

Program Name **Bachelor of Pharmacy**

Course Name **HUMAN ANATOMY AND PHYSIOLOGY-I**

Course Code **BP101T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to explain the gross morphology, structure and function of human body	2	Emp
CO2	Students should be able to understand various homeostatic mechanisms and their imbalance	2	Emp
CO3	Students should be able to learn to identify different organ & tissues of different system of human body	2	Emp
CO4	Students should be able to get the chance to Perform the hematological tests.	3	Emp
CO5	Students should be able to Appreciate coordinated working pattern of different organs of each system.	2	Emp

Course Name **HUMAN ANATOMY AND PHYSIOLOGY**

Course Code **BP107P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to explain the gross morphology, structure and function of human body	2	Emp
CO2	Students will be able to understand various homeostatic mechanisms and their imbalance	2	Emp
CO3	Students will be able to hematological tests like haemoglobin estimation, bleeding/clotting time etc and also record blood pressure.	2	Emp

Course Name **PHARMACEUTICAL ANALYSIS**

Course Code **BP102T**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to know Fundamentals of analytical chemistry.	2	Emp
CO2	Students should be able to Understand the principles of volumetric and electrochemical analysis	2	Emp
CO3	Students should be able to carry out various volumetric and electrochemical titration	2	Emp
CO4	Students should be able to develop analytical procedures.	2	Emp
CO5	Students should be able to know the significance of Analytical Chemistry to Pharmaceutical Sciences	3	Emp

Course Name **PHARMACEUTICAL ANALYSIS**
Course Code **BP108P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to carry out various volumetric and electrochemical titrations	2	Emp
CO2	Students will be able to establish the accuracy in the analytical results.	2	Emp
CO3	Students will be able to constructs the fundamental methodology to prepare different strength of solutions.	2	Emp

Course Name **PHARMACEUTICS- I**
Course Code **BP103T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to learn historical background of profession of pharmacy.	2	S

CO2	Students should be able to understand the basics of different dosage forms.	3	Emp
CO3	Students will learn the basics of pharmaceutical calculations	2	Emp
CO4	Students will understand the professional way of handling the prescription.	2	Emp
CO5	Students will learn preparation of various conventional dosage forms	2	Emp

Course Name **PHARMACEUTICS**

Course Code **BP109P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the basics of pharmaceutical incompatibilities	2	Emp
CO2	Students will be able to know the basics pharmaceutical calculations.	1	Emp
CO3	Students will be able to preparation of various conventional dosage forms	2	Emp

Course Name **PHARMACEUTICAL INORGANIC CHEMISTRY**

Course Code **BP104T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Student will know the sources of impurities in inorganic drugs and pharmaceuticals	2	S
CO2	Students will be able to know the methods to determine the impurities in pharmaceuticals	2	S
CO3	Student understand the medicinal and pharmaceutical importance of inorganic compounds	2	S
CO4	Students will be able to understand the monographs of inorganic drugs and pharmaceuticals.	2	S
CO5	Students will be able to understand the various categories of disease.	2	S

Course Name **PHARMACEUTICAL INORGANIC CHEMISTRY**

Course Code **BP110P**



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Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know methods to determine the impurities in inorganic drugs and pharmaceuticals	2	Emp
CO2	Student understand the medicinal and pharmaceutical importance of inorganic compounds	2	Emp
CO3	Students will be able to know the monographs of inorganic drugs and pharmaceuticals.	2	Emp

Course Name **COMMUNICATION SKILLS (Theory)**

Course Code **BP105T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation.	1	S
CO2	Students will be able to communicate effectively (Verbal and Non Verbal)	2	S
CO3	Students will be able to effectively manage the team as a team player	0	S
CO4	Students will have interview skills	1	S

Course Name **COMMUNICATION SKILLS (Practical)**

Course Code **BP111P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to communicate effectively.	1	S
CO2	Students will be able to effectively manage the team as a team player.	1	S
CO3	Students will have interview skills	2	S

Course Name **REMEDIAL BIOLOGY (Theory)**
Course Code **BP 106RBT**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to identify a given plant part based on its macroscopic and microscopic characteristics	1	Emp
CO2	Students will be able to explain the classification of plants, plant cell and its organelles.	2	Emp
CO3	Students will be able to describe the physiological processes in plants and humans.	1	Emp
CO4	Students will be able to know the anatomy and functions of systems of the human body	2	Emp
CO5	Students will be able to coordinated working pattern of different organs of human body	2	Emp

Course Name **REMEDIAL BIOLOGY (Practical)**
Course Code **BP112RBP**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the classification and salient features of five kingdoms of life	2	Emp
CO2	Students will be able to understand the basic components of anatomy & physiology of plant	2	Emp
CO3	Students will be able to know understand the basic components of anatomy & physiology of human	1	Emp

Course Name **REMEDIAL MATHEMATICS (Theory)**
Course Code **BP 106 RMT**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the mathematical theories and their application in Pharmacy	2	Emp
CO2	Students will be able to Solve the different types of problems by applying theories	1	Emp
CO3	Students will be able to Solve the different types of problems by applying theories	2	Emp

Course Name **HUMAN ANATOMY AND PHYSIOLOGY-II (Theory)**

Course Code **BP 201T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to explain the gross morphology, structure and function of human body	2	Emp
CO2	Students will understand various homeostatic mechanisms and their imbalance	2	Emp
CO3	They will learn to identify different organ & tissues of different system of human body	2	Emp
CO4	Students will get the chance to Perform the hematological tests.	2	Emp
CO5	Students will Appreciate coordinated working pattern of different organs of each system.	2	Emp

Course Name **HUMAN ANATOMY AND PHYSIOLOGY (Practical)**

Course Code **BP 207 P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to explain the gross morphology, structure and function of human body	2	Emp

CO2	Students will understand various homeostatic mechanisms and their imbalance	2	Emp
CO3	Students will be able to identify different organ & tissues of different system of human body	2	Emp
CO4	Students will be able to Perform the hematological tests.	2	Emp
CO5	Students will be able to working pattern of different organs.	3	Emp

PHARMACEUTICAL ORGANIC CHEMISTRY –I

Course Name **(Theory)**
Course Code **BP202T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will learn write the structure, name and the type of isomerism of the organic compound.	2	Emp
CO2	Students will learn write the reaction, name the reaction and orientation of reactions	2	Emp
CO3	Students will understand the Account for reactivity/stability of compounds,	2	Emp
CO4	students will learn Identify/confirm the identification of organic compound	2	Emp
CO5	Students will able to learn physical and chemical properties of organic compounds	2	Emp

PHARMACEUTICAL ORGANIC CHEMISTRY -I

Course Name **(Practical)**
Course Code **BP208P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will learn write the structure, name and the type of isomerism of the organic compound.	2	Emp
CO2	Students will learn write the reaction, name the reaction and orientation of reactions	2	Emp
CO3	Stu Students will be able to know the reactivity/stability of compounds,	2	Emp
CO4	students will learn Identify/confirm the identification of organic compound	2	Emp



CO5	Students will able to learn physical and chemical properties of organic compounds	2	Emp
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Course Name **BIOCHEMISTRY (Theory)**
Course Code **BP203 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs.	2	Emp
CO2	Understand the therapeutic and diagnostic applications of enzymes.	2	Emp
CO3	Remember the metabolism of nutrient molecules in physiological and pathological conditions.	2	Emp
CO4	Remember the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.	2	Emp
CO5	The students will be able to understand the concepts of carbohydrates, lipids, amino acids, nucleotides metabolism.	2	Emp

Course Name **BIOCHEMISTRY (Practical)**
Course Code **BP 209 P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs.	3	Emp
CO2	Students will be able to know the therapeutic and diagnostic applications of enzymes.	2	Emp
CO3	Students will be able to know the nutrient molecules in physiological and pathological conditions.	2	Emp

Course Name **PATHOPHYSIOLOGY (THEORY)**
Course Code **BP 204T**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will learn basic principles of cell injury and adaptation, basic mechanism involved in the process of inflammation and repair	2	Emp
CO2	Students will be able to learn various diseases and disorders of cardiovascular system, respiratory system and renal system	2	Emp
CO3	Students will be able to learn various haematological diseases and diseases of endocrine system, nervous system and Gastrointestinal system	2	Emp
CO4	Understand the inflammatory bowel diseases, jaundice hepatitis A,B,C,D and Diseases of bones and joints and principle of cancer	2	Emp
CO5	students will be aware and able to learn the various infectious and sexually transmitted diseases	2	Emp

Course Name **COMPUTER APPLICATIONS IN PHARMACY (Theory)**
Course Code **BP205 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the various types of application of computers in pharmacy	1	Emp
CO2	Students will be able to know the various types of databases	2	Emp
CO3	Students will be able to know the various applications of databases in pharmacy	2	Emp

COMPUTER APPLICATIONS IN PHARMACY

Course Name **(Practical)**
Course Code **BP210P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the use of computer in Pharmacy	2	Emp
CO2	Students will be able to impart the knowledge of MS office and its functionalities	2	Emp
CO3	Students will be able to extract the information of the drugs	3	Emp
CO4	Students will be able to use HTML pages to use on the site	2	Emp

Course Name **ENVIRONMENTAL SCIENCES (Theory)**
Course Code **BP 206 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to create the awareness about environmental problems among learners	2	Emp
CO2	Students will be able to impart basic knowledge about the environment and its allied problems	2	Emp
CO3	Students will be able to develop an attitude of concern for the environment	2	Emp
CO4	Students will be able to know in environment protection and its improvement	2	Emp
CO5	Students will be able to know the physical, biological characters of the environment.	2	Emp

Course Name **PHARMACEUTICAL ORGANIC CHEMISTRY –II**
Course Code **BP301T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to write the structure, name and the type of isomerism of the organic compound	2	Emp



CO2	Students will be able to write the reaction, name the reaction and orientation of reactions	2	Emp
CO3	Students will be able to account for reactivity/stability of compounds,	2	Emp
CO4	Students will be able to prepare organic compounds	2	Emp
CO5	Students will be able to characterize organic compounds	2	Emp

PHARMACEUTICAL ORGANIC CHEMISTRY -II

Course Name **(Practical)**
Course Code **BP305P.**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to write the structure, name and the type of isomerism of the organic compound	1	Emp
CO2	Students will be able to write the reaction, name the reaction and orientation of reactions	2	Emp
CO3	Students will be able to account for reactivity/stability of compounds,	2	Emp

Course Name **PHARMACEUTICS-I (Theory)**
Course Code **BP302T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know various physicochemical properties of drug molecules in the designing the dosage forms	2	Emp
CO2	Students will be able to Know the principles of chemical kinetics & to use them for stability testing.	2	Emp
CO3	Students will be able to demonstrate use of physicochemical properties in the formulations.	2	Emp
CO4	Students will be able to determination of expiry date of formulations	2	Emp
CO5	Students will be able to development and evaluation of dosage forms.	2	Emp

Course Name **PHYSICAL PHARMACEUTICS – I (Practical)**




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Course Code BP306P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to determine the various physicochemical properties of drug molecules.	2	Emp
CO2	Know the principles of chemical kinetics & to use them for stability testing	2	Emp
CO3	Students will be able to determination of expiry date of formulations	2	Emp

Course Name **PHARMACEUTICAL MICROBIOLOGY (Theory)**

Course Code BP 303 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand methods of identification, cultivation and preservation of various microorganisms	2	Emp
CO2	To understand the importance and implementation of sterilization in pharmaceutical processing and industry	1	Emp
CO3	Students will be able to learn sterility testing of pharmaceutical products	2	Emp
CO4	Students will be able to carried out microbiological standardization of Pharmaceuticals.	2	Emp
CO5	Students will be able to understand the cell culture technology and its applications in pharmaceutical industries	2	Emp

Course Name **PHARMACEUTICAL MICROBIOLOGY (Practical)**

Course Code BP307 P



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurs hip (Emt)/ None (Use , for more than
CO1	Students will be able to learn sterility testing of pharmaceutical products	2	Emp
CO2	Students will be able to carried out microbiological standardization of Pharmaceuticals.	2	Emp
CO3	Students will be able to carried out microbiological identification in Pharmaceuticals.	2	Emp

Course Name **PHARMACEUTICAL ENGINEERING (Theory)**
Course Code **BP 304 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurs hip (Emt)/ None (Use , for more than
CO1	Students will be able to know various unit operations used in Pharmaceutical industries	2	Emp
CO2	Students will be able to understand the material handling techniques	2	Emp
CO3	Students will be able to perform various processes involved in pharmaceutical manufacturing process	2	Emp
CO4	Students will be able to carry out various test to prevent environmental pollution	2	Emp
CO5	Students will be able to appreciate and comprehend significance of plant layout design for optimum use of resources	2	Emp

Course Name **PHARMACEUTICAL ENGINEERING (Practical)**
Course Code **BP308P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurs hip (Emt)/ None (Use , for more than
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CO1	Students will be able to know various preventive methods used for corrosion control in Pharmaceutical industries.	2	Emp
CO2	Students will be able to understand the material handling techniques	2	Emp
CO3	Students will be able to carry out various test to prevent environmental pollution	2	Emp

PHARMACEUTICAL ORGANIC CHEMISTRY –III

Course Name **(Theory)**
Course Code BP401T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the methods of preparation of organic compounds	2	Emp
CO2	Students will be able to explain the stereochemical aspects of organic compounds and stereo chemical reactions	2	Emp
CO3	Students will be able to know the medicinal uses and other applications of organic compounds	2	Emp
CO4	Students will be able to understand the methods of properties of organic compounds	2	Emp
CO5	Students will be able to explain the stereo chemical reactions and test.	3	Emp

Course Name **. MEDICINAL CHEMISTRY – I (Theory)**
Course Code BP402T.

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the chemistry of drugs with respect to their pharmacological activity	2	Emp
CO2	Students will be able to understand the drug metabolic pathways, adverse effect and therapeutic value of drugs	2	Emp
CO3	Students will be able to know the Structural Activity Relationship (SAR) of different class of drugs	2	Emp

CO4	Students will be able to write the chemical synthesis of some drugs	2	Emp
CO5	Students will be able to SAR of advance Drugs	3	Emp

Course Name **MEDICINAL CHEMISTRY – I (Practical)**

Course Code BP406P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know understand the chemistry of drugs with respect to their pharmacological activity	2	Emp
CO2	Students will be able to know the Structural Activity Relationship (SAR) of different class of drugs	2	Emp
CO3	Students will be able to know chemical synthesis of some drugs	2	Emp

Course Name **PHYSICAL PHARMACEUTICS-II (Theory)**

Course Code BP 403 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to determine the physicochemical properties of API.	2	Emp
CO2	Students will be able to Know the principles of chemical kinetics.	2	Emp
CO3	Students will be able to development and evaluation of dosage forms.	3	Emp
CO4	Students will be able to use them for stability testing and determination of expiry date of formulations	2	Emp
CO5	Students will be able to determination of rate of reaction of formulations degradations.	3	Emp

Course Name **PHYSICAL PHARMACEUTICS- II (Practical)**

Course Code BP 407P



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand various physicochemical properties of drug molecules in the designing the dosage forms	1	Emp
CO2	Students will be able to Know the for stability testing and determination of expiry date of formulations	2	Emp
CO3	Students will be able to do the formulation development and evaluation of dosage forms.	2	Emp

Course Name **PHARMACOLOGY-I (Theory)**

Course Code BP 404 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the pharmacological actions of different categories of drugs	2	Emp
CO2	Students will be able to explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.	2	Emp
CO3	Students will be able to apply the basic pharmacological knowledge in the prevention and treatment of various diseases	3	Emp
CO4	Students will be able to observe the effect of drugs on animals by simulated experiments	2	Emp
CO5	Students will be able to correlate of pharmacology with other biomedical sciences	3	Emp

Course Name **PHARMACOLOGY-I (Practical)**

Course Code BP 408 P



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the pharmacological actions of different categories of drugs	1	Emp
CO2	Students will be able to explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.	2	Emp
CO3	Students will be able to observe the effect of drugs on animals by simulated experiments	2	Emp

PHARMACOGNOSY AND PHYTOCHEMISTRY I

Course Name (Theory)

Course Code BP 405 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the techniques in the cultivation and production of crude drugs	2	Emp
CO2	Students will be able to know the crude drugs.	2	Emp
CO3	Students will be able to know the evaluation techniques for the herbal drugs	3	Emp
CO4	Students will be able to carry out the microscopic and morphological evaluation of crude drugs	2	Emp
CO5	Students will be able to know the uses and chemical nature of crude drugs.	2	Emp

PHARMACOGNOSY AND PHYTOCHEMISTRY I

Course Name (Practical)

Course Code BP409 P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
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CO1	Students will be able to know the techniques in the cultivation and production of crude drugs	2	Emp
CO2	Students will be able to know the crude drugs, their uses and chemical nature	2	Emp
CO3	Students will be able to know the evaluation techniques for the herbal drugs	2	Emp
CO4	Students will be able to carry out the microscopic and morphological evaluation of crude drugs	2	Emp

Course Name **MEDICINAL CHEMISTRY – II (Theory)**
Course Code **BP501T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to Understand the chemistry of drugs with respect to their pharmacological activity	2	Emp
CO2	Students will be able to Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs	2	Emp
CO3	Students will be able to Know the Structural Activity Relationship of different class of drug	2	Emp
CO4	Students will be able to the chemical synthesis of selected drugs	3	Emp

Course Name **Industrial Pharmacy (Theory)**
Course Code **BP 502 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to Know the various pharmaceutical dosage forms and their manufacturing techniques	2	Emp
CO2	Students will be able to Know various considerations in development of pharmaceutical dosage forms	2	Emp
CO3	Students will be able to formulate solid, liquid and semisolid dosage forms and evaluate them for their quality	2	Emp

Course Name **Industrial Pharmacy (Practical)**



Course Code BP 506 P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know manufacturing techniques of various Pharmaceutical dosage forms	2	Emp
CO2	Students will be able to development and evaluation of dosage forms.	2	Emp
CO3	Students will be able to Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality	2	Emp

Course Name **PHARMACOLOGY-II (Theory)**

Course Code BP503.T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to understand the mechanism of drug action and its relevance in the treatment of different diseases	2	Emp
CO2	Students will be able to demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments	2	Emp
CO3	Students will be able to Demonstrate the various receptor actions using isolated tissue preparation	2	Emp
CO4	Students will be able to appreciate correlation of pharmacology with related medical sciences	1	Emp

Course Name **PHARMACOLOGY-II (Practical)**

Course Code BP 507 P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
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CO1	Students will be able to Understand the mechanism of drug action and its relevance in the treatment of different diseases	2	Emp
CO2	Demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments	2	Emp
CO3	Students will be able to Demonstrate the various receptor actions using isolated tissue preparation	2	Emp
CO4	Students will be able to Appreciate correlation of pharmacology with related medical sciences	1	Emp

PHARMACOGNOSY AND PHYTOCHEMISTRY II

Course Name **(Theory)**
Course Code **BP504 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents	2	Emp
CO2	Students will be able to understand the preparation and development of herbal formulation	2	Emp
CO3	Students will be able to understand the herbal drug interactions	2	Emp
CO4	Students will be able to carry out isolation and identification of phytoconstituents	3	Emp

PHARMACOGNOSY AND PHYTOCHEMISTRY II

Course Name **(Practical)**
Course Code **BP 508 P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students will be able to know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents	2	Emp

CO2	Students will be able to understand the preparation and development of herbal formulation	2	Emp
CO3	Students will be able to understand the herbal drug interactions	2	Emp
CO4	Students will be able to carry out isolation and identification of phytoconstituents	3	Emp

Course Name **PHARMACEUTICAL JURISPRUDENCE (Theory)**
Course Code **BP 505 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to know the rules of run a pharmacy college	2	Emp
CO2	Student should be able to know the legislation of PCI	2	Emp
CO3	Students will be able to know the regulation of pharmacy acts	2	Emp
CO4	Students will be able to know the regulation for the sale and purchase of the medicine	3	Emp

Course Name **MEDICINAL CHEMISTRY – III (Theory)**
Course Code **BP601T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to Understand the importance of drug design and different techniques of drug design	2	Emp
CO2	Students should be able to Understand the chemistry of drugs with respect to their biological activity	2	Emp
CO3	Students should be able to Know the metabolism, adverse effects and therapeutic value of drug	2	Emp
CO4	Students should be able to Know the importance of SAR of drugs	3	Emp

Course Name **MEDICINAL CHEMISTRY- III (Practical)**
Course Code **BP607P**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to Understand the importance of drug design and different techniques of drug design	2	Emp
CO2	Students should be able to Understand the chemistry of drugs with respect to their biological activity	2	Emp
CO3	Students should be able to Know the metabolism, adverse effects and therapeutic value of drug	2	Emp
CO4	Students should be able to Know the importance of SAR of drugs	3	Emp

Course Name **PHARMACOLOGY-III (Theory)**

Course Code BP602 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to understand the mechanism of drug action and its relevance in the treatment of different infectious diseases	2	Emp
CO2	Students should be able to comprehend the principles of toxicology and treatment of various poisonings	2	Emp
CO3	Students should be able to appreciate correlation of pharmacology with related medical sciences	2	Emp

Course Name **PHARMACOLOGY-III (Practical)**

Course Code BP 608 P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
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CO1	Students should be able to understand the mechanism of drug action and its relevance in the treatment of different infectious diseases	2	Emp
CO2	Students should be able to comprehend the principles of toxicology and treatment of various poisonings	2	Emp
CO3	Students should be able to appreciate correlation of pharmacology with related medical sciences	2	Emp

Course Name **HERBAL DRUG TECHNOLOGY (Theory)**
Course Code BP 603 T

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to understand raw material as source of herbal drugs from cultivation to herbal drug product	2	Emp
CO2	Students should be able to know the WHO and ICH guidelines for evaluation of herbal drugs	2	Emp
CO3	Students should be able to know the herbal cosmetics, natural sweeteners, nutraceuticals	2	Emp

Course Name **HERBAL DRUG TECHNOLOGY (Practical)**
Course Code BP 609 P

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to understand raw material as source of herbal drugs from cultivation to herbal drug product	2	Emp
CO2	Students should be able to know the WHO and ICH guidelines for evaluation of herbal drugs	2	Emp
CO3	Students should be able to know the herbal cosmetics, natural sweeteners, nutraceuticals	2	Emp
CO4	Students should be able to appreciate patenting of herbal drugs, GMP	3	Emp

BIOPHARMACEUTICS AND PHARMACOKINETICS

Course Name **(Theory)**
Course Code BP 604 T



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance	2	Emp
CO2	Students should be able to Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination	2	Emp
CO3	Students should be able to understand the concepts of bioavailability and bioequivalence of drug products and their significance.	3	Emp
CO4	Students should be able to Understand various pharmacokinetic parameters, their significance & applications.	2	Emp

Course Name **PHARMACEUTICAL BIOTECHNOLOGY (Theory)**
Course Code **BP 605 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to Understand the importance of Immobilized enzymes in Pharmaceutical Industries	2	Emp
CO2	Students should be able to understand the Genetic engineering applications in relation to production of pharmaceuticals	2	Emp
CO3	Students should be able to know the Importance of Monoclonal antibodies in Industries	2	Emp
CO4	Students should be able to appreciate the use of microorganisms in fermentation technology	3	Emp

Course Name **PHARMACEUTICAL QUALITY ASSURANCE (Theory)**
Course Code **BP606T**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Students should be able to understand the cGMP aspects in a pharmaceutical industry	2	Emp
CO2	Students should be able to appreciate the importance of documentation	2	Emp
CO3	Students should be able to understand the scope of quality certifications applicable to pharmaceutical industries	2	Emp
CO4	Students should be able to understand the responsibilities of QA & QC departments	3	Emp

Course Name **INSTRUMENTAL METHODS OF ANALYSIS (Theory)**

Course Code **BP701T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis	2	Emp
CO2	Understand the chromatographic separation and analysis of drugs.	2	Emp
CO3	Perform quantitative & qualitative analysis of drugs using various analytical instruments.	2	Emp

Course Name **INSTRUMENTAL METHODS OF ANALYSIS (Practical)**

Course Code **BP705P**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis	2	Emp

CO2	Understand the chromatographic separation and analysis of drugs.	2	Emp
CO3	Perform quantitative & qualitative analysis of drugs using various analytical instruments.	2	Emp

Course Name **INDUSTRIAL PHARMACY (Theory)**

Course Code **BP 702 T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Know the process of pilot plant and scale up of pharmaceutical dosage forms	2	Emp
CO2	Understand the process of technology transfer from lab scale to commercial batch	2	Emp
CO3	Know different Laws and Acts that regulate pharmaceutical industry	2	Emp
CO4	Understand the approval process and regulatory requirements for drug products	1	Emp

Course Name **PHARMACY PRACTICE (Theory)**

Course Code **BP 703T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states	2	Emp
CO2	Know various drug distribution methods in a hospital	2	Emp
CO3	Appreciate the pharmacy stores management and inventory control	3	Emp
CO4	Monitor drug therapy of patient through medication chart review and clinical review	2	Emp
CO5	Obtain medication history interview and counsel the patients	2	Emp

Course Name **NOVEL DRUG DELIVERY SYSTEMS (Theory)**

Course Code **BP 704T**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	To understand various approaches for development of novel drug delivery systems.	2	Emp
CO2	To understand the criteria for selection of drugs and polymers for the development of Novel drug delivery systems, their formulation and evaluation	2	Emp
CO3	Appreciate the pharmacy stores management and inventory control	3	Emp

BIostatistics AND RESEARCH Methodology

Course Name **(Theory)**

Course Code **BP801T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Know the operation of M.S. Excel, SPSS, R and MINITAB, Design of Experiment	2	Emp
CO2	Know the various statistical techniques to solve statistical problems	2	Emp
CO3	Appreciate statistical techniques in solving the problems	2	Emp

Course Name **SOCIAL AND PREVENTIVE PHARMACY**

Course Code **BP 802T**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.	2	Emp
CO2	Have a critical way of thinking based on current healthcare development.	2	Emp

CO3	Evaluate alternative ways of solving problems related to health and pharmaceutical issues	2	Emp
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Course Name **PHARMA MARKETING MANAGEMENT (Theory)**
Course Code **BP803ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	The course aims to provide an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry	1	Emp

Course Name **PHARMACEUTICAL REGULATORY SCIENCE (Theory)**
Course Code **BP804 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Know about the process of drug discovery and development	1	Emp
CO2	Know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals	2	Emp
CO3	Know the regulatory approval process and their registration in Indian and international markets	1	Emp

Course Name **PHARMACOVIGILANCE (Theory)**
Course Code **BP 805ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	National and international scenario of pharmacovigilance	1	Emp
CO2	Dictionaries, coding and terminologies used in pharmacovigilance	3	Emp

CO3	Detection of new adverse drug reactions and their assessment	2	Emp
CO4	International standards for classification of diseases and drugs	1	Emp
CO5	Adverse drug reaction reporting systems and communication in pharmacovigilance	2	Emp
CO6	ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning.	2	Emp

QUALITY CONTROL AND STANDARDIZATION OF

Course Name **HERBALS**
Course Code **BP 806 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Know WHO guidelines for quality control of herbal drugs	2	Emp
CO2	Know Quality assurance in herbal drug industry	2	Emp
CO3	Know the regulatory approval process and their registration in Indian and international markets	2	Emp
CO4	Appreciate EU and ICH guidelines for quality control of herbal drugs	3	Emp

Course Name **COMPUTER AIDED DRUG DESIGN (Theory)**
Course Code **BP 807 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Design and discovery of lead molecules	2	Emp
CO2	The role of drug design in drug discovery process	2	Emp
CO3	The concept of QSAR and docking	2	Emp
CO4	Various strategies to develop new drug like molecules.	3	Emp
CO5	The design of new drug molecules using molecular modeling software	1	Emp

Course Name **CELL AND MOLECULAR BIOLOGY (Elective Course)**
Course Code **BP808ET**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Summarize cell and molecular biology history.	1	Emp
CO2	Summarize cellular functioning and composition.	2	Emp
CO3	Describe the chemical foundations of cell biology.	1	Emp
CO4	Summarize the DNA properties of cell biology.	2	Emp
CO5	Describe protein structure and function.	2	Emp

Course Name **COSMETIC SCIENCE**
Course Code **BP809ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Knowledge about cosmetic preparation	2	Emp
CO2	Standard procedure for the preparation of cosmetics	2	Emp

Course Name **PHARMACOLOGICAL SCREENING METHODS**
Course Code **BP810 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Appreciate the applications of various commonly used laboratory animals.	2	Emp
CO2	Appreciate and demonstrate the various screening methods used in preclinical research	2	Emp
CO3	Appreciate and demonstrate the importance of biostatistics and research methodology	3	Emp
CO4	Design and execute a research hypothesis independently	2	Emp
CO5	Appreciate the applications of various commonly used laboratory animals.	3	Emp

Course Name **ADVANCED INSTRUMENTATION TECHNIQUES**

Course Code **BP 811 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Understand the advanced instruments used and its applications in drug analysis	2	Emp
CO2	Understand the chromatographic separation and analysis of drugs.	2	Emp
CO3	Understand the calibration of various analytical instruments	3	Emp
CO4	Know analysis of drugs using various analytical instruments.	2	Emp
CO5	Understand the advanced instruments used and its applications in drug analysis	3	Emp

Course Name **DIETARY SUPPLEMENTS AND NUTRACEUTICALS**

Course Code **BP 812 ET**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than
CO1	Understand the need of supplements by the different group of people to maintain healthy life.	1	Emp
CO2	Understand the outcome of deficiencies in dietary supplements.	2	Emp
CO3	Appreciate the components in dietary supplements and the application.	1	Emp
CO4	Appreciate the regulatory and commercial aspects of dietary supplements including health claims.	2	Emp
CO5	Understand the need of supplements by the different group of people to maintain healthy life.	2	Emp