Course Outcomes - B.Pharm

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. I Year I Sem** | **HUMAN ANATOMY AND PHYSIOLOGY- I** | Student would able to   * Explain the gross morphology, structure, and functions of various organs of the human body. * Describe the various homeostatic mechanisms and their imbalances. * Identify the various tissues and organs of different systems of human body. * Perform the various experiments related to special senses and nervous system. * Appreciate coordinated working pattern of different organs of each system |
| 2 | **PHARMACEUTICAL ANALYSIS - I** | Student would able to   * understand the principles of volumetric and electro chemical analysis * carryout various volumetric and electrochemical titrations * develop analytical skills |
| 3 | **PHARMACEUTICS - I** | Student would able to   * Know the history of profession of pharmacy * Understand the basics of different dosage forms, pharmaceutical incompatibilities and * pharmaceutical calculations * Understand the professional way of handling the prescription * Preparation of various conventional dosage forms |
| 4 | **PHARMACEUTICAL INORGANIC CHEMISTRY - I** | Student would able to   * know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals * understand the medicinal and pharmaceutical importance of inorganic compounds |
| 5 | **COMMUNICATION SKILLS** | Student would able to   * Understand the behavioral needs for a Pharmacist to function effectively in the areas of   pharmaceutical operation   * Communicate effectively (Verbal and Non Verbal) * Effectively manage the team as a team player * Develop interview skills * Develop Leadership qualities and essentials |
| 6 | **REMEDIAL BIOLOGY** | Student would able to   * know the classification and salient features of five kingdoms of life * understand the basic components of anatomy & physiology of plant * know understand the basic components of anatomy & physiology animal with special reference to human |
| **REMEDIAL MATHEMATICS** | Student would able to:-   * Know the theory and their application in Pharmacy * Solve the different types of problems by applying theory * Appreciate the important application of mathematics in Pharmacy |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. I Year II Sem** | **HUMAN ANATOMY AND PHYSIOLOGY - II** | Student would able to   * Explain the gross morphology, structure, and functions of various organs of the human body. * Describe the various homeostatic mechanisms and their imbalances. * Identify the various tissues and organs of different systems of human body. * Perform the hematological tests like blood cell counts, hemoglobin estimation, * bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory   volume.   * Appreciate coordinated working pattern of different organs of each system * Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body. |
| 2 | **PHARMACEUTICAL ORGANIC CHEMISTRY – I** | Student would able to   * write the structure, name and the type of isomerism of the organic compound write the reaction, name the reaction and orientation of reactions * account for reactivity/stability of compounds, * identify/confirm the identification of organic compound |
| 3 | **BIOCHEMISTRY** | Student would able to   * Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new * drugs, therapeutic and diagnostic applications of enzymes. * Understand the metabolism of nutrient molecules in physiological and pathological conditions. * Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins. |
| 4 | **PATHOPHYSIOLOGY** | Student would able to   * Describe the etiology and pathogenesis of the selected disease states; * Name the signs and symptoms of the diseases; and * Mention the complications of the diseases. |
| 5 | **COMPUTER APPLICATIONS IN PHARMACY** | * Student would able to * know the various types of application of computers in pharmacy * know the various types of databases * know the various applications of databases in pharmacy |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. II Year I Sem** | **PHARMACEUTICAL ORGANIC CHEMISTRY –II** | Student would able to   * write the structure, name and the type of isomerism of the organic compound * write the reaction, name the reaction and orientation of reactions * account for reactivity/stability of compounds, * prepare organic compounds |
| 2 | **PHYSICAL PHARMACEUTICS - I** | Student would able to   * Understand various physicochemical properties of drug molecules in the designing the dosage form * Know the principles of chemical kinetics & to use them in assigning expiry date for formulation * Demonstrate use of physicochemical properties in evaluation of dosage forms. * Appreciate physicochemical properties of drug molecules in formulation research and development |
| 3 | **PHARMACEUTICAL MICROBIOLOGY** | Student would able to;   * Understand methods of identification, cultivation and preservation of various * microorganisms * Importance of sterilization in microbiology. and pharmaceutical industry * Learn sterility testing of pharmaceutical products. * Microbiological standardization of Pharmaceuticals. * Understand the cell culture technology and its applications in pharmaceutical industries. |
| 4 | **PHARMACEUTICAL ENGINEERING** | Student would able:   * To know various unit operations used in Pharmaceutical industries. * To understand the material handling techniques. * To perform various processes involved in pharmaceutical manufacturing process. * To carry out various test to prevent environmental pollution. * To appreciate and comprehend significance of plant lay out design for optimum use of * resources. * To appreciate the various preventive methods used for corrosion control in * Pharmaceutical industries. |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. II Year II Sem** | **PHARMACEUTICAL ORGANIC CHEMISTRY – III** | Student would able to   * understand the methods of preparation and properties of organic compounds * explain the stereo chemical aspects of organic compounds and stereo chemical reactions * know the medicinal uses and other applications of organic compounds |
| 2 | **MEDICINAL CHEMISTRY – I** | Student would able to   * understand the chemistry of drugs with respect to their pharmacological activity * understand the drug metabolic pathways, adverse effect and therapeutic value of drugs * know the Structural Activity Relationship (SAR) of different class of drugs * write the chemical synthesis of some drugs |
| 3 | **PHYSICAL PHARMACEUTICS - II** | Student would able to   * Understand various physicochemical properties of drug molecules in the designing the dosage form * Know the principles of chemical kinetics & to use them in assigning expiry date for Formulation * Demonstrate use of physicochemical properties in evaluation of dosage forms. * Appreciate physicochemical properties of drug molecules in formulation research and Development |
| 4 | **PHARMACOLOGY - I** | Student would able to   * Understand the pharmacological actions of different categories of drugs * Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels. * Apply the basic pharmacological knowledge in the prevention and treatment of various diseases. * Observe the effect of drugs on animals by simulated experiments * Appreciate correlation of pharmacology with other bio medical sciences |
| 5 |  | **PHARMACOGNOSY AND PHYTOCHEMISTRY - I** | Student would able to   * know the techniques in the cultivation and production of crude drugs * know the crude drugs, their uses and chemical nature * know the evaluation techniques for the herbal drugs * carry out the microscopic and morphological evaluation of crude drugs |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. III Year I Sem** | **PHARMACEUTICAL MICROBIOLOGY** | Student would able to   * know the anatomy, identification & cultivation of microorganisms * Perform sterilization of various pharmaceutical products, equipment, culture media etc. * Perform sterility testing of pharmaceutical products. * Perform microbiological assay of antibiotics, Vitamins and amino acids * Do microbiological analysis of air, water and milk |
| 2 | **PHARMACEUTICAL TECHNOLOGY – I** | Student would know the preformulation parameters in designing the dosage form,ICH guidelines, preparation and evaluation of semisolids, ophthalmic and cosmetics. |
| 3 | **PHARMACOLOGY – I** | Student would Understand the pharmacological aspects of drugs, importance of pharmacology subject as a basis of therapeutics and correlate the knowledge therapeutically. |
| 4 | **PHARMACOGNOSY – II** | Student would able to know about the  phytopharmaceuticals of commercial significance and the various applications of the crude drugs in the preparation of formulations as medicaments and excipients (Flavors, perfumes, sweeterners and colorants). |
| 5 | **DRUG REGULATORY AFFAIRS**  **(Open Elective – II)** | Student would able to know the clear information about the regulations in India and abroad is gained by the  students. |
| 6 | **PROFESSIONAL ETHICS** | The students would able to understand the importance of Values and Ethics in their personal lives and professional careers. The students will learn the rights and responsibilities as an employee,  team member and a global citizen. |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. III Year II Sem** | **MEDICINAL CHEMISTRY – I** | Student would able to  gain good knowledge about the usage of medicinal substances, the  synthesis and drug-drug interactions, so that they can get involved with confidence in the patient  counseling. |
| 2 | **PHARMACEUTICAL TECHNOLOGY – II** | The students would able to know various aspects of pharmaceutical product  preparations and evaluations of tablets, capsules etc. |
| 3 | **PHARMACOLOGY – II** | Student would able toUnderstands the pharmacological aspects of drugs, importance of pharmacology  subject as a basis of therapeutics and correlate the knowledge therapeutically. |
| 4 | **CHEMISTRY OF NATURAL PRODUCTS** | Student would able to know The knowledge of the students is enhanced with the clear information about the  natural products which are having medicinal importance. |
| 5 | **DRUG DESIGN AND DISCOVERY** | The students would be in a position to identify lead for new drug design, to design  and discover the novel drus with the knowledge they gained through the study of the various topics of  the syllabus. |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. IV Year I Sem** | **PHARMACOGNOSY-III** | Student would able to  gain good knowledge about the therapeutically important crude drugs and phytopharmaceuticals also biologically important molecules from marine sources & neutraceuticals |
| 2 | **BIOPHARMACEUTICS AND PHARMACOKINETICS** | The students would able to get fundamental knowledge of Biopharmaceutics and Pharmacokinetics And also know how the adsorption , distribution , metabolism , excretion takes place . |
| 3 | **PHARMACOLOGY – III** | Student would able to understands the pharmacological aspects of drugs, therapeutics of various diseases and pathophysiology of common diseases and their management. |
| 4 | **MEDICINAL CHEMISTRY-II** | The students would be in a position to identify lead for new drug design and information about various antibiotic and their chemotherapeutic agents. |
| 5 | **PHARMACY ADMINISTRATION** | The students would be able to gain knowledge about aspect of business administration in new economic environment & know social and behaviour aspects of Pharmacy. |

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| **Sl. No.** | **Name of the Program** | **Name of the Course** | **Course Outcome** |
| 1 | **B. Pharm. IV Year II Sem** | **NOVEL DRUG DELIVERY SYSTEMS & REGULATORY AFFAIRS** | Student would able to  gain knowledge on controlled drug delivery system and different regulatory agencies act on release of NDA & ANDA |
| 2 | **PHARMACEUTICAL BIOTECHNI\OLOGY** | The students would able to get fundamental knowledge various techniques employed in biotechnology |
| 3 | **PHARMACEUTICAL ANALYSIS-II** | Student would able to know various advanced instrumental techniques for analysis of various Pharmaceutical substances. |
| 4 | **HUMAN VALUES AND PROFESSIONAL ETHICS** | The students would able to understand the importance of Values and Ethics in their personal lives and professional careers. |
| 5 | **CLINICAL PHARMACY PRACTICE** | The students would be able to know the use of medicines and their therapeutics of disease management |