Evaluate the pharmacological screening of drugs in rats/mice | Evaluating |
| | 5. Predict various screening models for anticonvulsant and anxiolytic activity | Creating |

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| B.Pharm –II(SemIV) | | |
| BP405T Pharmacognosy & Phytochemistry-I | On successful completion of the course, the students will be able to; | |
| | 1. Recall the history, scope and development of pharmacognosy. | Remembering |
| | 2. Remember different sources of crude drugs and also classify them accordingly | Remembering |
| | 3. Illustrate students about cultivation, collection, processing and storage of crude drugs. | Understanding |
| | 4. Analyze quality of crude drugs. | Analyzing |
| | 5. Plan systematic pharmacognostic study of primary metabolites, ayurvedic drugs, marine drugs and teratogens. | Applying |
| BP409P Pharmacognosy & Phytochemistry-I | On successful completion of the course, the students will be able to; | |
| | 1. Remember different morphological and microscopical characteristic features of crude drugs. | Remembering |
| | 2. Understand the cellular structure of crude drugs. | Understanding |
| | 3. Evaluate the crude drugs by quantitative evaluation methods. | Evaluating |
| | 4. Evaluate the crude drugs by physical methods of evaluation. | Evaluating |
| | 5. Evaluate the crude drugs by chemical methods of evaluation. | Evaluating |

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| B.Pharm –III(SemV) | | |
| BP501T Medicinal Chemistry- II | On successful completion of the course, the students will be able to; | |
| | 1. Recall the classification of drugs obtained by natural and synthetic route | Remembering |
| | 2. Explain the biological targets for medicinal compounds | Understanding |
| | 3. Apply the knowledge of biochemical processes to understand the mechanism of action and therapeutic uses of drugs | Applying |
| | 4. Understand the relationships between structure of compound and its activity | Understanding |
| | 5. Discuss the significance, advantages and limitations of drugs | Understanding |

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|------------------------------|---|-------------|
| B.Pharm –III(SemV) | | |
| BP502T Industrial Pharmacy-I | On successful completion of the course, the students will be able to; | |
| | 1.Apply theoretical knowledge for development of various dosage forms | Applying |
| | 2.Solve incompatibility & degradation problem of drugs | Applying |
| | Analyze relationships between environmental factor and dosage form instability | Analyzing |
| | 3.Explain comparison between different dosage form and their needs for community | Evaluating |
| | | |
| BP506P Industrial Pharmacy-I | On successful completion of the course, the students will be able to; | |
| | 1. Identify various pathways of drug degradation through experiment | Applying |
| | 2.Solve the problem related to dispersion system by choosing appropriate excipients | Applying |
| | 3.Design and development modern dosage forms | Evaluating |
| | 4. Evaluate dosage form as per regulatory guidelines | Evaluating |
| | 5. Improve shelf life of life saving drug for community | Creating |

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| B.Pharm –II(SemIII) | | |
| BP503T Pharmacology-II | On successful completion of the course, the students will be able to; | |
| | 1. Relate the relative pros and cons in the use of drugs for various cardiac complications. | Understanding |
| | 2. Illustrate the drugs acting on hematopoietic system, shock diuretics and anti-diuretics. | Understanding |
| | 3. Identify the role of autacoids and related drugs. | Understanding |
| | 4. Analyze and summarize the drugs acting on endocrine system. | Analyzing |
| | 5. Predict principles of bioassay and to construct the bioassay methods of various compounds | Creating |
| BP507P Pharmacology-II | On successful completion of the course, the students will be able to; | |
| | 1. Understand the concept of in-Vitro Pharmacology | Understanding |
| | 2. Study the methods employed in in-Vitro Pharmacology | Creating |
| | 3. Evaluate the effect of drugs in preclinical models | Evaluating |
| | 4. Determination of drug concentration by bioassay | Analyzing and Applying |
| | | |

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| B.Pharm –III(SemV) | | |
| BP504T Pharmacognosy and Phytochemistry-II | On successful completion of the course, the students will be able to; | |
| | 1. Know the origin of various phytochemicals | Understanding |
| | 2. Classify crude drugs from various phytochemical classes. | Understanding |
| | 3. Explain pharmacognostic account of crude drugs from phytochemical classes. | Understanding |
| | 4. Compare methods of extraction & underlying rationale of qualitative & quantitative analysis of various phytochemical classes | Analyzing |
| | 5. To know the modern extraction, isolation and identification and characterization techniques | Creating |
| BP508P Pharmacognosy and Phytochemistry-II | On successful completion of the course, the students will be able to; | |
| | 1. Identify the parts of plants from its morphological & microscopical features | Applying |
| | 2. Able to conduct extractions/isolations of phytochemicals. | Creating |
| | 3. Able to separate, identify phytochemicals by chromatography & judge its quality relevance. | Applying |
| | 4. Judge significance of chemical evaluation & its quality relevance. | Evaluating |
| | | |

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| B.Pharm –III(SemV) | | |
| BP505T Pharmaceutical Jurisprudence | On successful completion of the course, the students will be able to; | |
| | 1. Recall the pharmaceutical legislations, ethics, right to information, medical termination of pregnancy and intellectual property rights | Remembering |
| | 2. Relate the significance of Drugs and cosmetics act 1940 and its rules 1945 in relation to import and manufacture of drugs | Understanding |
| | 3. Understand the functions of pharmacy councils and implementation of education regulations in pharmacy | Understanding |
| | 4. Discuss the salient features of drugs and magic remedies act, prevention of cruelty to animals act and drugs price control order | Understanding |
| | | |

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| B.Pharm –III(SemVI) | | |
| BP601T Medicinal Chemistry-III | On successful completion of the course, the students will be able to; | |
| | 1. Demonstrate the importance of chemistry in the development and application of therapeutic drugs | Understanding |
| | 2. Develop an understanding of the physico-chemical properties of drugs. | Understanding |
| | 3. Understand how changes in the chemical structure of drugs affect efficacy | Understanding |
| | 4. Understand how current drugs were developed and how new scientific techniques will provide future drugs. | Understanding |
| | 5. Provide ability to make optimal patient-specific therapeutic decisions in clinical set up. | Understanding |
| BP607P Medicinal Chemistry-III | On successful completion of the course, the students will be able to; | |
| | 1. Define and select the method for preparation of drugs and intermediates | Remembering |
| | 2. Explain principle underlying the preparation of drugs | Understanding |
| | 3. Choose the method for assay of drugs by quantitative analysis | Applying |
| | 4. Compare the advantages of microwave technique over conventional synthesis of drugs | Evaluating |
| | 5. Predict the relation between physicochemical properties and biological activity | Creating |

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| B.Pharm –III(SemVI) | | |
| BP602T Pharmacology- III | On successful completion of the course, the students will be able to; | |
| | 1.Understand the mechanism of drug action and its relevance in the treatment of different infectious diseases | Understanding |
| | 2.Comprehend the principles of toxicology and treatment of various poisonings | Comprehension |
| | 3.Appreciate correlation of pharmacology with related medical sciences | Analysis and Evaluation |
| | | |
| BP608P Pharmacology- III | On successful completion of the course, the students will be able to; | |
| | 1.Understand the concept of in-Vivo Pharmacology | Knowledge and Understanding |
| | 2.Study the pathological assays methods employed in Pharmacology | Analysis and Comprehension |
| 3. Study bio statistical methods in experimental pharmacology and calculation of pharmacokinetic parameters | Application and Evaluation | |
| | | |

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| B.Pharm –III(SemVI) | | |
| BP603T Herbal Drug Technology | On successful completion of the course, the students will be able to; | |
| | 1. Recall the fundamental concepts of herbal raw materials and biodynamic agriculture techniques | Remembering |
| | 2. Understand the concept of nutraceuticals and herbal food interactions. | Understanding |
| | 3. Apply the knowledge for evaluation and preparation of herbal formulations | Applying |
| | 4. Remember the regulatory guidelines for the assessment of herbal drugs and patenting | Remembering |
| | 5. Illustrate the scope and future prospects of the herbal drug industry | Understanding |
| BP609 P Herbal Drug Technology | On successful completion of the course, the students will be able to; | |
| | 1. Remember different preliminary phytochemical screening of crude drugs | Remembering |
| | 2. Evaluate the various herbal formulations | Evaluating |
| | 3. Apply monographic analysis of herbal drugs as per pharmacopoeias | Applying |
| | 4. Evaluate parameters such as aldehyde and phenol contents | Evaluating |
| | | |

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| B.Pharm –III(SemVI) | | |
| BP604T Biopharmaceutics and Pharmacokinetics | On successful completion of the course, the students will be able to; | |
| | 1.Recall human anatomy of human body | Remembering |
| | 2.Recall various theories of dissolution of drug molecules | Remembering |
| | 3.Relate different mechanism of absorption of compounds with respect to their biological membrane | Remembering |
| | 4.Explain the linkage between absorption & the distribution of drug molecules | Understanding |
| | 5.Explain in detail various mechanism of eliminations for drug molecules | Understanding |
| | | |

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| B.Pharm –III(SemVI) | | |
| BP605TPharmaceutical Biotechnology | On successful completion of the course, the students will be able to; | |
| | 1. Remember the basic concepts of biotechnology with respect to enzyme technology, immunology, microbial technology, genetic engineering and protein engineering | Remembering |
| | 2. Understand the steps involved in development of biosensors, recombinant products and concepts of immunology. | Understanding |
| | 3. Compare the genetic organization of different types of cells and to list detection methods at genomic level, gene transfer methods and mutagens. | Applying |
| | 4. Explain general requirements of fermentative production and biotechnological production of pharmaceuticals. | Understanding |
| | 5. Elaborate on microbial genetics, biotransformation and various immunological products. | Applying |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|----------------------------|---|-------------|
| B.Pharm –III(SemVI) | | |
| BP606 T Quality Assurance | On successful completion of the course, the students will be able to; | |
| | 1. Remember the concepts of quality assurance, quality management and ICH guidelines. | Remembering |
| | 2. Explain the ISO, NABL and QbD concepts in pharmaceutical industry | Remembering |
| | 3. Analyze quality control parameters and good laboratory practices in pharmaceutical industry | Analyzing |
| | 4. Evaluate the complaints and documents maintenance in industry with required regulatory guidelines. | Evaluating |
| | 5. Elaborate the calibration, validation procedures and good warehousing practices. | Evaluating |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|---|--|---------------|
| B.Pharm –IV(SemVII) | | |
| BP701T Instrumental Methods of Analysis | On successful completion of the course, the students will be able to; | |
| | 1.Understand selected instrumental analytical techniques for pharmaceuticals | Understanding |
| | 2. Maximize knowledge on characterization and estimation of ions by spectroscopical techniques | Creating |
| | 3. Categorize different organic and inorganic compounds using suitable spectroscopic and chromatographic techniques. | Applying |
| | 4. Elaborate various principles, theory and instruments employed for the characterization and analysis of drugs. | Crating |
| BP705P Instrumental Methods of Analysis | On successful completion of the course, the students will be able to; | |
| | 1. Recall the principle involved in spectroscopy and importance of absorption maximum in the estimation of organic compounds | Remembering |
| | 2. Experiment with selected drugs by UV, Visible spectroscopy and flourimetry | Applying |
| | 3. Estimate the amount of sodium and potassium ions by flame photometry | Creating |
| | 4. Analyze the various organic compounds using turbidimetry | Analyzing |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|-------------------------------|--|---------------|
| B.Pharm –II(SemIII) | | |
| BP702T Industrial Pharmacy-II | On successful completion of the course, the students will be able to; | |
| | 1. Explains pilot plant scale up techniques and SUPAC guidelines | Understanding |
| | 2. Outline various aspects of technology transfer involved from R & D to productions. | Understanding |
| | 3. Choose and to apply various responsibilities and regulatory requirements for drug approval. | Applying |
| | 4. Analyze and study various quality management systems in pharmacy field. | Analyzing |
| | 5. Determine the requirements and approval procedures for new drugs by Indian regulatory | Evaluating |

| Course code/Title | Course Outcomes | Bloom Level |
|---------------------------|--|---------------|
| B.Pharm –III(SemV) | | |
| BP703T Pharmacy Practice | On successful completion of the course, the students will be able to; | |
| | 1. Acquire the knowledge on organization of hospitals, various methods of distribution and hospital formulary in hospitals and apply it in the practice of pharmacy. | Understanding |
| | 2. Outline the organization and structure of community pharmacy and to build ability to design and run own community pharmacy. | Understanding |
| | 3. Demonstrate the knowledge of therapeutic drug monitoring, patient medication history interview and to apply the knowledge on assessment of drug related problems | Understanding |
| | 4. Explain the principles of drug store management and inventory control methods during practice. | Understanding |
| | 5. Interpret clinical laboratory tests of specific disease states to provide better patient centered service | Evaluating |

| Course code/Title | Course Outcomes | Bloom Level |
|--------------------------------------|--|-------------|
| B.Pharm –III(SemV) | | |
| BP704T Novel Drug Delivery System | On successful completion of the course, the students will be able to; | |
| | 1. Explain needs & safety of novel pharmaceuticals for community | Evaluating |
| | 2. Justify proper use of Novel drug delivery system for various purposes | Evaluating |
| | 3. Understand and apply basic concepts of nanotechnology and nanoscience | Applying |
| | 4. Discuss & improve stability aspect of pharmaceutical for patient safety. | Creating |
| | 5. Design & develop novel drug delivery system for community | Creating |

| Course code/Title | Course Outcomes | Bloom Level |
|--|--|-------------|
| B.Pharm –III(SemVI) | | |
| BP705P Instrumental Methods of Analysis | On successful completion of the course, the students will be able to; | |
| | 1. Recall the principle involved in spectroscopy and importance of absorption maximum in the estimation of organic compounds | Remembering |
| | 2. Experiment with selected drugs by UV, Visible spectroscopy and flourimetry | Applying |
| | 3. Estimate the amount of sodium and potassium ions by flame photometry | Creating |
| | 4. Analyze the various organic compounds using turbidimetry | Analyzing |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|----------------------------|--|-------------|
| B.Pharm –IV(SemVII) | | |
| BP706PS Practice School | On successful completion of the course, the students will be able to; | |
| | 1. Developfamiliarize with the aspects of realistic practice in the domain of interest. | Applying |
| | 2. Develop knowledge and skills related to practical learning in the domain of interest. | Applying |
| | 3. Analyze the problems encountered during realistic practice and make use of theoretical knowledge to resolve those problems. | Analyzing |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|---|--|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP801T Biostatistics and Research Methodology | On successful completion of the course, the students will be able to; | |
| | 1. Explain the operation of M.S. Excel, SPSS, R and MINITAB , DoE (Design of Experiment) | Evaluating |
| | 2. Explain the various statistical techniques to solve statistical problems | Evaluating |
| | 3. Appreciate statistical techniques in solving the problems. | Evaluating |
| | | |
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| Course code/Title | Course Outcomes | Bloom Level |
|---------------------------------------|---|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP802T Social and Preventive Pharmacy | On successful completion of the course, the students will be able to; | |
| | 1. Examine consciousness/realization of current issues related to health and pharmaceutical problems within the country | Applying |
| | 2. Build the critical way of thinking based on current healthcare development | Creating |
| | 3. Evaluate alternative ways of solving problems related to health and pharmaceutical issues | Evaluating |

| Course code/Title | Course Outcomes | Bloom Level |
|-------------------------------------|--|---------------|
| B.Pharm –IV(SemVIII) | | |
| BP803ET Pharma Marketing Management | On successful completion of the course, the students will be able to; | |
| | 1. Understanding of marketing concepts and techniques and their applications in the pharmaceutical industry | Understanding |
| | 2. Survey marketing management groom the people for taking a challenging role in Sales and Product management. | Analyzing |
| | 3. Distinction between marketing & selling environment; Industry and competitive analysis; | Analyzing |
| | 4. Analyzing consumer buying behavior; industrial buying behavior. | Analyzing |
| | 5. Discuss pricing methods and strategies, issues in price management in pharmaceutical industry | Creating |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|--|--|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP804 ET Pharmaceutical Regulatory Science | On successful completion of the course, the students will be able to; | |
| | 1. Discuss about the process of drug discovery and development | Creating |
| | 2. Explain the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals | Evaluating |
| | 3. Explain Pharmacovigilance - safety monitoring in clinical trials | Evaluating |
| | 4. Analyze export of pharmaceutical products in overseas market | Analyzing |
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| Course code/Title | Course Outcomes | Bloom Level |
|------------------------------|---|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP805ET Pharmacovigilance | On successful completion of the course, the students will be able to; | |
| | 1. Analyze Adverse drug reaction reporting systems and communication in pharmacovigilance | Analyzing |
| | 2. Explain Drug safety evaluation in pediatrics, geriatrics, pregnancy and lactation | Evaluating |
| | 3. Discuss Writing case narratives of adverse events and their quality | Creating |
| | 4. Discuss International standards for classification of diseases and drugs | Creating |
| | 5. Determine Detection of new adverse drug reactions and their assessment | Evaluating |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|--|---|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP806ET Quality Control and Standardization of Herbals | On successful completion of the course, the students will be able to; | |
| | 1. Explain WHO guidelines for quality control of herbal drugs | Evaluating |
| | 2. Explain quality assurance in herbal drug industry | Evaluating |
| | 3. Discuss the regulatory approval process and their registration in Indian and international markets | Creating |
| | 4. Discuss EU and ICH guidelines for quality control of herbal drugs | Creating |
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| Course code/Title | Course Outcomes | Bloom Level |
|------------------------------------|--|-------------|
| B.Pharm –IV(SemVIII) | | |
| BP807ET Computer Aided Drug Design | On successful completion of the course, the students will be able to; | |
| | 1. Explain computers in preclinical development | Evaluating |
| | 2. Explain Optimization Techniques in Pharmaceutical Formulation | Evaluating |
| | 3. Summarize Computers in Market Analysis | Evaluating |
| | 4. Relate artificial intelligence (AI) and robotics | Creating |
| | 5. The design of new drug molecules using molecular modeling software | Creating |
| | | |

| Course code/Title | Course Outcomes | Bloom Level |
|------------------------------------|--|---------------|
| B.Pharm –IV(SemVIII) | | |
| BP808ET Cell and Molecular Biology | On successful completion of the course, the students will be able to; | |
| | 1. Summarize cell and molecular biology history. | Understanding |
| | 2. Explain the chemical foundations of cell biology. | Evaluating |
| | 3. Describe cellular membrane structure and function | Evaluating |
| | 4. Describe basic molecular genetic mechanisms | Evaluating |
| | | |
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| Course code/Title | Course Outcomes | Bloom Level |
|-----------------------------|--|---------------|
| B.Pharm –IV(SemVIII) | | |
| BP809ET Cosmetic Science | On successful completion of the course, the students will be able to; | |
| | 1. Understand the principles of formulation and building blocks of various skin care products and hair care products | Understanding |
| | 2. Discuss the role of herbs in cosmetics and analytical methods for cosmetics | Creating |
| | 3. Evaluate various cosmetics using analytical instruments. | Evaluating |
| | 4. Apply the knowledge gained and develop cosmetics to solve problems associated with skin, hair and scalp. | Applying |
| | | |
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| Course code/Title | Course Outcomes | Bloom Level |
|---|--|---------------|
| B.Pharm –IV(SemVIII) | | |
| BP810ET Experimental Pharmacology | On successful completion of the course, the students will be able to; | |
| | 1. Outline various preclinical screening models for diuretics, antiasthmatics and drugs acting on CNS. | Understanding |
| | 2. Construct preclinical screening models for drugs acting on ANS, eye and local anesthetics. | Applying |
| | 3. Analyze the preclinical screening models for drugs acting on CVS. | Analyzing |
| | 4. Appraise the preclinical screening models for drugs like antiulcer, antidiabetic and anticancer agents. | Evaluating |
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| Course code/Title | Course Outcomes | Bloom Level |
|---|---|---------------|
| B.Pharm –IV(SemVIII) | | |
| BP811ET Advanced Instrumentation Techniques | On successful completion of the course, the students will be able to; | |
| | 1.Simplify the importance of calibration and validation of analytical instruments as per ICH and USFDA guidelines | Creating |
| | 2.Elaborate various principles and procedure employed in radio immuno assay and extraction techniques | Creating |
| | 3. Detail the principle, instrumentation and applications of hyphenated techniques. | Understanding |
| | 4.Understand the principle and procedure involved in selected instrumental analytical techniques | Understanding |