PROGRAM OUTCOMES

1. Pharmacy Knowledge: Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.

2. Planning Abilities: Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.

3. Problem analysis: Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.

4. Modern tool usage: Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.

5. Leadership skills: Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfilment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.

6. Professional Identity: Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).

7. Pharmaceutical Ethics: Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behaviour that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.

8. Communication: Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.

9. The Pharmacist and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.

10. Environment and sustainability: Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

11. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

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PROGRAM SPECIFIC OUTCOMES (PSOs)

Pharmacy Students are able to:

PSO 1: Build graduate to excel in technical or professional careers in various pharmaceutical industry and/ or institute and /or Health care system through rigorous education. Also analyze and communicate the skills, values of their professional roles in society.

PSO 2: Learn, select, apply appropriate methods, procedures, resources and modern pharmacy related computing tools with an understanding of the limitations.

PSO 3: Operate, control, analyze and evaluate chemical substances and finished products also processes within permissible limits.

PSO 4: Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, sustainability social, ethical, health, safety and manufacturability for humans.

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COURSE WISE CO-PO MAPPING

BP101T(HUMAN ANATOMY &PHYSIOLOGY)

Course Outcomes:

Upon completion of this course the student should be able to:

CO1. Explain the gross morphology, structure and functions of various organs of the human body.

CO2. Describe the various homeostatic mechanisms and their imbalances.

CO3. Identify the various tissues and organs of different systems of human body.

CO4. Perform the various experiments related to special senses and nervous system.

CO5. Appreciate coordinated working pattern of different organs of each system.

Couse Code BP101T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	1	1					1		1
CO2	2	2	1	1					1		1
CO3	2	2	1	1	1				1		1
CO4	2	2	1	1	1	1			2		1
CO5	3	2	3	2	3				2	1	1

BP102T (PHARMACEUTICAL ANALYSIS I)

Course Outcomes

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Upon the completion of this course, the student will able to :

CO1. Understand the principles of volumetric and electro chemical analysis.

CO2. Carryout various volumetric and electrochemical titrations.

CO3. Develop analytical skills.

Course Code BP102T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2	2				1			1		1
CO2	2	2				1			1		1
CO3	2	2				2			1		1

BP103T (PHARMACEUTICS I)

Course Outcomes

Upon completion of this course the student should be able to:

CO1. Know the history of profession of pharmacy.

CO2. Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations.

CO3. Understand the professional way of handling the prescription.

CO4. Preparation of various conventional dosages

Course Code BP103T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1
CO1	2	3				1			1		2
CO2	3		2					2			2
CO3	2	3							1		2

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BP104T (PHARMACEUTICAL INORGANIC CHEMISTRY I)

Course Outcomes

Upon the completion of this course, the student will able to :

CO1: Know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals. To know about history of pharmacopoeia. To know limit tests along with principles and reactions involved

CO2: To know acids, Bases and Buffers: Major extra and intracellular electrolytes and dental products.

CO3: Understand the methods of preparation, assay, properties and medicinal uses of gastrointestinal agents.

CO4: To know the methods of preparation, assay, properties and medicinal uses of expectorants. Emetics, Haematinics, Poison and Antidote, Astringents.

CO5: To know radiopharmaceuticals along with pharmaceutical application of radioactive substances.

Course Code BP104T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	1	1		1			1	1	2
CO2	3	2	1	1		1			1	1	2
CO3	3	2	1	1		1			1	1	2
CO4	3	2	1	1		1			1	1	2
CO5	3	2	1	1		2			1	1	2

BP201T (HUMAN ANATOMY&PHYSIOLOGY II)

Course Outcomes:

Upon completion of this course the student should be able to:

CO1. Explain the gross morphology, structure and functions of various organs of the human body.

CO2. Describe the various homeostatic mechanisms and their imbalances.

CO3. Identify the various tissues and organs of different systems of human body.

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CO4. 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.

CO5. Appreciate coordinated working pattern of different organs of each system

CO6. Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.

Course Code BP201T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2	1							1		1
CO2	2	2	1						2		1
CO3	2	1			1				1		1
CO4	3	3	2	3	3	3		2	2	3	1
CO5	2	1		1	1				1		1
CO6	2	1	1		1	1			1		1

BP202T (ORGANIC CHEMISTRY I)

Course Outcomes:

Upon the completion of this course, the student will able to

CO1: Write the structure, name and the type of isomerism of the organic compound.

CO2: Write the reaction, name the reaction and orientation of reactions.

CO3: Understand reactivity/stability of compounds.

CO4: Identify and confirm the identification of organic compound.

Course Code BP202T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2	2							1		1
CO2	2	2							1		1

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CO3	2	3							1		1
CO4	3	2				2			1		1

BP203T (BIOCHEMISTRY)

Upon the completion of this course, the student will able to

CO1: Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.

CO2: Understand the metabolism of nutrient molecules in physiological and pathological conditions.

CO3: Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.

Course Code BP203T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2	2				2		1	1	2	1
CO2	2	2				2		1	1	2	1
CO3	2	2						1	1	1	1

BP204T (PATHOPHYSIOLOGY)

Upon completion of this course the student should be able to:

CO1 The etiology and pathogenesis of certain diseases.

CO2 The sign and symptoms of diseases.

CO3 Complications of diseases.

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Course Code BP204T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	3	2					3		3
CO2	3		3	2					2		2
CO3	3		3						3	2	2

BP301T (ORGANIC CHEMISTRY I)

Upon the completion of this course, the student will able to

CO1. To understand the structure, name and the type of isomerism of the organic compound.

CO2. To know about how to write the reaction, name the reaction and orientation of reactions.

CO3. To understand the account for reactivity/stability of compounds.

CO4. To know about Preparation of organic compounds.

Course Code BP301T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	2			1				2	3
CO2	3	2	3			1				2	3
CO3	3	2	1			2				2	3
CO4	2	2				2				1	3

BP302T (PHYSICAL PHARMACEUTICS I)

Upon the completion of this course, the student will able to

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CO1 Understand mechanisms of solute solvent interactions and physicochemical properties of drug molecules in the designing of dosage forms.

CO2 Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations.

CO3 Demonstrate the use, method of determination and application of surface tension in the formulation development and evaluation of dosage forms.

CO4 Understand various types of complexation and protein binding and its importance in pharmacy.

CO5 Know the pH determination, application of buffers and importance of isotonic Solutions.

Course Code BP302T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3				3	1			3	2
CO2	3	3		2		3				3	3
CO3	3	3	1	2	1	3	1	1	2	3	2
CO4	3	3	1	2	1	3	1		3	3	3
CO5	3	3	1	2	1	3	1	1	3	3	3

BP303T (PHARMACEUTICAL MICROBIOLOGY)

Upon the completion of this course, the student will able to

CO1. Understand methods of identification, cultivation and preservation of various microorganisms.

CO2. Understand the importance and implementation of sterilization in pharmaceutical processing and industry.

CO3. Learn sterility testing of pharmaceutical products.

CO4. Carry out microbiological standardization of Pharmaceuticals.

CO5. Understand the cell culture technology and its applications in pharmaceutical

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industries.

Course Code BP303T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	2	2	1	2	1	1	2	1	3
CO2	3	3	1	3		2			1		2
CO3	3	3	2	3	1	3	2		1	1	2
CO4	3	3	-	2	1	3	2			1	3
CO5	3	3	2	2	1	2	1	1	1	1	2

BP304T (PHARMACEUTICAL ENGINEERING)

Upon the completion of this course, the student will able to

CO1. Know various unit operations used in Pharmaceutical industries.

CO2. Understand the material handling techniques.

CO3. Perform various processes involved in pharmaceutical manufacturing process.

CO4. Carry out various tests to prevent environmental pollution.

CO5. Appreciate and comprehend significance of plant lay out design for optimum use of resources.

CO6. Appreciate the various preventive methods used for corrosion control in Pharmaceutical industries.

Course Code BP304T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO20	PO11
CO1	3			3	2					2	2
CO2	3			2	2					2	2
CO3	3	2	3	2			2	2	2	3	2
CO4	3		2	2	2	3		2	3	3	2
CO5	3	3	2	2	2	2	2			3	2
CO6	3	2	2			2			2	3	2

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BP401T (PHARMACEUTICAL CHEMISTRY III)

Upon the completion of this course, the student will able to

CO1. Understand the methods of preparation and properties of organic compounds

CO2. Explain the stereo chemical aspects of organic compounds and stereo chemical reactions

CO3. Know the medicinal uses and other applications of organic compound.

Course Code BP401T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2				2			1	2	1
CO2	3	2									1
CO3	3	2							2		2

BP402T (MEDICINAL CHEMISTRY I)

Upon the completion of this course, the student will able to

CO1 Know about Principle of medicinal chemistry.

CO2 Understand Mechanism/cause of disease or disorder.

CO3 Illustrate chemistry of drugs in respect to their pharmacokinetic & pharmacological profile of drugs.

CO4 Recall of Structural Activity Relationship (SAR) of different class of drugs with relate their biological activity.

CO5 Understand Synthetic procedure of the drug with classification based on chemical structure.

Course Code BP402T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	2	2		1			3	2	2
CO2	2	2	3						3	2	2

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CO3	2	2				2			3	1	2
CO4	2	2				2			3	1	1
CO5	2	2				1			1	2	1

BP403T (PHYSICAL PHARMACEUTICS II)

Upon the completion of this course, the student will able to

CO1. Understand mechanisms of solute solvent interactions and physicochemical properties of drug molecules in the designing of dosage forms.

CO2. Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations.

CO3. Demonstrate the use, method of determination and application of surface tension in the formulation development and evaluation of dosage forms.

CO4. Understand various types of complexation and protein binding and its importance in pharmacy.

CO5. Know the pH determination, application of buffers and importance of isotonic Solutions

Course Code BP403T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3			3	3	3	1		3	3
CO2	3	3	2	3	2	3		1		3	3
CO3	3	3	2	3	2	3	3	1	2	3	3
CO4	3	3	2	3	2	3	3	1	3	3	3
CO5	3	3	2	3	2	3	3	1	3	3	3

BP404T (PHARMACOLOGY I)

Upon completion of this course the student should be able to:

CO1 Understand the pharmacological actions of different categories of drugs

CO2 Explain the mechanism of drug action at organ system/sub cellular/

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macromolecular levels.

CO3 Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.

CO4 Observe the effect of drugs on animals by simulated experiments

CO5 Appreciate correlation of pharmacology with other bio medical sciences

Course Code BP404T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1
CO1	3	2	1	2	1	1			3	1	2
CO2	3	2	1	1	1	1			3		1
CO3	3	1		2					3		2
CO4	3	2		2		3			3	3	2
CO5	3	1	1	3	1	1			3		2

BP405T (PHARMACOGNOSY AND PHYTOCHEMISTRY I)

Upon completion of the course, the student shall be able

CO1. To know the techniques in the cultivation and production of crude drugs.

CO2. To known the crude drugs, their uses and chemical nature.

CO3. Know the evaluation technique for the herbal drugs.

CO4. To carry out the microscopic and morphological evaluation of crude drugs.

Course Code BP405T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	3	1	1				2	1	2
CO2	2	3	2	1	1	1			2	1	2
CO3	2	1		2		1				1	3
CO4	1	2		1					1	2	1

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BP501T (MEDICINAL CHEMISTRY II)

Upon completion of the course, the student shall be able

CO1. Understand the importance of drug design and different techniques of drug design.

CO2. Understand the chemistry of drugs with respect to their biological activity.

CO3. Know the metabolism, adverse effects and therapeutic value of drugs.

CO4. Know the importance of SAR of drugs.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO
BP501T	CO1	2	2							1		1
	CO2	2	2							1		1
	CO3	2	2							1		1
	CO4	2	2			2	2			1	2	1

BP502T (INDUSTRIAL PHARMACY I)

Upon the completion of this course, the student will able to

CO1. Know the various pharmaceutical dosage forms and their manufacturing

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techniques.

CO2. Know various considerations in development of pharmaceutical dosage forms

CO3. Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality.

Course Code BP502T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3				1				1	2
CO2	3	3				1				1	2
CO3	3	3				1				1	2

BP503T (PHARMACOLOGY II)

Upon completion of this course the student should be able to:

CO1: Understand the mechanism of drug action and its relevance in the treatment of different Diseases.

CO2: Demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments

CO3: Demonstrate the various receptor actions using isolated tissue preparation.

CO4: Appreciate correlation of pharmacology with related medical sciences.

Cour se Code	**CO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
BP 503 T	**CO1**	3	2			2				3		2
	CO2	2	2	1	3		2			2	2	2

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	CO3	2	2	1	3		2			2	2	3
	CO4	3				2				3		2

BP504T (PHARMACOGNOSY &PHYTOCHEMISTRY II)

Upon the completion of this course, the student will able to

CO1. To know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents

CO2. To understand the preparation and development of herbal formulation.

CO3. To understand the herbal drug interactions.

CO4. To carry out isolation and identification of phytoconstituents.

Cour Se Code	**CO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO1**
BP 504T	**CO1**	3	2		1	1	2			1	1	2
	CO2	2	3	1	1		1			2	1	2

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	CO3	3	1	2	2	1				2	2	2
	CO4	2	2		1		1				1	1

BP505T (PHARMACEUTICAL JURISPRUDENCE)

Upon completion of the subject student shall be able to:

CO1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals.

CO2. Various Indian pharmaceutical Acts and Laws.

CO3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals.

CO4. The code of ethics during the pharmaceutical practice.

Cour se Code	**CO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO**
BP505T	**CO1**	3		2	3	1						2
	CO2	2		1	3			1			2	1

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	CO3	2	2		3	1		1				2
	CO4	3		2	3	2					1	2

BP601T (MEDICINAL CHEMISTRY III)

Upon the completion of this course, the student will able to

CO1. Understand the importance of drug design and different techniques of drug design.

CO2. Understand the chemistry of drugs with respect to their biological activity.

CO3. Know the metabolism, adverse effects and therapeutic value of drugs.

CO4. Know the importance of SAR of drugs.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1
BP601T	CO1	2	2							2		1
	CO2	2	2							2		1
	CO3	2	2							2		1

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	CO4	2	2			2	2			2	2	1

BP602T (PHARMACOLOGY III)

Upon completion of this course the student should be able to:

CO1: understand the mechanism of drug action and its relevance in the treatment of different infectious diseases

CO2: comprehend the principles of toxicology and treatment of various poisonings.

CO3: appreciate correlation of pharmacology with related medical sciences.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1
BP602T	CO 1	3	2	1		2				3		2
	CO 2	2	2	2	2	2	3			3	2	2
	CO 3	3	1		1	2				3		2

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BP603T (HERBAL DRUG TECHNOLOGY)

Upon the completion of this course, the student will able to

CO1 . Understand raw material as source of herbal drugs from cultivation to herbal drug product.

CO2. Know the WHO and ICH guidelines for evaluation of herbal drugs.

CO3 Know the herbal cosmetics, natural sweeteners, and nutraceuticals

CO4. Appreciate patenting of herbal drugs, GMP.

SUB. CODE	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1
BP 603 T	CO1	3	2	2	2	1				1	1	2
	CO2	3	3	2	2		1			2	1	1
	CO3	2	2	2	2	1	1			1	1	2
	CO4	3	3	1	3	1	1			2	1	3

BP604T (BIOPHARMACEUTICS & PHARMACOKINETICS)

Upon the completion of this course, the student will able to

CO1. Understand the basic concepts in Biopharmaceutics and pharmacokinetics and their significance.

CO2. Use of plasma drug concentration-time data to calculate the pharmacokinetic

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parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.

CO3. To understand the concepts of bioavailability and bioequivalence of drug products and their significance.

CO4. Understand various pharmacokinetic parameters, their significance & applications.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1
BP604T	**CO1**	3	3		1		2			1	1	2
	CO2	3	3							1	1	2
	CO3	**3**	**3**							**1**	**1**	2
	CO4	**3**	**3**		**1**		**2**			**1**	**1**	2

BP605T (PHARMACEUTICAL BIOTECHNOLOGY)

Upon the completion of this course, the student will able to

CO1. Understanding the importance of Immobilized enzymes in Pharmaceutical industries.

CO2. Genetic engineering applications in relation to production of pharmaceuticals.

CO3. Importance of Monoclonal antibodies in industries.

CO4. Appreciate the use of microorganisms in fermentation technology.

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Course Code BP605T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	3	2	2	3	2		3	3	3
CO2	3	3	3	2	2	3	2		2	3	3
CO3	3	3	3	3	2	3	1		3	3	3
CO4	3	3	3	3	3	3	2	2	2	3	3

BP606T (PHARMACEUTICAL QUALITY ASSURANCE)

Upon completion of the course student shall be able to:

CO1. Understand the cGMP aspects in a pharmaceutical industry

CO2. Appreciate the importance of documentation

CO3. Uunderstand the scope of quality certifications applicable to pharmaceutical industries

CO4. Understand the responsibilities of QA & QC departments

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1
BP 606 T	CO1	3		1		1	3			1	3	1
	CO2	3	1				2			1	2	1

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	CO3	3				2	2	1	1	1	2	1
	CO4	3	2	1		1	3	1		1	3	1

BP701T (INSTRUMENTAL METHODS OF ANALYSIS)

C01. Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis

CO2. Understand the chromatographic separation and analysis of drugs.

CO3. Perform quantitative & qualitative analysis of drugs using various analytical instruments.

Course Code BP701T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2		1	1	3				2	2
CO2	3	3		1	2	3				3	2
CO3	3	2		1	1	3				2	2

BP702T (INDUSTRIAL PHARMACY II)

CO1. Know the process of pilot plant and scale up of pharmaceutical dosage forms.

CO2. Understand the process of technology transfer from lab scale to commercial batch.

CO3. Know different Laws and Acts that regulate pharmaceutical industry.

CO4. Understand the approval process and regulatory requirements for drug products.

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Course Code BP702T	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	3	3		3				3	2
CO2	3	3			2						2
CO3	3	3	2	3							3
CO4	3	3			2					2	3
AVERAGE	**3**	**3**	**2.5**	**3**	**2**	**3**				**2.5**	**2.5**

BP703T (PHARMACY PRACTICE)

CO1 - To explain concepts of hospitals, hospital organization, their functioning, various drug distribution methods in a hospital and role of hospital pharmacist.

CO2 - To understand the concept of community pharmacy, pharmacy stores management, inventory control, record keeping and role of community pharmacists.

CO3- To understand role of pharmacist in rational drug therapy, drug monitoring, medication history, patient counseling, patient compliance and ADR detection, reporting and monitoring.

CO4- Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states and to know pharmaceutical care services

CO5- Appreciate the concept of rational drug therapy.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO
BP703T	CO1	3	-	2	3	1	-	2	3	3	-	2
	CO2	3	-	-	2	-	-	2	-	2	3	2
	CO3	2	-	-	1	1	2	-	-	3	3	1
	CO4	2	-	-	-	-	3	3	-	-	3	2
	CO5	3	-	2	-	3	-	1	-	-	-	1

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BP704T (NOVEL DRUG DELIEVERY SYSTEM)

Upon the completion of this course, the student will able to

CO1. Understand various approaches for development of novel drug delivery systems.

CO2. Understand the criteria for selection of drugs and polymers for the development of NDDS, their formulation and evaluation.

Couse Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P010	PO11
CO1	3	3	2			3					3
CO2	3	2	2			3					3

BP801T (BIOSTATISTICS & RESEARCH METHODOLOGY)

Upon completion of this course the student should be able to:

CO1. Know the operation of M.S. Excel, SPSS, R and MINITAB®, DoE (Design of Experiment).

CO2. Know the various statistical techniques to solve statistical problems.

CO3. Appreciate statistical techniques in solving problems.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11
BP801T	CO1	3	2	-	3	3	2	-	-	3	3	3

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	CO2	3	2	-	1	2	2	-	-	1	2	2
	CO3	2	2	-	-		1	-	-	-	1	-

BP802T (SOCIAL AND PREVENTIVE PHARMACY)

CO 1: Acquire high consciousness of current issues related to health and pharmaceutical problems within the country and worldwide.

CO 2: Acquire high realization of current issues related to health and pharmaceutical problems within the country and worldwide.

CO 3: Students become aware about national health programs.

CO 4: Develop a critical way of thinking based on current healthcare development.

CO 5: Evaluate the alternative ways of solving problems related to health and pharmaceutical issues.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11
BP802T	CO1	3	2	-	-	3	3	1	1	2	-	2
	CO2	3	2	-	-	-	1	2	2	2	-	2
	CO3	3	2	3	1	3	3	2	3	3	-	2
	CO4	3	-	-	-	-	-	-	2	2	-	2
	CO5	2	1	1	2	3	2	2	2	2	2	2

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BP803ET (PHARMACEUTICAL MARKETING)

Upon completion of this course the student should be able to:

CO1 Outline the marketing concept

CO2 Develop techniques and their applications in pharmaceutical industry

CO3 Classify product design and explain various channels of marketing

CO4 To identify marketing mix for pharmaceutical products.

CO5 To compare pricing of pharmaceutical products.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11
BP803T	CO1	3	1	-	-	3	2	-	2	1	-	2
	CO2	3	2	-	-	2	3	-	1	1	-	2
	CO3	3	1	-	-	3	3	-	2	1	-	2
	CO4	3	1	-	-	3	3	-	2	1	-	2
	CO5	3	-	-	-	3	3	-	1	-	-	3

BP804ET (PHARMACEUTICAL REGULATORY SCIENCES)

Upon completion of the subject student shall be able to;

CO1. Know about the process of drug discovery and development.

CO2. Know the regulatory authorities governing the manufacture and sale of pharmaceuticals.

CO3. Know the regulatory agencies governing the manufacture and sale of pharmaceuticals.

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CO4. Know the regulatory approval process in Indian and international markets.

CO5. Know the regulatory registration in Indian and international markets.

Course Code	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO
BP804ET	CO1	3	3	1	3	1	1	-	-	1	1	3
	CO2	2	2	2	-	2	1	3	2	3	1	2
	CO3	2	2	2	-	2	1	3	2	3	1	2
	CO4	1	2	3	-	-	-	2	2	2	1	2
	CO5	1	2	3	-	-	-	2	2	2	1	2

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