**COURSE OUTCOMES**

**Bachelor of Pharmacy**

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| **S No** | **Class & Semester** | **Course & Course Code** | **COs** | **Course Outcomes** |
| 01 | B Pharm & I-Sem | Human Anatomy & Physiology-I & BP101T | CO 1 | List the levels of structural organization and body systems. |
| CO2 | Discuss the functions of bones in the axial and appendicular skeletal systems. |
| CO3 | Demonstrate different joint movements using anatomical models. |
| CO4 | Identify skin structures in histological slides. |
| CO5 | Evaluate the clinical significance of electrocardiograms and cardiovascular disorders. |
| 02 | B Pharm & I-Sem | Pharmaceutical Analysis – I & BP102T | CO 1 | Define pharmaceutical analysis, explain various techniques of analysis, and describe methods for preparing and standardizing molar and normal solutions. |
| CO2 | Explain the theories behind acid-base titrations, classify acid-base titrations, and apply these principles to neutralization curves and estimation using non-aqueous titrations. |
| CO3 | Apply the principles of precipitation, complexometric, and gravimetric titrations to estimate substances like sodium chloride, magnesium sulfate, and barium sulfate. |
| CO4 | Analyze redox titration methods such as cerimetry, iodimetry, and bromatometry, and apply these principles to determine the concentration of various substances. |
| CO5 | Evaluate electrochemical methods of analysis, including conductometry, potentiometry, and polarography, to determine the concentration of substances and their applications in pharmaceutical analysis. |
| 03 | B Pharm & I-Sem | Pharmaceutics – I & BP103T | CO 1 | Apply comprehensive knowledge and basic principles of Pharmaceutical and other associated sciences. |
| CO2 | Demonstrate an ability to identify, formulate and solve complex problems of Pharmaceutical Industry, Community & Hospital Pharmacy. |
| CO3 | Apply and demonstrate their professional skills and comprehensive knowledge to carry out research in the core and applied areas of pharmaceutical sciences. |
| CO4 | Demonstrate effective planning, delegation skills, organizational skills and resource management abilities for their effective implementation. |
| CO5 | Utilize the principles of scientific enquiry, thinking analytically, and critically, for solving pharmaceutical problems and drawing decisions. |
| 04 | B Pharm & I-Sem | Pharmaceutical Inorganic Chemistry & BP104T | CO 1 | Recall the history of pharmacopoeia, types of impurities in pharmaceutical substances, and principles of limit tests for various impurities like Chloride, Sulphate, Iron, Arsenic, Lead, and Heavy metals. |
| CO2 | Explain the concepts of buffer equations, buffer capacity, and the role of electrolytes in pharmaceutical systems, as well as the physiological acid-base balance and dental products for caries treatment. |
| CO3 | Apply knowledge of gastrointestinal agents, including antacids, cathartics, and antimicrobials, in understanding their medicinal properties, mechanisms, and therapeutic applications. |
| CO4 | Analyze the uses and mechanisms of miscellaneous compounds such as expectorants, emetics, haematinics, poisons, and antidotes in clinical applications. |
| CO5 | Describe the principles of radioactivity, properties of different radiation types, and the pharmaceutical applications of radiopharmaceuticals, including storage and safety precautions. |
| 05 | B Pharm & I-Sem | Communication Skills & BP105T | CO 1 | Identify the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation |
| CO2 | Describe communicate effectively (Verbal and Non Verbal) |
| CO3 | Effectively present the team as a team player |
| CO4 | Perform interview skills |
| CO5 | Present Leadership qualities and essentials |
| 06 | B Pharm & I-Sem | Remedial biology & BP106RBT | CO 1 | Recall the characteristics, classification, and major features of living organisms, including the five kingdoms and the basics of binomial nomenclature. |
|  |  |  | CO2 | Explain the composition, structure, and functions of body fluids, including blood and lymph, and describe the human circulatory, digestive, and respiratory systems. |
|  |  |  | CO3 | Apply knowledge of human excretory and nervous systems to explain the processes of excretion, urine formation, nerve impulse conduction, and the functions of different brain regions. |
|  |  |  | CO4 | Describe the importance of essential minerals for plant nutrition, the nitrogen cycle, and the process of photosynthesis in plants. |
|  |  |  | CO5 | Identify the phases of plant growth, types of tissues, and explain the structure and functions of cells and their organelles. |
| 07 | B Pharm & I-Sem | Remedial Mathematics & BP106RMT | CO 1 | **Apply** the concepts of partial fractions and logarithms to solve pharmaceutical and chemical kinetics problems. |
|  |  |  | CO2 | **Analyze** matrices, determinants, and their properties to solve systems of linear equations and pharmacokinetic equations. |
|  |  |  | CO3 | **Evaluate** derivatives of algebraic, logarithmic, and trigonometric functions and apply differentiation techniques in pharmaceutical calculations. |
|  |  |  | CO4 | **Solve** problems related to analytical geometry and integration techniques, including their applications in pharmaceutical sciences. |
|  |  |  | CO5 | **Formulate** and **solve** differential equations and apply Laplace transforms in modeling pharmacokinetic and chemical kinetics equations. |
| 08 | B Pharm & I-Sem | Human Anatomy & Physiology-I & BP107P | CO 1 | **Explain** the principles and working of a compound microscope and **demonstrate** its application in the microscopic study of epithelial, connective, muscular, and nervous tissues. |
|  |  |  | CO2 | Identify and classify axial and appendicular bones based on their anatomical features and significance in the human skeletal system. |
|  |  |  | CO3 | Demonstrate the use of a hemocytometer and perform hematological tests such as WBC and RBC count, bleeding time, clotting time, and hemoglobin estimation. |
|  |  |  | CO4 | **Determine** physiological parameters such as blood group, erythrocyte sedimentation rate (ESR), heart rate, pulse rate, and blood pressure, and **interpret** their clinical significance. |
|  |  |  | CO5 | Analyze the relationships between hematological parameters and physiological conditions, correlating test results with normal and pathological states. |
| 09 | B Pharm & I-Sem | Pharmaceutical Analysis – I & BP108P | CO 1 | Explain the principles and significance of limit tests for chloride, sulphate, iron, and arsenic in pharmaceutical compounds. |
|  |  |  | CO2 | Perform the preparation and standardization of titrants, including sodium hydroxide, sulfuric acid, sodium thiosulfate, potassium permanganate, and ceric ammonium sulfate, using appropriate analytical techniques. |
|  |  |  | CO3 | Conduct assay procedures for pharmaceutical compounds such as ammonium chloride, ferrous sulfate, copper sulfate, calcium gluconate, hydrogen peroxide, sodium benzoate, and sodium chloride, ensuring accurate standardization of titrants. |
|  |  |  | CO4 | Utilize electro-analytical techniques, including conductometric and potentiometric titrations, to determine the normality of strong and weak acids and bases. |
|  |  |  | CO5 | Interpret analytical data and validate results obtained from various titrimetric and electro-analytical methods to ensure the accuracy and precision of pharmaceutical analysis. |
| 10 | B Pharm & I-Sem | Pharmaceutics – I & BP109P | CO 1 | Explain the composition, preparation methods, and quality standards of various pharmaceutical dosage forms, including syrups, elixirs, and linctuses. |
|  |  |  | CO2 | Demonstrate the formulation and evaluation of pharmaceutical solutions, suspensions, and emulsions while ensuring compliance with official pharmacopoeial standards. |
|  |  |  | CO3 | Perform the preparation and quality assessment of powders, granules, and suppositories by applying suitable pharmaceutical techniques. |
|  |  |  | CO4 | Develop semisolid dosage forms such as ointments and gels and assess their consistency, spreadability, and stability. |
|  |  |  | CO5 | Formulate and validate the preparation of gargles and mouthwashes, ensuring their effectiveness and compliance with pharmaceutical guidelines. |
| 11 | B Pharm & I-Sem | Pharmaceutical Inorganic Chemistry & BP110P | CO 1 | Explain the principles and significance of limit tests for chloride, sulfate, iron, heavy metals, lead, and arsenic as per pharmacopoeial standards. |
|  |  |  | CO2 | Perform and interpret identification tests for inorganic compounds such as magnesium hydroxide, ferrous sulfate, sodium bicarbonate, calcium gluconate, and copper sulfate. |
|  |  |  | CO3 | Evaluate the purity of pharmaceutical substances by assessing swelling power, neutralizing capacity, and determination of potassium iodate and iodine in potassium iodide. |
|  |  |  | CO4 | Demonstrate the preparation of inorganic pharmaceuticals, including boric acid, potash alum, and ferrous sulfate, ensuring adherence to standard preparation methods |
|  |  |  | CO5 | Analyze and validate experimental results obtained from limit tests, purity tests, and preparation methods to ensure pharmaceutical quality and regulatory compliance. |
| 12 | B Pharm & I-Sem | Communication Skills & BP111P | CO 1 | Demonstrate fundamental communication skills by engaging in conversations, asking questions, and following social etiquette in different contexts. |
|  |  |  | CO2 | Identify and apply correct pronunciation techniques, including consonant and vowel sounds, to enhance verbal communication clarity. |
|  |  |  | CO3 | Develop active listening and comprehension skills while interpreting direct and indirect speech and various figures of speech to improve communication effectiveness. |
|  |  |  | CO4 | Construct well-structured written communication, including emails, formal writing, and reports, adhering to professional etiquette and clarity. |
|  |  |  | CO5 | Exhibit confidence in public speaking, interview handling, and presentation skills, ensuring effective and professional communication in diverse settings. |
| 13 | B Pharm & I-Sem | Remedial biology & BP112RBP | CO 1 | **Understand and Apply** the principles of microscopy, section cutting, mounting, and staining techniques to examine biological specimens. |
|  |  |  | CO2 | **Analyze and Identify** different plant and animal tissues, their modifications, and structural adaptations through microscopic and computational methods. |
|  |  |  | CO3 | **Evaluate and Differentiate** the histological characteristics of plant organs (Stem, Root, Leaf, Seed, Fruit, Flower) and animal structures (frog anatomy, bones). |
|  |  |  | CO4 | **Perform and Demonstrate** experiments related to blood group determination, blood pressure measurement, and tidal volume assessment. |
|  |  |  | CO5 | **Create and Develop** permanent slides and biological models for a better understanding of cellular structures, inclusions, and physiological functions. |
| 14 | B Pharm & II-Sem | Human Anatomy & Physiology-II & BP201T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 15 | B Pharm & II-Sem | Pharmaceutical Organic Chemistry I & BP202T | CO 1 | Recall the classification, nomenclature, and structural isomerism of organic compounds, including the IUPAC naming conventions for compounds with up to 10 carbon atoms. |
|  |  |  | CO2 | Explain the mechanisms of important organic reactions such as E1, E2, SN1, and SN2, and describe the impact of factors like reactivity, stereochemistry, and substitution on these reactions. |
|  |  |  | CO3 | Apply the concepts of hybridization, stability, and orientation to predict the outcomes of reactions in alkanes, alkenes, and conjugated dienes, such as electrophilic addition and ozonolysis. |
|  |  |  | CO4 | Analyze the reactivity and stability of various organic compounds (alkyl halides, alcohols, carbonyl compounds, carboxylic acids) and identify the factors that influence their chemical behavior in reactions. |
|  |  |  | CO5 | Evaluate the industrial and practical applications of organic compounds such as alcohols, aldehydes, ketones, and carboxylic acids in various fields including pharmaceuticals, cosmetics, and polymers. |
| 16 | B Pharm & II-Sem | Biochemistry& BP203T | CO 1 | Recall the classification, chemical nature, and biological roles of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids. |
|  |  |  | CO2 | Explain the metabolic pathways involved in carbohydrate and lipid metabolism, including glycolysis, citric acid cycle, and β-oxidation, and their physiological significance. |
|  |  |  | CO3 | Apply knowledge of enzyme kinetics and regulation to understand the role of enzymes in biochemical reactions and their therapeutic and diagnostic applications. |
|  |  |  | CO4 | Analyze the biochemical processes of nucleic acid metabolism, including DNA replication, transcription, and translation, and their role in genetic information transfer. |
|  |  |  | CO5 | Evaluate the impact of metabolic disorders such as glycogen storage diseases, hypercholesterolemia, and phenylketonuria, and propose therapeutic interventions based on biochemical principles. |
| 17 | B Pharm & II-Sem | Pathophysiology& BP204T | CO 1 | **Expertise:** Apply comprehensive knowledge and basic principles of Pharmaceutical and other associated sciences. |
|  |  |  | CO2 | **Professional Skills:** Demonstrate an ability to identify, formulate and solve complex problems of Pharmaceutical Industry, Community & Hospital Pharmacy. |
|  |  |  | CO3 | **Research Orientation:** Apply and demonstrate their professional skills and comprehensive knowledge to carry out research in the core and applied areas of pharmaceutical sciences. |
|  |  |  | CO4 | **PlanningAbilities:** Demonstrate effective planning, delegation skills, organizational skills and resource management abilities for their effective implementation. |
|  |  |  | CO5 | Utilize the principles of scientific enquiry, thinking analytically, and critically, for solving pharmaceutical problems and drawing decisions. |
| 18 | B Pharm & II-Sem | Computer Application in Pharmacy & BP205T | CO 1 | Recall the different number systems and conversion methods, along with the basics of information systems and software development. |
|  |  |  | CO2 | Apply web technologies (HTML, XML, CSS) and databases (MySQL, MS Access) to design and manage pharmacy-related applications. |
|  |  |  | CO3 | Analyze the use of computer applications in pharmacy, including drug information systems and electronic prescribing. |
|  |  |  | CO4 | Describe the objectives and impact of bioinformatics in pharmaceutical research and vaccine discovery. |
|  |  |  | CO5 | Apply data analysis tools (CDS, LIMS) in preclinical drug development and research data management. |
| 19 | B Pharm & II-Sem | Environmental sciences & BP206T | CO 1 | Recall the different types of natural resources (renewable and non-renewable) and their associated environmental problems. |
|  |  |  | CO2 | Explain the structure and function of various ecosystems, including forest, grassland, desert, and aquatic ecosystems. |
|  |  |  | CO3 | Analyze the causes and effects of environmental pollution, specifically air, water, and soil pollution. |
|  |  |  | CO4 | Apply knowledge of ecosystems to assess their roles in maintaining environmental balance and their impacts on biodiversity. |
|  |  |  | CO5 | Evaluate the effectiveness of various methods for controlling environmental pollution and propose strategies for sustainable resource use. |
| 20 | B Pharm & II-Sem | Human Anatomy & Physiology-II & BP207P | CO 1 | **Describe and Explain** the structure and functions of the integumentary, nervous, endocrine, digestive, respiratory, cardiovascular, urinary, and reproductive systems using specimens, models, and charts. |
|  |  |  | CO2 | **Demonstrate and Perform** general neurological examinations, sensory function assessments (olfaction, taste, vision, reflex activity), and physiological measurements such as body temperature, tidal volume, and vital capacity. |
|  |  |  | CO3 | **Analyze and Interpret** the role of the nervous and endocrine systems in homeostasis, including positive and negative feedback mechanisms, using experimental demonstrations. |
|  |  |  | CO4 | **Evaluate and Compare** blood parameters (total blood count) using a cell analyzer, body mass index (BMI), and pregnancy diagnosis tests to assess physiological health. |
|  |  |  | CO5 | **Develop and Construct** a deeper understanding of vital organ histology and reproductive health by examining permanent slides and studying family planning devices. |
| 21 | B Pharm & II-Sem | Pharmaceutical Organic Chemistry I & BP208P | CO 1 | **Understand and Explain** the principles of qualitative organic analysis, including preliminary tests, solubility, and detection of elements in unknown organic compounds. |
|  |  |  | CO2 | **Perform and Demonstrate** systematic qualitative analysis of organic compounds, including functional group identification, melting/boiling point determination, and derivative preparation. |
|  |  |  | CO3 | **Analyze and Interpret** experimental data to determine the identity of unknown organic compounds using functional group tests and literature comparison of melting/boiling points. |
|  |  |  | CO4 | **Evaluate and Validate** the composition and purity of organic compounds through confirmatory tests, including derivative preparation and melting/boiling point confirmation. |
|  |  |  | CO5 | **Design and Construct** molecular models of organic compounds to visualize structural relationships and functional group interactions. |
| 22 | B Pharm & II-Sem | Biochemistry& BP209P | CO 1 | **Explain and Understand** the principles of qualitative analysis of carbohydrates, proteins, and abnormal urine constituents. |
|  |  |  | CO2 | **Perform and Demonstrate** the quantitative estimation of reducing sugars and proteins using standard biochemical methods such as the DNSA and Biuret tests. |
|  |  |  | CO3 | **Analyze and Interpret** biochemical parameters, including blood creatinine, blood sugar, and serum total cholesterol, to assess physiological conditions. |
|  |  |  | CO4 | **Evaluate and Compare** the effects of temperature and substrate concentration on enzymatic reactions, particularly salivary amylase activity. |
|  |  |  | CO5 | **Design and Prepare** buffer solutions, measure pH, and investigate enzymatic hydrolysis of starch through controlled biochemical experiment |
| 23 | B Pharm & II-Sem | Computer Application in Pharmacy & BP210P | CO 1 | **Apply and Demonstrate** proficiency in designing questionnaires, creating HTML web pages, and using MS Word for generating mailing labels to collect and present data effectively. |
|  |  |  | CO2 | **Create and Develop** functional databases in MS Access to store, manage, and retrieve patient information, including the design of forms for data entry and modification. |
|  |  |  | CO3 | **Analyze and Interpret** drug information and adverse effects using online tools, and organize such information effectively in databases for easy retrieval. |
|  |  |  | CO4 | **Evaluate and Generate** reports, queries, and invoices in MS Access, ensuring accurate data storage and retrieval while producing clear and informative reports. |
|  |  |  | CO5 | **Design and Export** MS Access tables, queries, forms, and reports to web and XML pages for efficient data sharing and integration across platforms. |
| 24 | B Pharm & III-Sem | Pharmaceutical Organic Chemistry II & BP301T | CO 1 | Recall the structure and properties of benzene and its derivatives, including their analytical, synthetic, and resonance characteristics. |
|  |  |  | CO2 | **Explain** the mechanism of electrophilic substitution reactions such as nitration, sulphonation, and halogenation of benzene, and describe the influence of substituents on reactivity and orientation. |
|  |  |  | CO3 | **Demonstrate** the effect of various substituents on the acidity of phenols and the basicity of aromatic amines, using relevant examples. |
|  |  |  | CO4 | **Analyze** the reactivity of Friedel-Crafts alkylation and acylation reactions with benzene, discussing the limitations and applications of these reactions. |
|  |  |  | CO5 | **Evaluate** the medicinal and synthetic uses of polynuclear hydrocarbons such as naphthalene, phenanthrene, and anthracene, and assess their importance in various chemical applications. |
| 25 | B Pharm & III-Sem | Physical Pharmaceutics-I & BP302T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 26 | B Pharm & III-Sem | Pharmaceutical Microbiology & BP303T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 27 | B Pharm & III-Sem | Pharmaceutical Engineering & BP304T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 28 | B Pharm & III-Sem | Pharmaceutical Organic Chemistry II & BP305P | CO 1 | **Apply** the principles of crystallization, steam distillation, and titrimetric analysis to purify and determine the physicochemical properties of organic compounds. |
|  |  |  | CO2 | **Analyze** the quality and characteristics of oils by determining acid value, saponification value, and iodine value using standardized reagents |
|  |  |  | CO3 | **Synthesize** various organic compounds, including benzanilide, tribromo aniline, and nitro derivatives, using acylation, halogenation, and nitration reactions. |
|  |  |  | CO4 | **Evaluate** the efficiency of oxidation, hydrolysis, and coupling reactions in preparing benzoic acid, salicylic acid, and azo dyes. |
|  |  |  | CO5 | **Demonstrate** proficiency in organic reaction mechanisms such as Claisen-Schmidt, Perkin, and diazotization reactions to produce complex organic molecules. |
| 29 | B Pharm & III-Sem | Physical Pharmaceutics-I & BP306P | CO 1 | **Apply** fundamental principles to determine the solubility and pKa value of drugs using appropriate experimental techniques. |
|  |  |  | CO2 | **Analyze** the partition coefficient of organic compounds in different solvent systems to understand their distribution and bioavailability. |
|  |  |  | CO3 | **Evaluate** the physicochemical properties of solutions, including NaCl composition, surface tension, and hydrophilic-lipophilic balance (HLB) of surfactants. |
|  |  |  | CO4 | **Interpret** adsorption phenomena by determining Freundlich and Langmuir constants and understanding critical micelle concentration in surfactants. |
|  |  |  | CO5 | **Demonstrate** the ability to determine the stability constant and donor-acceptor ratio in drug-excipient and metal-ligand complexes using solubility and pH titration methods. |
| 30 | B Pharm & III-Sem | Pharmaceutical Microbiology & BP307P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 31 | B Pharm & III-Sem | Pharmaceutical Engineering & BP308P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 32 | B Pharm & IV-Sem | Pharmaceutical Organic Chemistry-III & BP401T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 33 | B Pharm & IV-Sem | Medicinal Chemistry-I & BP402T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 33 | B Pharm & IV-Sem | Physical Pharmaceutics-II & BP403T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 34 | B Pharm & IV-Sem | Pharmacology-I & BP404T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 35 | B Pharm & IV-Sem | Pharmacognosy-I & BP405T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 36 | B Pharm & IV-Sem | Medicinal Chemistry-I & BP406P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 37 | B Pharm & IV-Sem | Physical Pharmaceutics-II & BP407P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 38 | B Pharm & IV-Sem | Pharmacology-I & BP408P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 39 | B Pharm & IV-Sem | Pharmacognosy-I & BP409P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
| 40 | B Pharm & IV-Sem | Pharmaceutical Jurisprudence & BP505T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Medicinal Chemistry-II & BP501T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Industrial Pharmacy-I & BP502T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Pharmacology-I & BP503T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Pharmacognosy-I & BP504T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Pharmacology-I & BP507P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Pharmacognosy-I & BP508P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & V-Sem | Industrial Pharmacy-I & BP506P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Medicinal Chemistry-II & BP601T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Pharmacology-III & BP602T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Herbal Drug Technology & BP603T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Biopharmaceutics and Pharmacokinetics BP604T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Pharmaceutical Biotechnology & BP605T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Quality Assurence & BP606T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Medicinal Chemistry-II & BP607P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Pharmacology-III & BP608P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VI-Sem | Herbal Drug Technology & BP609P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VII-Sem | Instrumental Methods of Analysis BP701T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VII-Sem | Industrial Pharmacy-II & BP702T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VII-Sem | Pharmacy Practice & BP703T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VII-Sem | Novel drug delivery system & BP704T | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |
|  | B Pharm & VII-Sem | Instrumental Methods of Analysis BP705P | CO 1 | Describe the structure and functions of the nervous system, including neurons, neuroglia, and nerve fibers |
|  |  |  | CO2 | Explain the anatomy and physiology of the digestive system, including GI tract, stomach, and nutrient absorption |
|  |  |  | CO3 | Analyze the mechanisms of respiration and the anatomy of the respiratory system |
|  |  |  | CO4 | Illustrate the physiology of the urinary system, focusing on kidney function and urine formation |
|  |  |  | CO5 | Evaluate the hormonal regulation in the endocrine system and discuss the structure and functions of glands |