

Course code/ Course name		Course Outcome
BP501T Medicinal Chemistry -II	BP501T.1	Understand the chemistry of drugs with respect to their pharmacological activity of Antihistaminic agents and autacoids, Drugs acting on Cardiovascular system, Endocrine system, Antidiabetic agents and Local anaesthetics
	BP501T.2	Understand the drug metabolic pathways, adverse effect and therapeutic value of Drugs belongs to Antihistaminic agents and autacoids, Drugs acting on Cardiovascular system, Endocrine system, Antidiabetic agents and Local anaesthetics
	BP501T.3	Know the Structural Activity Relationship (SAR) of different class of drugs belongs to Antihistaminic agents and autacoids, Drugs acting on Cardiovascular system, Endocrine system, Antidiabetic agents and Local anaesthetics
	BP501T.4	Write the chemical synthesis of some drugs belongs to Antihistaminic agents and autacoids, Drugs acting on Cardiovascular system, Endocrine system, Antidiabetic agents and Local anaesthetics
	Average	
BP502T Industrial	BP502T.1	Understand basic concepts underlying preformulation consideration, formulation, manufacturing and packaging of Liquid orals, tablets, capsules, parenteral, ophthalmic, aerosols and cosmetics.
	BP502T.2	Learn and remember different types of excipients, classification, properties, equipments, problems and defects occur during manufacturing of Liquid orals, tablets

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Pharmacy-I	BP502T.3	Describe different conventional & novel methods to formulate liquid orals, tablets, capsules, parenteral, ophthalmic, aerosols and cosmetics with its quality control
	BP502T.4	Application of preformulation considerations in the development of dosage forms and its impact on stability of dosage forms & apply logic behind designing and scale up of
	Average	
BP503T Pharmacology II	BP503T.1	Understand basics of bioassay and pharmacological actions of drugs acting on Cardiovascular system, autacoids and endocrine system
	BP503T.2	Remember nature, source of drug, types of bioassay and classification of drug acting on Cardiovascular system, autacoids and endocrine system
	BP503T.3	Describe mechanism of action, drug interaction and Adverse drug reaction of drug acting on Cardiovascular system, autacoids and endocrine system
	BP503T.4	Learn different method for bioassay and clinical management of diseases related to Cardiovascular system, autacoids and endocrine system
	Average	
BP504T Pharmacognosy	BP504T.1	To conceptualize the basic aspects related to various product derived from natural sources and to study biogenesis, extraction, separation techniques, isolation, identification, characterization, industrial production of herbal drugs/phytoconstituents.
	BP504T.2	To memorize and recall theory related to metabolic pathway, physical and/or chemical separation technique, isolation, identification, characterization, industrial production of herbal drugs/phytoconstituents.

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BP504T Pharmacognosy and Phytochemistry II	BP504T.3	To understand in brief the methods used in study of biosynthetic pathways, extraction, separation using chromatographic and non-chromatographic technique, isolation, identification, characterization and industrial production of natural drug/ phytoconstituents.
	BP504T.4	To apply knowledge of subject with respect to aforementioned areas in Pharmacy and other Industry.
	Average	
BP505T Pharmaceutical Jurisprudence	BP505T.1	Understand the code of pharmaceutical ethics and pharmaceutical legislation and implications in the development and marketing of pharmaceuticals
	BP505T.2	Learn different acts, laws and rules related to Pharmaceuticals, the regulatory and administrative authorities agencies governing manufacture and sale of
	BP505T.3	Understand the concept of Intellectual property rights and Right to information act, Medical termination of Pregnancy act
	BP505T.4	Describe applications of various schedules of acts with respect to import, manufacturing and sale of pharmaceuticals
	Average	
BP506P Industrial Pharmacy-I	BP506P.1	Understand the safety aspects of handling various chemicals, instruments and equipments
	BP506P.2	Remember basic concepts, principles involved in designing and evaluation of different dosage forms & cosmetics packaging and labeling materials
	BP506P.3	Organize basic setup and perform experiments on formulation, evaluation and packaging of different types of dosage forms & cosmetics
	BP506P.4	Maintain the record related to formulation and evaluation of various dosage forms according to Pharmacopoeia

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BP507P Pharmacology II	BP507P.1	Understanding in-vivo & in-vitro pharmacology with explanation of various PSS and the handling of various instruments use in preclinical screening
	BP507P.2	Explain basic principles of bioassay, types of bioassay along with advantages and disadvantages
	BP507P.3	Perform preclinical screening of various drugs using various isolated preparation and rodents
	BP507P.4	Report result of various drugs on different tissue preparation with various bioassay and determination of drug affinity and intrinsic activity through PD₂ value and reversible
	Average	
BP508P Pharmacognosy and Phytochemistry II	BP508P.1	To Understand the handling of solvents, chemicals, extracts, pure natural compounds, microscope, extraction equipment such as hydro-distillation assembly, Soxhlet extraction assembly as per SOPs with respect to safety aspects.
	BP508P.2	To Learn the concepts related to plant material sectioning, staining, mounting & focusing, extraction, isolation, chromatography and analytical techniques.
	BP508P.3	To perform experiments related to morphology, microscopy, extraction, isolation, analysis of plant-based drugs using solvent extraction and chromatographic methods.

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	BP508P.4	To Record the finding related to experiment such as well labeled morphological/ microscopical diagrams, yield of extract and analytical data.
	Average	
BP601T Medicinal Chemistry III	BP601T.1	Understand the importance of drug design and different techniques of drug design.
	BP601T.2	Understand the chemistry of drugs belongs to Antibiotics, Antimycobacterial, Antiviral, Antifungal, Anti-protozoal, Anthelmintics, Synthetic anti-infective and Anti-neoplastic agents with respect to their pharmacological activity
	BP601T.3	Understand the drug metabolic pathways, adverse effect and therapeutic value of Drugs belongs to Antibiotics, Antimycobacterial, Antiviral, Antifungal, Anti-protozoal, Anthelmintics, Synthetic anti-infective and Anti-neoplastic agents
	BP601T.4	Know the Structural Activity Relationship (SAR) of drugs belongs to Antibiotics, Antimycobacterial, Antiviral, Antifungal, Anti-protozoal, Anthelmintics, Synthetic anti-infective and Anti-neoplastic agents and Write the chemical synthesis of some drugs
	Average	
	BP602T.1	Understand basic principle of toxicology, chrono pharmacology and drug used in respiratory system, GI system and chemotherapy

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BP602T Pharmacology III	BP602T.2	Remember classification and pharmacokinetic of chemotherapeutic agents and drug used in respiratory system and GI system
	BP602T.3	Remember classification and pharmacokinetic of chemotherapeutic agents and drug used in respiratory system and GI system
	BP602T.4	Learn clinical management of drugs and heavy metal poisoning.
	Average	
BP603T Herbal Drug Technology	BP603T.1	To conceptualize basic aspect of Cultivation of Crude Drugs, Traditional systems of medicine; Nutraceuticals, Herbal cosmetics, Herbal Excipients, Herbal formulations, WHO and ICH guidelines for evaluation of herbal drugs, patenting of herbal drugs and GMP.
	BP603T.2	To learn and recall various aspect related to Cultivation of Crude Drugs, Traditional systems of medicine; Nutraceuticals, Herbal cosmetics, Herbal Excipients, Herbal formulations, WHO and ICH guidelines for evaluation of herbal drugs, patenting of herbal drugs and GMP.
	BP603T.3	To study the methodology involved in subject matter such as Cultivation, Pest control, Herbal formulations, Herbal Cosmetics. Nutraceuticals, Herbal Excipients, WHO and ICH guidelines for evaluation of herbal drugs, patenting of herbal drugs and GMP.
	BP603T.4	To apply the acquired facts of course in pharmacy and other Industry.
	Average	
	BP604T.1	Understand basic concepts of ADME, Bioavailability & Bioequivalence, Linear and Non-linear pharmacokinetic. Bionpharmaceutical Classification System

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BP604T Biopharmaceutics and Pharmacokinetics	BP604T.2	Learn various factors influencing ADME, Bioavailability & Bioequivalence, Non-linear pharmacokinetic solubility and dissolution
	BP604T.3	Describe methods of pharmacokinetic & pharmacodynamic analysis, IVIVC, Dissolution, solubility estimation and solubility enhancement techniques.
	BP604T.4	Use principles of pharmacokinetics, Bioavailability & Bioequivalence, dissolution and IVIVC and apply the regulatory aspects for the new drug molecule, conventional dosage forms and controlled drug delivery systems.
	Average	
BP605T Pharmaceutical Biotechnology	BP605T.1	Understand the scope and basics concept of biotechnology and different methods like Enzyme immobilization, protein engineering, biosensors and genetic engineering and
	BP605T.2	Learn and remember the different types of immunity, agents causing stimulation and suppression to immunity and various method of preparation and storage conditions of
	BP605T.3	Understand the different immuno bloating techniques, microbial genetics, microbial biotransformation, mutations and thier anllications
	BP605T.4	Understand the different fermentation methods and equipments and related to blood products
	Average	
BP606T Quality Assurance	BP606T.1	Understand basic concepts of Quality, Total Quality Management, GMP, GLP, GWP, CPCSEA, calibration, validation, Quality control of packaging materials and Quality
	BP606T.2	Describe guidelines for ISO, ICH, CPCSEA, calibration, validation, GMP, GLP, GWP, Quality by Design, standards of regulatory agencies like WHO, USED A, CDSCO and
	BP606T.3	Discuss methodology of Complaints, NABL Accrediation, QC of packaging material, calibrations of instruments, pharmaceutical validations, steps involved in Quality by

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	BP606T.4	Apply GMP, GLP, GWP, CPCSEA, QbD, NABL accreditation, calibration, validation, compliants and document maintainance in pharmaceutical industry
	Average	
BP607P Medicinal chemistry III	BP607P.1	Understand the safety aspects and handling of various equipments, instruments and chemicals MSDS according to HMIS and NFPA for synthesis of organic compounds .
	BP607P.2	Remember how to determine physicochemical properties such as logP, clogP, MR, Molecular weight and Hydrogen bond donors and acceptors for class of drugs using drug design software Drug likeliness screening (Lipinskies RO5)
	BP607P.3	Perform Traditional and Microwave assisted Synthesis and characterization of purified synthesized compounds
	BP607P.4	Prepare the lab record book related to experimental procedure, observation, calculation, IR spectra and result of experiment
	Average	
	BP608P.1	Understanding the handling of various instruments/software for in-vitro/in-vivo experiments and chemicals with safety according to the relevant guidelines.

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BP608P Pharmacology III	BP608P.2	Understand the importance of bioassay experiments using isolated tissue preparation
	BP608P.3	Examine potency and efficacy of drug by performing bioassay, learn basics of drug affinity and intrinsic activity of drug by experiment and biostatistics
	BP608P.4	Report results of bioassay, biostatistics and toxicity studies
	Average	
BP609P Herbal Drug Technology	BP609P.1	To Understand the handling of Chemicals, formulations, equipment's such as Soxhlet extractor, Tablet compression machine, Friability tester, Disintegration test Apparatus, Tray dryer, Tapped/bulk density tester with respect to safety and stability aspect.
	BP609P.2	To learn the concept related to preparation, evaluation & labeling of Herb based formulations, Preliminary phytochemical screening, Monograph analysis of herbal drugs and various standardization parameter of herbal drug.
	BP609P.3	To carry out experiment such as determination of various qualitative/quantitative parameters such as proximate chemical analysis, Alcohol content in Formulation, Aldehyde/Alkaloid/Phenol content in Herbal drugs, Preparation, evaluation & labeling of Herbal formulation/Ayurvedic formulation/ Cosmetics.

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	BP609P.4	To document the results related to experiments such as preparation and evaluation of Herbal/TSM Products/ Nutraceuticals/ Cosmetics and other subject matter.
	Average	