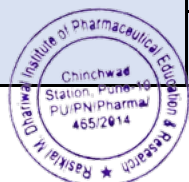




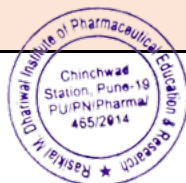
## Course Outcomes - TERM I

### F. Y. (SEM-I) - Pattern-2019

Course/Subject (T/P)	Course Code/ Subject Code	Course Number	Course Outcomes
Human Anatomy and Physiology I – (T)	CO BP101 T	1	Summarizing gross morphology, structure and functions of various organs of the human body.
		2	Correlating the various homeostatic mechanisms and their imbalances.
		3	Outlining the various tissues and organs of different systems of human body.
		4	Experimenting the various experiments related to special senses and nervous system.
		5	Appreciate coordinated working pattern of different organs of each system
Human Anatomy & Physiology I – (P)	CO BP107 P	1	Compare and contrast the normal microanatomy of the basic tissue types and their subtypes with attention to the details of cellular and intracellular morphology, stratification, nature of the interstitial material and anatomic location in the organ systems under study.
		2	Compare and study the normal gross anatomy of human skeleton system with emphasis on the size, shape anatomic relationships, and locations
		3	Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time.
		4	Compare and contrast the gross and microscopic anatomy of the cells, tissues, organs, sense organs and organ systems of the body
		5	Investigate hematological functions/parameters by direct participation in laboratory experimentation, data collection, and analysis including homeostasis
		6	Investigate physiologic functions by direct participation in laboratory experimentation, data collection, and analysis for clinical experiments (ESR, Heart rate, pulse rate, blood pressure) including visit to blood bank.
Pharmaceutical Analysis I – (T)	CO BP102 T	1	Understand the principles of volumetric and electrochemical analysis.
		2	Carry out various volumetric and electrochemical titrations.
		3	Outline the method of expressing the concentration with preparation and standardization of various molar and normal solutions.
		4	Recall the sources, type and method of minimizing the errors.
		5	Explain the principle involved in volumetric and electrochemical analysis of inorganic compounds



Pharmaceutical Analysis I – (P)	CO BP108 P	1	Prepare and standardize primary and secondary standard solutions of various normality and molarity.
		2	Carry out various volumetric and electrochemical titrations.
		3	Perform assay of various compounds.
Pharmaceutics I – (T)	CO BP103 T	1	Describe the history of profession of pharmacy
		2	Demonstrate Understanding of the basics of different dosage forms (powders, liquid dosage forms, monophasic & biphasic liquids, suppositories & Semisolid dosage forms)
		3	Demonstrate Understanding of the basics of Pharmaceutical incompatibilities and Pharmaceutical calculations
		4	Demonstrate Understanding of the professional way of handling the prescription
Pharmaceutics I – (P)	CO BP109 P	1	Prepare various conventional dosage forms such as powders, liquid dosage forms, monophasic & biphasic liquids
		2	Prepare various conventional dosage forms such as suppositories & Semisolid dosage forms
Pharmaceutical Inorganic Chemistry – (T)	CO BP104 T	1	Articulate the importance of the monographs of inorganic drugs and pharmaceuticals
		2	Perceive the Knowledge of the sources of impurities and methods to determine the impurities in drugs and pharmaceuticals and methods to determine of the impurities in inorganic drugs and pharmaceuticals
		3	Illustrate importance and discuss method of and of preparation, properties, storage, assay, uses and marketed formulations. Perceive importance of the medicinal and pharmaceutical drugs of inorganic compounds
		4	Persive the importance process, formulations of various types of inorganic compounds like Dental products Radiopharmaceuticals, Acids and buffers, gastrointestinal agents, protectives, Antimicrobial agents. topical agents
Pharmaceutical Inorganic Chemistry – (P)	CO BP110 P	1	Explain method of manufacturing, physical/chemical properties, assay, storage and uses of important inorganic substances used for pharmaceutical purpose.
		2	Prepare and calculate theoretical, practical and percentage yield of inorganic pharmaceutical compounds
		3	Perform qualitative analysis for detection of acidic and basic radicals from given inorganic binary mixture and apply them for unknown sample.
		4	Identify impurities from pharmaceutical substances by performing limit tests
		5	Perform titration, determine the end point, take observations and calculate the result and conclusion.



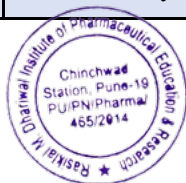
Communication skills – (T)	CO BP105 T	1	Refine skills of communication, elements and perspectives
		2	Understand elements of communication and communication styles
		3	Enhance basic listening skills with better comprehension
		4	Improve writing skill with proper English grammar
		5	Articulate Interview skills, presentation and group discussion.
Communication skills – (P)	CO BP111 P	1	Communicate effectively (Verbal and Non Verbal)
		2	Practice skills of communication, medium and presentation
		3	Boost English communication skills
		4	Develop interview skills
		5	Articulate Resume writing worksheets
Remedial Biology- (T)	CO BP106 RBT	1	Illuminate significance of the different mechanisms that govern the normal working of various organs and system as a whole.
		2	Illuminate relevance and significance of remedial biology of pharmaceutical sciences.
		3	Explain basic components of cell, their functions and fundamental processes of cell division.
		4	Explain need, approaches of classification along with their merits and demerits.
		5	Explain significance of internationally accepted standards of nomenclature.
Remedial Biology (P)	CO BP112 RBP	1	Explain the construction, working, care and handling of various materials, instruments, glassware's, and equipments required for understanding the practicals.
		2	Explain the precautions taken by students while doing the practical in the laboratory.
		3	Demonstrate the simple laboratory techniques.
		4	Clarify structural and microscopic aspects of various organs of human system.
		5	Demonstrate with the techniques for identification, counting, determination of various integral components of the body
Remedial Mathematics – T	CO BP106 RMT	1	Understand mathematical problems applying theory of limits, log and partial fraction.
		2	Solve problems using matrices, calculus and differentiation.
		3	Comprehend and explain analytical geometry and integration
		4	Know and apply mathematical equation in pharmacy





**Course Outcomes - TERM I**  
**S. Y. (SEM-III) - Pattern-2019**

Course/Subject (T/P)	Course Code/ Subject Code	Course Number	Course Outcomes
Pharmaceutical Organic Chemistry - II (T)	CO BP301T	1	Recognize & reproduce the structure, name and the type of isomerism of the organic compound
		2	Differentiating, organizing the reaction, name the reaction and orientation of reactions of compounds.
		3	Evaluation & attribution for reactivity/stability of compounds
		4	Generating and planning for preparation of small organic compounds
		5	Conceptual knowledge of identifying and classifying the organic molecules & structures.
Pharmaceutical Organic Chemistry - II (P)	CO BP305T	1	Special emphasis on separation techniques and identification of unknown compounds
		2	Implementing various laboratory techniques for purification of organic compounds
		3	Acquiring and implementing the knowledge of synthesizing new chemical entity
		4	Attributing basic knowledge of methods of preparation of organic compounds
		5	Examplifying the reactivity of chemical compounds & reactions
Physical Pharmaceutics-I (T)	CO BP302T	1	Investigate and apply various theories, laws and equations related to different states of matter
		2	Distinguish the principles of complexation/ protein binding & to use them for calculations of drug release and stability constant.
		3	Demonstrate use of physicochemical properties of drugs in the formulation development and evaluation of dosage forms.
Physical Pharmaceutics-I (P)	CO BP306P	1	Understand and investigate the solubility of different pharmaceutical formulations
		2	Demonstrate use of physicochemical properties of drugs in the formulation development and evaluation of dosage forms.
Pharmaceutical Microbiology (T)	CO BP303T	1	Associate methods of identification, cultivation and preservation of various Microorganisms
		2	understand the importance and implementation of sterilization in pharmaceutical processing and industry
		3	Learn sterility testing of pharmaceutical products.



		4	Carried out microbiological standardization of Pharmaceuticals.
		5	Understand the cell culture technology and its applications in pharmaceutical industries.
Pharmaceutical Microbiology (P)	CO BP307P	1	Explain the principle, construction and working of various instruments and perform their operations
		2	Learn how to prepare and sterilize nutrient broth, nutrient agar, slants, stabs and plates
		3	Adopt the skills required for maintaining strictly aseptic condition & handling inoculating loop, its sterilization and inoculation procedure
		4	Execute morphology bacteria by simple staining, negative staining & gram staining
		5	understand procedure behind Antibiotic Assay of antibiotic and sterility testing of pharmaceuticals
Pharmaceutical Engineering (T)	CO BP304T	1	Describe and explain the principles of fluid flow and its applications
		2	Describe and define the principles and methodology of various unit operation processes and its application in pharmaceutical industry
		3	Apply academic theory and knowledge to the solution of a real-life research, plant operational or management problem
		4	Ability to develop a comprehensive process flow diagram for a pharmaceutical process
		5	Ability to apply engineering principles to address issues in various pharmaceutical processes
Pharmaceutical Engineering (P)	CO BP308P	1	To Know various laws and theories in correlation with size reduction and flow of heat.
		2	To know various unit operations and Calculations used in Pharmaceutical industries.
		3	Develop skills and techniques those are parts of pharmaceutical procedures through the actual use of equipment and instruments.
		4	To interpret scientific data, represent the data in a tabular and/or graphical form.





**Course Outcomes - TERM I**  
**T. Y. (SEM-V) - Pattern-2019**

Course/Subject (T/P)	Course Code/ Subject Code	Course Number	Course Outcomes
Medicinal Chemistry-II (T)	CO BP501 T	1	Understand chemistry of drugs in terms of pharmacological activity.
		2	Gain a thorough understanding of drug metabolism, adverse effects, and therapeutic effects.
		3	Recognize the Structural Activity Relationships among various classes of drugs.
		4	Outline and Explore chemical synthesis of a few selected drugs
Industrial Pharmacy (T)	CO BP502 T	1	Describes various factors to be considered in development of pharmaceutical dosage forms
		2	Illustrates pharmaceutical oral dosage forms and their manufacturing techniques, evaluate them for their quality
		3	Formulate oral solid dosage forms , illustrates their manufacturing techniques and evaluate them for their quality
		4	Formulate parenteral dosage forms , illustrates their manufacturing techniquesand evaluate them for their quality.
		5	Formulate semisolid dosage forms, illustrates their manufacturing techniques and evaluate them for their quality
Industrial Pharmacy (P)	CO BP506 P	1	Preparation of the formulation of tablets/capsules/ injectables and creams
		2	Evaluation of the formulations of tablets/capsules/ injectables and creams
		3	Comparison of the prepared formulations of tablets/capsules/ injectables with marketed formulations
Pharmacology II (T)	CO BP503 T	1	Understand the mechanism of drug action and its relevance in the treatment of different diseases
		2	Demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments
		3	Demonstrate the various receptor actions using isolated tissue preparation
		4	Appreciate correlation of pharmacology with related medical sciences
Pharmacology II (P)	CO BP507 P	1	Explain the principle, construction and working of various instruments and perform their operations
		2	Explain mechanisms of actions and site of action involved in pharmacological important drugs
		3	To find out a therapeutic agent suitable for human use.
		4	Biological assay are designed to measure relative potency of the drugs.



Pharmacognosy and Phytochemistry II (T)	CO BP504 T	1	Understand the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents
		2	Know the production of Phytoconstituents /herbal formulation
		3	Understand the metabolic pathways in formation of secondary metabolites and application of biogenetic studies
		4	Articulate the isolation and identification of phytoconstituents
Pharmacognosy II (P)	CO BP508 P	1	Assess morphology, histology and powder characteristics & extraction & detection of crude drugs
		2	Know isolation & detection of active principles from crude drugs
		3	Apply the chromatography techniques for separation
		4	Analysis of crude drugs by chemical tests
Pharmaceutical Jurisprudence (T)	CO BP505 T	1	Understand the pharmaceutical legislation and implications in the development and marketing of pharmaceuticals
		2	Know Different Pharmaceutical acts, laws and rules
		3	Know the regulatory and administrative authorities, agencies governing manufacture and sale of pharmaceuticals
		4	Know the regulations of DPCO-2013
		5	Understand the CPSCEA guidelines for Prevention of cruelty to animals act
		6	Understand the concept of medical termination of pregnancy act
		7	Understand the concept of Intellectual property rights and Right to information act
		8	Know the codes of Pharmaceutical ethics during the pharmaceutical practice.





## Course Outcomes - TERM I Final Y. (SEM-VII) - Pattern-2019

Course/Subject (T/P)	Course Code/ Subject Code	Course Number	Course Outcomes
			Students will be able to
Instrumental methods of analysis (T)	CO BP701T	1	To deals with the application of instrumental methods in qualitative and quantitative analysis of drugs.
		2	To impart fundamental knowledge of the principles and instrumentation of spectroscopic and chromatographic techniques.
		3	To emphasizes theoretical and practical knowledge of modern analytical instruments that are used for drug testing.
Instrumental methods of analysis (P)	CO BP705P	1	To deals with analysis including electrochemical, spectroscopic, spectrophotometric, chromatographic.
		2	Students learn techniques for methods development, sample preparation, optimization of operating conditions to obtain accurate, reproducible results, and data analysis.
Industrial pharmacy II (T)	CO BP702T	1	Know the process of pilot plant and scale up of pharmaceutical dosage forms
		2	Understand the process of technology transfer from lab scale to commercial batch
		3	Know different Laws and Acts that regulate pharmaceutical industry
		4	Understand the approval process and regulatory requirements for drug products
Pharmacy practice (P)	CO BP703T	1	Describe the functioning of hospital pharmacy, Identify and assess adverse drug reactions and describe the functioning of community pharmacy.
		2	Recognize various drug distribution system in the hospital,
		3	Develop the contents of hospital formulary
		4	Practice patient medication history interview and patient counseling
		5	Describe the functioning of pharmacy and therapeutic committee.
		6	Describe the functions and responsibilities of clinical pharmacist
		7	clinical laboratory tests of specific disease states.
Novel drug delivery system (T)	CO BP704T	1	To understand various approaches for development of novel drug delivery systems.
		2	To understand the criteria for selection of drugs and polymers for the development of Novel drug delivery systems, their formulation and evaluation
Practice school (T)	CO BP706PS	1	Understand the advanced instruments used and their applications in drug analysis.
		2	Understand the concepts and applications of alternative medicine.
		3	Learn to execute and utilize software of pharmaceutical importance
		4	Understand the calibration of various analytical instruments.
		5	Know the analysis of drugs using various analytical instruments.

