



BALAJI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by AICTE & PCI, Under Section 12, New Delhi and Affiliated to kakathiya University, Wgl)

Laknepally (V) Narsampet (M) Warangal Rural (Dist) Telangana State 506331

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Program Outcomes for B.Pharm, Pharm.D & M.pharm Programs

PO1	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.
PO2	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.
PO3	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.
PO4	Modern tool usage	Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations
PO5	Leadership skills	Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment 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.



PO6	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)
PO7	Pharmaceutical Ethics	Honor personal values and apply ethical principles in professional and social contexts. Demonstrate behavior 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
PO8	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
PO9	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
PO10	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
PO11	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-asses and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis

PRINCIPAL

Balaji Institute of Pharmaceutical Sciences
Laknepally (V), Narsampet (M)
Warangal (Dt) - 506 331 (T.S)



Program Specific Outcomes for B.Pharm

PSO1	The students shall be able to apply the knowledge and skill gained from various subjects and the aptitude developed throughout the course of the program in performing a job either independently or as a member of a team in various fields of pharmacy profession
PSO2	The students shall be able to make an initiation and achieve an innovation by properly integrating the input from various resources either independently or as a member of a team in various fields of pharmacy profession for betterment of the quality of life of the patients in the society

Program Specific Outcomes for Pharm.D

PSO1	Anticipate the patient's needs, participate in the creation of individualized disease management and prevention plans including patients self management and behavioural changes
PSO2	Knowledge to participate with inter professional health care team members in the management of health promotions for all patients by providing pharmaceutical care (including Medication therapy management / Therapeutic drug monitoring)

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Program Specific Outcomes for M.Pharm (Pharmaceutics)

PSO1	To expertise in technical skills and gain knowledge in bioavalabilty and bioequivalence studies
PSO2	To impart knowledge and skill development on designing of doasage forms as per GMP guidenlines

Program Specific Outcomes for M.Pharm (Pharmaceutical analysis)

PSO1	To learn advanced analytical techniques for the determination of various drugs in single and combination dosage forms
PSO2	To operate, control , analyse and evaluate chemical substances,cosmetic products, finished proucts using hyphenated techniques

Program Specific Outcomes for M.Pharm (Pharmaceutical Quality Assurance)

PSO1	To learn advanced analytical techniques for the determination of various drugs in single and combination dosage forms
PSO2	To operate, control , analyse and evaluate chemical substances,cosmetic products, finished proucts using hyphenated techniques

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Balaji Institute of Pharmaceutical Sciences
Lakshminally (V), Narsampet (M)



COURSE OUTCOMES, CO-PO , CO-PSO mapping

B.Pharmacy

I Semester

PCI REGULATION

1	Course Code:	BP101T
	Subject Name	HUMAN ANATOMY & PHYSIOLOGY
Course Outcomes		
BP101T.1	CO1	Describe vaious systems of human body, cellular organization and Tissue levels
BP101T.2	CO2	describe integumentary system, skeletal system and joints and their disorders
BP101T.3	CO3	knowledge on various body fluid, Blood and lymphatic system
BP101T.4	CO4	relationship between various organs physiology and nervous system control, knowledge on special senses
BP101T.5	CO5	Knowlede on cardiovascular sytem and its regulation

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	2	0	2	0	1	0	0	1	3	0	1	0
CO2	2	2	1	2	0	1	0	0	1	2	0	1	1
CO3	2	1	1	1	0	1	0	0	1	2	0	2	1
CO4	3	1	1	0	0	1	0	0	2	2	0	1	2
CO5	2	3	0	1	0	1	0	0	2	2	0	2	2
Average	2.20	1.80	1.00	1.50	0.00	1.00	0.00	0.00	1.40	2.20	0.00	1.40	1.50



2	Course Code:	BP102T
	Subject Name	PHARMACEUTICAL ANALYSIS-I
Course Outcomes		
BP102T.1	CO1	Understand the knowledge on preparatory pharmacy and professional way of evaluating various conventional drugs, raw materials and formulations.
BP102T.2	CO2	Explain the theoretical basis of commonly used statistical methods & correctly analyze & interpret the results of statistical data from surveys, experiments & observational studies.
BP102T.3	CO3	Illustrate sources of errors in analytical techniques, methods to minimize them.
BP102T.4	CO4	Describe the various titrimetric and electrochemical methods of analysis and their application in quality control of pharmaceuticals.
BP102T.5	CO5	Describe gravimetry and limit tests - principles and applications.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	3	0	2	1		1	3	3	3
CO2	3	0	0	3	0	3	2	1		1	3	3	3
CO3	3	0	0	0	0	0	2	1		1	3	3	3
CO4	3	0	0	0	0	0	2	1		1	3	3	3
CO5	3	0	0	0	0	0	2	1		1	3	3	3
Average	3.00	0.00	0.00	3.00	3.00	3.00	2.00	1.00	0.00	1.00	3.00	3.00	3.00

3	Course Code:	BP103T
	Subject Name	PHARMACEUTICS-I
Course Outcomes		
BP103T.1	CO1	Know the history of profession of pharmacy
BP103T.2	CO2	Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations
BP103T.3	CO3	Understand the professional way of handling the prescription.
BP103T.4	CO4	Preparation and evaluation of various conventional dosage forms

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	1	2	3	3	1	0	0	0	0	0	1	2
CO2	1	2	3	3	3	2	2	0	0	0	0	2	3
CO3	2	2	3	3	2	2	3	0	0	0	0	1	3
CO4	2	3	2	2	2	1	1	0	0	0	0	3	2
Average	1.75	2.00	2.50	2.75	2.50	1.50	2.00	0.00	0.00	0.00	0.00	1.75	2.50

4	Course Code:	BP104T
	Subject Name	PHARMACEUTICAL INORGANIC CHEMISTRY-I
Course Outcomes		
BP104T.1	CO1	Knowledge of sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals
BP104T.2	CO2	Understanding of the basic concepts of acidity /basicity, buffers and tonicity applicable in pharmaceuticals
BP104T.3	CO3	Understanding of the medicinal and pharmaceutical importance of inorganic compounds
BP104T.4	CO4	Understanding of concepts and principles of radiopharmaceuticals

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	1	1	2	2	3	0	1	2	3	1	2
CO2	3	1	2	2	1	1	1	0	0	2	2	2	2
CO3	3	0	0	0	1	1	1	0	0	2	2	2	2
CO4	3	0	2	0	1	1	1	0	0	2	2	2	2
Average	3.00	1.50	1.67	1.50	1.25	1.25	1.50	0.00	1.00	2.00	2.25	1.75	2.00

5	Course Code:	BP105T
	Subject Name	COMMUNICATION SKILLS
Course Outcomes		
BP105T.1	CO1	Understand the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation.
BP105T.2	CO2	Communicate effectively (Verbal and NonVerbal).
BP105T.3	CO3	Effectively manage the teams at employer
BP105T.4	CO4	Develop interview skills.
BP105T.5	CO5	Develop Leadership qualities and essentials

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	0	0	0	0	2	3	2	3	3
CO2	3	3	3	2	0	0	0	0	2	0	2	3	3
CO3	3	3	3	2	0	0	0	0	2	0	2	3	3
CO4	3	3	3	2	0	0	0	0	3	0	2	3	3
CO5	3	3	3	2	0	0	0	0	2	0	2	3	3
Average	3.00	3.00	3.00	2.20	0.00	0.00	0.00	0.00	2.20	3.00	2.00	3.00	3.00





6	Course Code:	BP106RBT
	Subject Name	REMEDIAL BIOLOGY
Course Outcomes		
BP106RBT.1	CO1	know the classification and salient features of five kingdoms of life.
BP106RBT.2	CO2	understand the basic components of anatomy & physiology of plant
BP106RBT.3	CO3	know understand the basic components of anatomy & physiology of animal with Special reference to human

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	1	2	1	0	0	0	0	0	2	0	2	1
CO2	1	1	2	1	0	0	0	0	0	2	0	2	3
CO3	1	1	2	1	0	0	0	0	0	2	0	2	2
Average	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	2.00

7	Course Code:	BP106RMT
	Subject Name	REMEDIAL MATHEMATICS
Course Outcomes		
BP106RMT.1	CO1	Know the theory and their application in Pharmacy
BP106RMT.2	CO2	Solve the different types of problems by applying theory.
BP106RMT.3	CO3	Appreciate the important Applications of mathematics in Pharmacy

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	1	3	0	0	0	0	0	3	0	3	2	2
CO2	3	3	3	3	0	0	0	0	3	0	3	3	3
CO3	3	3	3	3	0	0	0	0	3	0	3	3	3
Average	2.33	2.33	3.00	3.00	0.00	0.00	0.00	0.00	3.00	0.00	3.00	2.67	2.67

8	Course Code:	BP107P
	Subject Name	Human Anatomy and Physiology I
Course Outcomes		
BP107.1	CO1	To identify the various tissues and organs of different systems of human body.
BP107.2	CO2	Able to perform Hemocytometry
BP107.3	CO3	Learn to detect heart rate and pulse rate
BP107.4	CO4	Correlate the thoretical knolwedge with practicals

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	0	2	0	1	0	0	1	3	0	0	0
CO2	3	2	1	2	0	1	0	0	1	2	0	1	1
CO3	3	2	1	1	0	1	0	0	2	2	0	1	1
CO4	3	2	1	0	0	1	0	0	2	2	0	1	0
Average	3.00	2.00	1.00	1.67	0.00	1.00	0.00	0.00	1.50	2.25	0.00	1.00	1.00

9	Course Code:	BP108P
	Subject Name	Pharmaceutical Analysis I
Course Outcomes		
BP108.1	CO1	To get acquainted to basic apparatus and instruments and their calibration
BP108.2	CO2	Understand concept of various volumetric analysis.
BP108.3	CO3	Understand concept of various electrochemical titrations
BP108.4	CO4	To develop analytical skills in data interpretation and calculations

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	3	0	2	1	0	1	3	3	3
CO2	3	0	0	3	0	3	2	1	0	1	2	3	2
CO3	3	0	0	0	0	0	2	1	0	1	3	3	2
CO4	3	0	0	0	0	0	2	1	0	1	2	3	3
Average	3.00	0.00	0.00	3.00	3.00	3.00	2.00	1.00	0.00	1.00	2.50	3.00	2.50

10	Course Code:	BP109P
	Subject Name	Pharmaceutics I
Course Outcomes		
BP109P.1	CO1	Understand formulation and evaluation of Pharmaceutical solution
BP109P.2	CO2	Understand formulation and evaluation of Pharmaceutical dispersed system
BP109P.3	CO3	Understand formulation and evaluation of pharmaceutical powders
BP109P.4	CO4	Understand formulation and evaluation of semisolid dosage form

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	1	2	0	1	0	0	0	0	0	3	2
CO2	3	1	1	2	0	1	0	0	0	0	0	2	2
CO3	3	1	1	1	0	1	0	0	0	0	0	2	2
CO4	3	1	1	2	0	1	0	0	0	0	0	3	2
Average	3.00	1.00	1.00	1.67	0.00	1.00	0.00	0.00	0.00	0.00	0.00	2.33	2.00





11	Course Code:	BP110P
	Subject Name	Pharmaceutical Inorganic Chemistry
Course Outcomes		
BP110P.1	CO1	Develop skills to perform limit test for given sample
BP110P.2	CO2	Perform identification inorganic salts through various qualitative tests
BP110P.3	CO3	Ability to perform tests for purity for different compounds as per IP
BP110P.4	CO4	Knowledge and skills to prepare inorganic salts -boric acid, potash alum and ferrous sulphate

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	3	0	2	1	0	1	3	3	3
CO2	3	0	0	3	0	3	2	1	0	1	3	2	2
CO3	3	0	0	0	0	0	2	1	0	1	3	2	3
CO4	3	0	0	0	0	0	2	1	0	1	3	3	2
Average	3.00	0.00	0.00	3.00	3.00	3.00	2.00	1.00	0.00	1.00	3.00	2.50	2.50

12	Course Code:	BP111P
	Subject Name	Communication Skills
Course Outcomes		
BP111P.1	CO1	Develop Basic communication important for Meeting People
BP111P.2	CO2	Knowledge about Pronunciations
BP111P.3	CO3	Ability to perform Advanced Learning
BP111P.4	CO4	Develop skills for Effective Writing

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	0	2	0	0	2	1	0	3	0	0	3	2	0
CO2	0	2	0	0	2	1	0	2	0	0	2	3	0
CO3	0	2	0	0	2	1	0	3	0	0	3	3	0
CO4	0	2	0	0	2	1	0	2	0	0	3	2	0
Average	0.00	2.00	0.00	0.00	2.00	1.00	0.00	2.33	0.00	0.00	2.67	2.67	0.00

13	Course Code:	BP112RBP
	Subject Name	Remedial Biology
Course Outcomes		
BP112RBP.1	CO1	Knowledge about basic introduction to experiments in biology
BP112RBP.2	CO2	Study of cell and its inclusions
BP112RBP.3	CO3	Determination of blood group, blood pressure and tidal volume.
BP112RBP.4	CO4	Develop skills for Microscopic study and identification of tissues pertinent.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	0	0	0	1	0	0	1	0
CO2	2	0	0	0	0	0	0	0	1	0	0	1	0
CO3	2	0	0	0	0	0	0	0	1	0	0	1	0
CO4	2	0	0	0	0	0	0	0	1	0	0	1	0
Average	2.00	0.00	1.00	0.00	0.00	1.00	0.00						



COURSE OUTCOMES, CO-PO , CO-PSO mapping

**B.Pharmacy
II Semester**

PCI REGULATION

1	Course Code:	BP201T
	Subect Name	HUMAN ANATOMY AND PHYSIOLOGY II
Course Outcomes		
BP201T.1	CO1	Explain the gross morphology, structure, and functions of various organs of the human body
BP201T.2	CO2	Describe the various homeostatic mechanisms and their imbalances
BP201T.3	CO3	Identify the various tissues and organs of different systems of human body
BP201T.4	CO4	Appreciate coordinated working pattern of different organs of each system
BP201T.5	CO5	Appreciate the inter linked mechanisms in the maintenance of normal functioning(homeostasis)of human body

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	1	0	2	0	1	0	0	1	3	0	0	0
CO2	3	1	0	2	0	1	0	0	1	2	0	2	2
CO3	2	1	0	1	0	1	0	0	2	2	0	2	1
CO4	2	3	0	1	0	1	0	0	2	2	0	2	3
CO5	2	3	0	1	0	1	0	0	2	2	0	2	3
Average	2.20	1.80	0.00	1.40	0.00	1.00	0.00	0.00	1.60	2.20	0.00	1.60	1.80

2	Course Code:	BP202T
	Subect Name	PHARMACEUTICAL ORGANIC CHEMISTRY-I
Course Outcomes		
BP202T.1	CO1	Knowledge of the classification , nomenclature, structure and the type of isomerism of the organic compound
BP202T.2	CO2	Understanding of important physical properties, reactions (and underlying mechanisms) and methods of preparation of various functional groups.
BP202T.3	CO3	Account for reactivity/stability of compounds and intermediates forming in reactions
BP202T.4	CO4	Identify / confirm the identification of organic compound.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	1	2	0	0	0	1	0	1	3	2	2
CO2	2	0	1	2	0	0	0	1	0	1	3	2	2
CO3	2	0	1	2	0	0	0	1	0	1	3	2	2
CO4	2	0	1	2	0	0	0	1	0	1	3	2	2

Average	2.00	0.00	1.00	2.00	0.00	0.00	0.00	1.00	0.00	1.00	3.00	2.00	2.00
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3	Course Code:	BP203T	
	Subject Name	BIOCHEMISTRY	
	Course Outcomes		
	BP203T.1	CO1	Understand classification, chemical nature, biological role and metabolism of biomolecules.
	BP203T.2	CO2	Understand bioenergetics and biological oxidation pathway
BP203T.3	CO3	Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins	
BP203T.4	CO4	Understand the catalytic role of enzymes and importance of enzyme in biochemical process.	

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	1	0	0	0	0	1	0	0	0	0
CO2	3	0	0	1	0	0	0	0	1	0	0	1	0
CO3	3	0	0	1	0	0	0	0	1	0	0	1	0
CO4	3	0	0	1	0	0	0	0	1	0	0	2	0
Average	3.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.33	0.00

4	Course Code:	BP204T	
	Subject Name	PATHOPHYSIOLOGY	
	Course Outcomes		
	BP204T.1	CO1	Describe the etiology and pathogenesis of the selected disease states
	BP204T.2	CO2	Name the signs and symptoms of the diseases
BP204T.3	CO3	Mention the complications of the diseases	

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	0	0	0	0	0	3	1	2
CO2	3	0	0	0	0	0	0	0	0	0	3	2	1
CO3	3	0	0	0	0	0	0	0	0	0	3	1	2
Average	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1.33	1.67

5	Course Code:	BP205T	
	Subject Name	COMPUTER APPLICATIONS IN PHARMACY	
	Course Outcomes		
	BP205T.1	CO1	Know the various types of application of computers in pharmacy.
	BP205T.2	CO2	Know the various types of databases.
BP205T.3	CO3	Know the various applications of databases in pharmacy	

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	0	0	3	0	0	0	0	0	0	3	2	2
CO2	0	0	0	3	0	0	0	0	0	0	3	2	2
CO3	1	0	0	3	0	0	0	0	0	0	3	2	2
Average	1.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2.00	2.00

6	Course Code:	BP206T	
	Subject Name	ENVIRONMENTAL SCIENCES	
	Course Outcomes		
BP206T.1	CO1	Create the awareness about environmental problems among learners	

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	0	0	0	0	0	0	3	0	2	2	2	1	1

BP206T.2	CO2	Impart basic knowledge about the environment and its allied problems
BP206T.3	CO3	Develop an attitude of concern for the environment.
BP206T.4	CO4	Motivate learner to participate in environment protection and environment improvement.
BP206T.5	CO5	Acquire skills to help the concerned individuals in identifying and solving environmental problems
BP206T.6	CO6	Strive to attain harmony with Nature

CO2	0	0	0	0	0	0	3	0	2	3	3	1	1
CO3	0	0	0	0	0	0	3	0	2	3	3	1	1
CO4	0	0	0	0	0	0	3	0	2	2	3	1	1
CO5	0	0	0	0	0	0	3	0	2	3	2	1	1
CO6	0	0	0	0	0	0	3	0	2	3	3	1	1
Average	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	2.00	2.67	2.67	1.00	1.00

7	Course Code:	BP207P
	Subject Name	Human Anatomy and Physiology II
Course Outcomes		
BP207P.1	CO1	To study the gross morphology, structure and functions of nervous, respiratory, urinary and reproductive systems in the human body.
BP207P.2	CO2	To identify the various organs of different systems of human body
BP207P.3	CO3	To perform and learnt about the experiments like neurological reflex, body temperature measurement.
BP207P.4	CO4	To perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc. and also to record blood pressure, heart rate, pulse and respiratory volume.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	1	0	0	0	0	2	1	0	3	3	3
CO2	3	1	1	0	0	0	0	2	2	0	3	3	3
CO3	3	1	1	1	0	0	0	2	1	0	3	3	3
CO4	3	1	1	2	0	0	0	2	2	0	3	3	3
Average	3.00	1.00	1.00	1.50	0.00	0.00	0.00	2.00	1.50	0.00	3.00	3.00	3.00

8	Course Code:	BP208P
	Subject Name	Pharmaceutical organic Chemistry I
Course Outcomes		
BP208P.1	CO1	Knowledge of safety measures in organic chemistry laboratory and various laboratory techniques.
BP208P.2	CO2	Understanding of steps involved in identification of unknown organic compound.
BP208P.3	CO3	Ability to prepare suitable solid derivatives from organic compounds
BP208P.4	CO4	Develop skills to prepare stereo models containing various functional groups.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	1	2	0	0	0	1	0	1	3	2	2
CO2	2	0	1	2	0	0	0	1	0	1	3	2	2
CO3	2	0	1	2	0	0	0	1	0	1	3	2	2
CO4	2	0	1	2	0	0	0	1	0	1	2	2	2
Average	2.00	0.00	1.00	2.00	0.00	0.00	0.00	1.00	0.00	1.00	2.75	2.00	2.00



9	Course Code:	BP209P
	Subject Name	Biochemistry
Course Outcomes		
BP209P.1	CO1	Learn quantitative analysis test of carbohydrates, amino acids and proteins
BP209P.2	CO2	Understand qualitative analysis of urine for normal constituents.
BP209P.3	CO3	Study principle and procedure for determination of serum total cholesterol, blood sugar and blood creatinine.
BP209P.4	CO4	Understand role of salivary amylase.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	0	0	0	2	0	0	1	0
CO2	2	0	0	1	0	0	0	0	2	0	0	1	0
CO3	2	0	0	2	0	0	0	0	2	0	0	1	0
CO4	2	0	0	1	0	0	0	0	2	0	0	1	0
Average	2.00	0.00	0.00	1.33	0.00	0.00	0.00	0.00	2.00	0.00	0.00	1.00	0.00

10	Course Code:	BP210P
	Subject Name	Computer Application in Pharmacy
Course Outcomes		
BP210P.1	CO1	Design a questionnaire using a word processing package to gather information about a particular disease.
BP210P.2	CO2	Create a database, invoice table and HTML web page.
BP210P.3	CO3	Drug information storage and retrieval using MS Access.
BP210P.4	CO4	Exporting Tables, Queries, Forms and Reports to web pages and XML pages.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	0	1	1	3	1	1	0	2	0	0	3	3	3
CO2	0	1	1	3	1	1	0	2	0	0	3	3	3
CO3	0	1	1	3	1	1	0	2	0	0	3	3	3
CO4	0	1	1	3	1	1	0	2	0	0	3	3	3
Average	0.00	1.00	1.00	3.00	1.00	1.00	0.00	2.00	0.00	0.00	3.00	3.00	3.00




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

B.Pharmacy

III Semester

PCI REGULATION

1	Course Code:	BP301T
	Subect Name	PHARMACEUTICAL ORGANIC CHEMISTRY-II
Course Outcomes		
BP301T.1	CO1	Write the structure, name and the type of isomerism of the organic compound.
BP301T.2	CO2	Write the reaction, name the reaction and orientation of reactions
BP301T.3	CO3	Account for reactivity/stability of compounds
BP301T.4	CO4	Prepare organic compounds

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	1	2	1	1	1	1	2	2	3	3	3
CO2	3	2	1	2	1	1	1	1	2	2	3	3	3
CO3	3	2	2	2	1	1	1	1	2	2	3	3	3
CO4	3	2	1	2	1	1	1	1	2	2	3	3	3
Average	3.00	2.00	1.25	2.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00

2	Course Code:	BP302T
	Subect Name	PHYSICAL PHARMACEUTICS-I
Course Outcomes		
BP302T.1	CO1	Understand various physicochemical properties of drug molecules in the designing the dosage form
BP302T.2	CO2	Know the principles of chemical kinetics & to use them in assigning expiry date for formulation.
BP302T.3	CO3	Demonstrate use of physicochemical properties in evaluation of dosage forms
BP302T.4	CO4	Appreciate physicochemical properties of drug molecules in formulation Research and development

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	0	0	0	0	2	3	2
CO2	3	0	0	3	0	0	0	0	0	0	3	3	3
CO3	3	0	0	1	0	0	0	0	0	0	1	3	1
CO4	3	0	0	3	0	0	0	0	0	0	1	3	1

Average	3.00	0.00	0.00	2.25	0.00	0.00	0.00	0.00	0.00	0.00	1.75	3.00	1.75
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3	Course Code:	BP303T
	Subect Name	PHARMACEUTICAL MICROBIOLOGY
Course Outcomes		
BP303T.1	CO1	Understand methods of identification, cultivation and preservation of various microorganisms
BP303T.2	CO2	Importance of sterilization in microbiology and pharmaceutical industry
BP303T.3	CO3	Learn sterility testing of pharmaceutical products.
BP303T.4	CO4	Microbiological standardization of Pharmaceuticals
BP303T.5	CO5	Understand the cell culture technology and its applications in pharmaceutical industries.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	0	0	0	0	0	0	0	0	0	0	0	0
CO2	2	0	0	3	0	1	0	0	0	0	1	3	2
CO3	3	0	0	2	0	2	0	1	0	0	2	3	2
CO4	3	0	0	1	0	2	0	1	0	0	2	3	2
CO5	3	0	0	3	0	2	0	1	0	0	3	3	2
Average	2.40	0.00	0.00	2.25	0.00	1.75	0.00	1.00	0.00	0.00	2.00	3.00	2.00

4	Course Code:	BP304T
	Subect Name	PHARMACEUTICAL ENGINEERING
Course Outcomes		
BP304T.1	CO1	To know various unit operations used in Pharmaceutical industries
BP304T.2	CO2	To understand the material handling techniques
BP304T.3	CO3	To perform various processes involved in pharmaceutical manufacturing process.
BP304T.4	CO4	To carry out various tests to prevent environmental pollution.
BP304T.5	CO5	To appreciate and comprehend significance of plant lay out design for optimum use of resources.
BP304T.6	CO6	To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	0	0	0	0	0	2	3	0
CO2	3	0	0	3	0	0	0	0	0	0	2	3	0
CO3	3	0	0	3	0	0	0	0	0	0	2	3	0
CO4	3	0	0	3	0	0	0	0	0	2	0	3	0
CO5	3	0	0	3	0	0	0	0	0	0	2	3	0
CO6	3	0	0	3	0	0	0	0	0	0	2	3	0
Average	3.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	3.00	0.00





5	Course Code:	BP305P
	Subect Name	Pharmaceutical Organic Chemistry-II
Course Outcomes		
BP305T.1	CO1	Demonstration of recrystallisation and Steam distillation
BP305T.2	CO2	Perform separation and identification of qualitative analysis of solid-solid organic binary mixtures.
BP305T.3	CO3	Determine the saponification value of oil sample.
BP305T.4	CO4	Synthesize the different organic compounds and understand the reaction mechanisms

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	3	1	2	1	1	2	2	3	3	3
CO2	3	1	2	3	1	2	1	1	2	2	3	3	3
CO3	3	1	2	3	1	2	1	1	2	2	3	3	3
CO4	3	1	2	3	1	2	1	1	2	2	3	3	3
Average	3.00	1.00	2.00	3.00	1.00	2.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00

6	Course Code:	BP306P
	Subect Name	Physical Pharmaceutics I
Course Outcomes		
BP306P.1	CO1	Apply the knowledge of phase diagram to determine consolute temperatures
BP306P.2	CO2	Understand the concept of solubility and recognize basic rules and equations regarding physical principles
BP306P.3	CO3	Apply the knowledge of complexation and adsorption isotherms
BP306P.4	CO4	Understand the phenomenon of partition coefficient and surface tension

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	0	0	0	0	0	0	0	0	0	2	0
CO2	3	1	0	2	0	0	0	0	0	0	1	2	0
CO3	3	1	0	0	0	0	0	0	0	0	1	2	0
CO4	3	1	0	0	0	0	0	0	0	0	1	2	0
Average	3.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	0.00

7	Course Code:	BP307P
	Subect Name	Pharmaceutical Microbiology
Course Outcomes		
BP307P.1	CO1	Introduction and study of different equipments and processing
BP307P.2	CO2	Understand the concept of Sterilization
BP307P.3	CO3	Perform microbiological assay of antibiotics
BP307P.4	CO4	Understand the phenomenon of Staining methods

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	0	3	0	0	0	0	0	0	0	2	0
CO2	3	1	0	1	0	0	0	0	0	0	1	2	0
CO3	3	1	0	1	0	0	0	0	1	0	1	2	0
CO4	3	2	0	0	0	0	0	0	1	0	0	2	0
Average	3.00	1.25	0.00	1.67	0.00	0.00	0.00	0.00	1.00	0.00	1.00	2.00	0.00

8	Course Code:	BP308P
	Subect Name	Pharmaceutical Engineering
Course Outcomes		
BP308P.1	CO1	Understand the phenomenon of radiation constant.
BP308P.2	CO2	Description of Construction working and application of Pharmaceutical Machinery
BP308P.3	CO3	Understand the concept of Size reduction
BP308P.4	CO4	To calculate the uniformity Index

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	0	0	0	0	0	2	2	0
CO2	3	0	0	3	0	0	0	0	0	0	2	2	0
CO3	3	0	0	3	0	0	0	0	0	0	2	2	0
CO4	3	0	0	3	0	0	0	0	0	0	2	2	0
Average	3.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

B.Pharmacy

IV Semester

PCI REGULATION

1	Course Code:	BP401T
	Subect Name	PHARMACEUTICAL ORGANIC CHEMISTRY-III
Course Outcomes		
	BP401T.1	CO1 understand the methods of preparation and properties of organic compounds
	BP401T.2	CO2 explain the stereochemical aspects of organic compounds and stereochemical reactions
	BP401T.3	CO3 know the medicinal uses and other applications of Organic compounds

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	1	2	1	2	1	2	1	3	3	3
CO2	3	1	2	1	2	1	2	1	2	1	3	3	3
CO3	3	1	2	1	1	1	2	1	2	1	3	3	3
Average	3.00	1.00	2.00	1.00	1.67	1.00	2.00	1.00	2.00	1.00	3.00	3.00	3.00

2	Course Code:	BP402T
	Subect Name	MEDICINAL CHEMISTRY-I
Course Outcomes		
	BP402T.1	CO1 Understand the chemistry of drugs with respect to their pharmacological activity
	BP402T.2	CO2 Understand the drug Classifications and therapeutic value of drugs
	BP402T.3	CO3 Know the Structural Activity Relationship(SAR), MOA of different class of drugs
	BP402T.4	CO4 Write the chemical synthesis of some drugs

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	2	0	3	0	1	1	2	1	3	3
CO2	3	0	0	2	0	3	0	1	2	2	2	3	3
CO3	3	3	3	3	0	2	0	1	2	2	2	3	3
CO4	3	3	3	3	0	2	0	1	2	2	3	3	3
Average	3.00	3.00	2.67	2.50	0.00	2.50	0.00	1.00	1.75	2.00	2.00	3.00	3.00





3	Course Code:	BP403T
	Subect Name	PHYSICAL PHARMACEUTICS-II
Course Outcomes		
BP403T.1	CO1	Understand various physicochemical properties of drug molecules in the designing the dosage form
BP403T.2	CO2	Know the principles of chemical kinetics & to use them in assigning expiry date for Formulation
BP403T.3	CO3	Demonstrate use of physicochemical properties in evaluation of dosage forms
BP403T.4	CO4	Appreciate physicochemical properties of drug molecules in formulation Research and Development

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	0	1	2	2	1	1	1	2	2	3
CO2	3	2	1	0	2	2	1	1	1	1	2	2	3
CO3	3	1	2	1	2	1	1	1	2	2	2	2	3
CO4	3	2	1	0	1	1	0	1	2	2	2	2	3
Average	3.00	1.75	1.50	1.00	1.50	1.50	1.33	1.00	1.50	1.50	2.00	2.00	3.00

4	Course Code:	BP404T
	Subect Name	PHARMACOLOGY-I
Course Outcomes		
BP404T.1	CO1	Understand the pharmacological actions of different categories of drugs
BP404T.2	CO2	Explain the mechanism of drug action at organ system/subcellular/macro molecular levels
BP404T.3	CO3	Apply pharmacological knowledge in the prevention and treatment of various diseases
BP404T.4	CO4	Observe the effect of drugs on animals by simulated experiments
BP404T.5	CO5	Appreciate correlation of pharmacology with other biomedical sciences

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	2	3	2	2	3	0	3	2	2
CO2	3	0	0	3	2	2	1	3	2	0	3	2	2
CO3	3	0	0	2	2	3	2	2	3	0	3	2	2
CO4	3	0	0	3	2	1	1	1	1	0	3	2	2
CO5	3	0	0	2	2	2	2	1	2	0	3	2	2
Average	3.00	0.00	0.00	2.60	2.00	2.20	1.60	1.80	2.20	0.00	3.00	2.00	2.00

5	Course Code:	BP405T
	Subect Name	Pharmacognosy and Phytochemistry I
Course Outcomes		
BP405T.1	CO1	Comprehend and explain Primary and secondary metabolites from source to their industrial applications.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	1	2	1	2	1	3	2	3

BP405T.2	CO2	Explain meaning & significance of Pharmacognostic parameters and pharmacognostic scheme of study of crude drugs.
BP405T.3	CO3	Explain properties, methods of extraction, pharmaceutical and industrial applications of carbohydrates, lipids and proteins and their derived products.
BP405T.4	CO4	Explain properties, methods of extraction, and systematic pharmacognostic study of crude drugs from Glycosides and Tannins.

CO2	2	0	0	0	0	1	2	1	2	1	3	3	3
CO3	2	0	0	0	0	1	2	1	2	1	2	2	2
CO4	2	0	0	0	0	1	2	1	2	1	2	3	2
Average	2.00	0.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	1.00	2.50	2.50	2.50

6	Course Code:	BP406P
	Subect Name	Medicinal Chemistry I
Course Outcomes		
BP406P.1	CO1	Learn synthesis of medicinally important compounds / drug intermediates with Recrystallization and TLC techniques
BP406P.2	CO2	UnderstandPurificationmethods for synthesized compounds using Column chromatography
BP406P.3	CO3	Study of Partition coefficient of drugs
BP406P.4	CO4	Study of Ionisation constants of drugs.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	1	2	1	0	1	1	2	2	3	3	3
CO2	3	1	1	2	1	1	1	1	2	2	3	3	3
CO3	3	1	1	2	1	1	1	1	2	1	3	3	3
CO4	3	1	1	2	1	1	1	1	2	1	3	3	3
Average	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	1.50	3.00	3.00	3.00

7	Course Code:	BP407P
	Subect Name	Physical Pharmaceutics II
Course Outcomes		
BP407P.1	CO1	Gain the knowledge of particle size analysis and surface area determination methods
BP407P.2	CO2	Determine viscosity of fluids and study application of it to colloid stability
BP407P.3	CO3	Apply the knowledge of chemical kinetics in drugs stability
BP407P.4	CO4	To understand the stability of sols

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	0	0	0	0	1	1	0
CO2	3	0	0	2	0	0	0	0	0	0	0	1	0
CO3	3	0	0	0	0	0	0	0	0	0	1	1	0
CO4	3	0	0	0	0	0	0	0	0	0	0	1	0
Average	3.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00



8	Course Code:	BP408P
	Subect Name	Pharmacology I
Course Outcomes		
BP408P.1	CO1	To understand the pharmacological actions of different categories of drugs
BP408P.2	CO2	To study in detailed about mechanism of drug action at organ system/sub cellular/ macromolecular levels
BP408P.3	CO3	To understand the application of basic pharmacological knowledge in the prevention and treatment of various diseases.
BP408P.4	CO4	To observed the effect of drugs on animals by simulated experiments

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	1	0	2	0	1	2	2
CO2	3	0	0	2	0	0	1	0	2	0	2	2	2
CO3	3	0	0	2	0	0	1	0	2	0	1	2	2
CO4	3	0	0	2	0	0	1	0	2	0	2	2	2
Average	3.00	0.00	0.00	2.00	0.00	0.00	1.00	0.00	2.00	0.00	1.50	2.00	2.00

9	Course Code:	BP409P
	Subect Name	Pharmacognosy and Phytochemistry I
Course Outcomes		
BP409P.1	CO1	Able to understand morphology, microscopy and powder characteristics of crude drugs.
BP409P.2	CO2	Able to identify unorganized drugs by chemical methods
BP409P.3	CO3	Able to determine the quality of unorganized crude drugs
BP409P.4	CO4	Able to conduct extraction and estimation of different phytoconstituents

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	1	2	1	2	1	3	2	3
CO2	2	0	0	0	0	1	2	1	2	1	3	3	3
CO3	2	0	0	0	0	1	2	1	2	1	3	2	2
CO4	2	0	0	2	0	1	2	1	2	1	3	3	2
Average	2.00	0.00	0.00	2.00	0.00	1.00	2.00	1.00	2.00	1.00	3.00	2.50	2.50




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

B.Pharmacy

V Semester

PCI REGULATION

1	Course Code:	BP501T
	Subect Name	MEDICINAL CHEMISTRY -II
Course Outcomes		
BP501T.1	CO1	Understand the chemistry of drugs to respect to their pharmacological activity
BP501T.2	CO2	Know the SAR of different class of drugs
BP501T.3	CO3	Study the chemical synthesis of selected drugs

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	1	2	1	1	2	1	0	1	2	3	3
CO2	3	1	1	2	2	1	2	1	1	1	2	3	3
CO3	3	1	1	2	2	1	2	1	1	1	2	3	3
Average	3.00	1.00	1.00	2.00	1.67	1.00	2.00	1.00	1.00	1.00	2.00	3.00	3.00

2	Course Code:	BP502T
	Subect Name	INDUSTRIAL PHARMACY-I
Course Outcomes		
BP502T.1	CO1	Student will know the preformulation parameters in designing the dosage form
BP502T.2	CO2	Know the various pharmaceutical dosage forms and the manufacturing techniques.
BP502T.3	CO3	Know various considerations in development of pharmaceutical dosageforms.
BP502T.4	CO4	preparation and evaluation of semisolid dosage forms

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	2	1	3	3	2	2	1	2	2	3
CO2	3	3	2	2	3	2	3	2	2	1	2	2	3
CO3	3	3	2	2	2	3	3	3	1	1	2	2	3
CO4	3	3	3	2	3	2	2	2	1	3	2	2	3
Average	3.00	3.00	2.25	2.00	2.25	2.50	2.75	2.25	1.50	1.50	2.00	2.00	3.00



3	Course Code:	BP503T
	Subect Name	PHARMACOLOGY–II
Course Outcomes		
BP503T.1	CO1	Understand the pharmacology of drugs acting on CVS
BP503T.2	CO2	Basic knowledge on atuocoids and related drugs
BP503T.3	CO3	Understand endocrine disorders and drugs used in various endocrine disorders
BP503T.4	CO4	Understand various bioassay techniques

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3			0		2		1	1		3	3	3
CO2	3			0		2		2	2		3	3	3
CO3	3			0		2		1	1		3	3	3
CO4	3			3		2		2	2		1	3	3
Average	3.00	0.00	0.00	3.00	0.00	2.00	0.00	1.50	1.50	0.00	2.50	3.00	3.00

4	Course Code:	BP504T
	Subect Name	PHARMACOGNOSY AND PHYTOCHEMISTRY – II
Course Outcomes		
BP504T.1	CO1	Discuss the general technique of biosynthesis of phyto constituents inplants.
BP504T.2	CO2	Apprehended the composition, chemistry & chemical classes, bio-sources, therapeutic uses and commercial applications of different plants secondary metabolites.
BP504T.3	CO3	Accomplished in the Isolation,Identification and Analysis of Phytoconstituents.
BP504T.4	CO4	Accomplished in the production estimation and utilization of phytoconstituents in industria lscale
BP504T.5	CO5	Accomplished in the estimation and analysis of the different phytoconstituents with help of instrument based on chromatography and spectroscopy.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	3	3	3	1	2	2	2	2	2	3	2	2
CO2	3	2	3	3	2	3	2	2	3	3	3	2	2
CO3	3	3	2	2	2	2	3	2	2	3	3	2	2
CO4	2	2	3	3	1	2	2	3	3	3	3	2	2
CO5	3	3	3	3	2	3	2	2	2	2	3	2	2
Average	2.60	2.60	2.80	2.80	1.60	2.40	2.20	2.20	2.40	2.60	3.00	2.00	2.00

5	Course Code:	BP505T
	Subect Name	PHARMACEUTICAL JURISPRUDENCE
Course Outcomes		
BP505T.1	CO1	The clear information about the regulations in India and abroad is gained by the students.
BP505T.2	CO2	Various Indian pharmaceutical Acts and Laws

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	1	2	0	1	0	0	1	0
CO2	3	0	0	0	0	1	2	0	1	0	0	1	0

BP505T.3	CO3	The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
BP505T.4	CO4	The code of ethics during the pharmaceutical practice

CO3	3	0	0	0	0	1	2	0	1	0	0	1	0
CO4	3	0	0	0	0	1	2	0	1	0	0	1	0
Average	3.00	0.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00	0.00	0.00	1.00	0.00

6	Course Code:	BP506P
	Subect Name	Industrial Pharmacy
Course Outcomes		
BP506P.1	CO1	Understand the use of various equipment's in Pharmaceutics laboratory relevant to tablets, capsules & coating
BP506P.2	CO2	Understand preparation and evaluation of Parenteral, ophthalmic dosage form
BP506P.3	CO3	Understand preparation and evaluation of cosmetics products
BP506P.4	CO4	Understand evaluation of glass container

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	0	0	0	0	0	2	3	0
CO2	3	0	0	2	0	0	0	0	0	0	2	3	0
CO3	3	0	0	0	0	0	0	0	0	0	2	3	0
CO4	3	0	0	0	0	0	0	0	0	0	0	3	0
Average	3.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3.00	0.00

7	Course Code:	BP507P
	Subect Name	Pharmacology II
Course Outcomes		
BP507P.1	CO1	To understand the basic principle of bioassay and type of bioassay.
BP507P.2	CO2	To demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments.
BP507P.3	CO3	To understand the effect of different drugs on the concentration response curves.
BP507P.4	CO4	To demonstrate the various receptor actions using isolated tissue preparation.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	1	3	0	0	0	0	0	0	2	2	2
CO2	3	2	1	3	0	0	0	0	0	0	2	2	2
CO3	3	2	1	3	0	0	0	0	0	0	2	2	2
CO4	3	2	1	3	0	0	0	0	0	0	2	2	2
Average	3.00	2.00	1.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00



8	Course Code:	BP508P
	Subect Name	Pharmacognosy and Phytochemistry II
Course Outcomes		
BP508P.1	CO1	To perform histological studies, powder characteristics, extraction and detection of crude drugs
BP508P.2	CO2	Carry out isolation and detection of active principles.
BP508P.3	CO3	separate sugars by paper chromatography and TLC studies of plant extract.
BP508P.4	CO4	carry out distillation of volatile oils and analysis of crude drugs by chemical tests.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	1	0	0	0	0	2	0	3	3	3
CO2	3	1	2	2	0	0	0	0	2	0	3	3	3
CO3	3	1	2	3	0	0	0	0	2	0	3	3	3
CO4	3	1	2	2	0	0	0	0	2	0	3	3	3
Average	3.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	3.00	3.00	3.00




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

**B.Pharmacy
VI Semester**

PCI REGULATION

1	Course Code:	BP601T	
	Subect Name	MEDICINAL CHEMISTRY-III	
	Course Outcomes		
	BP601T.1	CO1	Understand the importance of drug design and techniques of drug design
	BP601T.2	CO2	Understand the chemistry of drugs with respect to their biological activity
	BP601T.3	CO3	Know the metabolism, adverse effects and therapeutic value of drugs
	BP601T.4	CO4	Know the importance of SAR of drugs

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	3	0	0	0	0	0	0	3	3	3
CO2	3	0	2	2	0	0	0	0	0	0	3	3	3
CO3	3	0	2	0	0	0	0	0	0	0	3	3	3
CO4	3	0	2	2	0	0	0	0	0	0	3	3	3
Average	3.00	0.00	2.00	2.33	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00

2	Course Code:	BP602T	
	Subect Name	PHARMACOLOGY – III	
	Course Outcomes		
	BP602T.1	CO1	Understands the mechanism of drug action and relevance in the tratment of different respiratory and GI disorders
	BP602T.2	CO2	Understands the mechanism of drug action and relevance in the tratment of different infectious diseases
	BP602T.3	CO3	Understand immuno pharmacology
	BP602T.4	CO4	Understand principles of toxicology and treatment of poisoning
	BP602T.5	CO5	Understand concept of chrono pharmacology

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	0	0	2	0	0	3	3	3
CO2	3	0	0	0	0	0	0	2	0	0	3	3	3
CO3	2	0	0	0	0	0	0	2	0	0	3	3	3
CO4	3	0	0	0	0	0	0	2	0	0	3	3	3
CO5	2	0	0	0	0	0	0	2	0	0	3	3	3
Average	2.40	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	3.00	3.00	3.00

3	Course Code:	BP603T
	Subect Name	HERBAL DRUG TECHNOLOGY
Course Outcomes		
BP603T.1	CO1	Know the WHO and ICH guidelines for the evaluation of herbal drugs
BP603T.2	CO2	Appreciate patenting of herbal drugs, GMP
BP603T.3	CO3	Know the importance and applications of Novel nutraceuticals
BP603T.4	CO4	Application of herbal excepients in perfumery industry

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	2	2	2	1	2	3	3	3
CO2	2	0	0	0	0	2	2	0	2	2	3	3	3
CO3	2	0	0	0	0	2	2	3	1	2	3	3	3
CO4	2	0	0	0	0	2	2	2	2	2	3	3	3
Average	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.33	1.50	2.00	3.00	3.00	3.00

4	Course Code:	BP604T
	Subect Name	BIOPHARMACEUTICS AND PHARMACOKINETICS
Course Outcomes		
BP604T.1	CO1	To understand the concepts of bioavailability and bioequivalence of drug products and their significance
BP604T.2	CO2	Use plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
BP604T.3	CO3	Understand the concepts of bioavailability and bioequivalence of drug products and their significance
BP604T.4	CO4	Understand the concept of dissolution and application of in vitro in vivo correlation in drug product development

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	2	2	0	0	0	2	2	2
CO2	3	0	3	3	0	2	2	0	0	0	2	3	2
CO3	2	0	0	3	0	2	1	0	0	0	1	3	3
CO4	3	0	3	2	0	1	2	0	0	0	2	1	3
Average	2.75	0.00	3.00	2.75	0.00	1.75	1.75	0.00	0.00	0.00	1.75	2.25	2.50

5	Course Code:	BP605T
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Subect Name		BIOTECHNOLOGY
Course Outcomes		
BP605T.1	CO1	Understanding the importance of different biotechnological products in pharma industry
BP605T.2	CO2	Genetic Engineering applications in relation to production of pharmaceuticals
BP605T.3	CO3	understanding immunology and related products and techniques
BP605T.4	CO4	appreciate the use of microorganisms in fermentation technology and development of microbial enzymes
BP605T.5	CO5	understanding immunoblotting techniques, PCR and enzyme immobilization
BP605T.5	CO6	Importance of Monoclonal antibodies in industries

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	1	2	0	3	1	1	0	1	1	3	3
CO2	3	0	1	3	0	3	1	2	2	1	3	3	3
CO3	3	0	1	2	0	3	1	1	0	1	1	3	3
CO4	3	0	1	3	0	2	1	1	1	1	2	3	3
CO5	3	0	1	2	0	2	1	2	1	1	1	3	3
CO6	3	0	1	3	0	3	1	1	0	1	1	3	3
Average	3.00	0.00	1.00	2.50	0.00	2.67	1.00	1.33	1.33	1.00	1.50	3.00	3.00

6	Course Code:	BP606T
	Subect Name	QUALITY ASSURANCE
Course Outcomes		
BP606T.1	CO1	To understand the c-GMP aspects in a pharmaceutical industry
BP606T.2	CO2	To understand the responsibilities of QA and QC departments
BP606T.3	CO3	Understand the scope of quality certifications applicable to pharmaceutical industries
BP606T.4	CO4	Understand the responsibilities of QA & QC departments

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	3	2	2	1	2	0	0	0	0	3	3	3
CO2	3	3	3	2	2	2	0	0	0	0	3	3	3
CO3	3	3	2	2	1	1	0	0	0	0	3	3	3
CO4	3	3	3	2	2	2	0	0	0	0	3	3	3
Average	2.75	3.00	2.50	2.00	1.50	1.75	0.00	0.00	0.00	0.00	3.00	3.00	3.00

7	Course Code:	BP607P
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Subect Name		Medicinal chemistry III
Course Outcomes		
BP607P.1	CO1	To Synthesize, recrystallize and understand reaction mechanisms involved in synthesis of medicinally important organic compound. Synthesize medicinally important organic compounds using microwave assisted organic synthesis
BP607P.2	CO2	To Prepare of medicinally important compounds or intermediates by Microwave synthesis.
BP607P.3	CO3	To Understand drug design softwares.
BP607P.4	CO4	To understand and calculate physiochemical properties of drug molecule.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	3	3	0	0	0	0	0	0	2	2	2
CO2	3	0	3	3	0	0	0	0	0	0	2	2	2
CO3	3	0	3	3	0	0	0	0	0	0	3	3	3
CO4	3	0	3	3	0	0	0	0	0	0	3	3	3
Average	3.00	0.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50

8	Course Code:	BP608P
	Subect Name	Pharmacology III
	Course Outcomes	
BP608P.1	CO1	To understand the basic principle of bioassay and type of bioassay.
BP608P.2	CO2	To demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments.
BP608P.3	CO3	To understand the effect of different drugs on the concentration response curves.
BP608P.4	CO4	To demonstrate the various receptor actions using isolated tissue preparation.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	1	2	0	0	1	0	0	0	3	3	3
CO2	3	2	2	2	0	0	1	0	0	0	3	3	3
CO3	3	2	2	2	0	0	1	0	0	0	3	3	3
CO4	3	2	2	2	0	0	1	0	0	0	3	3	3
Average	3.00	1.75	1.75	2.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3.00	3.00

9	Course Code:	BP609P
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Subect Name		Herbal Drug Technology
Course Outcomes		
BP609P.1	CO1	Able to understand Preliminary Phytochemical Screening and monograph analysis of Herbal Crude Drug.
BP609P.2	CO2	Able to incorporate extract in the cosmetic and herbal preparation and their evaluation.
BP609P.3	CO3	To understand the determination of Alcohol content and evaluation of excipients of natural origin.
BP609P.4	CO4	To understand determination of Aldehyde Content, Phenol Content and Total Alkaloids.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	0	0	0	1	0	2	0	1	3	2	3
CO2	2	1	0	0	0	2	0	2	0	2	3	2	3
CO3	3	1	0	0	0	1	0	2	0	2	3	3	2
CO4	3	2	0	0	0	2	0	2	0	2	3	3	1
Average	2.75	1.25	0.00	0.00	0.00	1.50	0.00	2.00	0.00	1.75	3.00	2.50	2.25




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

**B.Pharmacy
VII Semester**

PCI REGULATION



1	Course Code:	BP701T
	Subect Name	INSTRUMENTAL METHODS OF ANALYSIS
Course Outcomes		
BP701T.1	CO1	Understand the principle and intrumentation of UV spectrophotometry, Flourimetry, FT-IR and justify its application in drug analysis
BP701T.2	CO2	Understand the principle and intrumentation of flame photometry, Atomic Absorption spectroscopy, nephelo turbidometry and justify its applications in drug analysis
BP701T.3	CO3	Classify the chromatographic separation methods and choose appropriate technique for analysis of drugs.
BP701T.4	CO4	Design methods for performing quantitative & qualitative analysis of drugs using various analytical instruments

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	0	3	0	0	3	0	3	3	3
CO2	3	2	3	3	0	3	0	0	3	0	3	3	3
CO3	3	2	3	3	0	3	0	0	3	0	3	3	3
CO4	3	2	3	3	0	3	0	0	3	0	3	3	3
Average	3.00	2.00	3.00	3.00	0.00	3.00	0.00	0.00	3.00	0.00	3.00	3.00	3.00

2	Course Code:	BP702T
	Subect Name	INDUSTRIAL PHARMACY -II
Course Outcomes		
BP702T.1	CO1	To know the process of pilot plant and scale up of pharmaceutical dosage forms
BP702T.2	CO2	To understand the process of technology transfer from lab scale to commercial batch
BP702T.3	CO3	To know different Laws and Acts that regulates pharmaceutical industry

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	3	3	3	2	2	3	2	3	3
CO2	3	3	3	2	3	2	2	2	2	1	2	3	3
CO3	3	3	3	2	3	3	3	3	1	1	2	3	3

BP702T.4	CO4	To understand the approval process and regulatory requirements for drug products
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CO4	3	3	2	2	3	2	2	2	1	1	2	3	3
Average	3.00	3.00	2.75	2.00	3.00	2.50	2.50	2.25	1.50	1.50	2.00	3.00	3.00

3	Course Code:	BP703T
	Subect Name	PHARMACY PRACTICE
Course Outcomes		
BP703T.1	CO1	To explain concepts of hospitals, hospital organization, their functioning, various drug distribution methods in a hospital and role of hospital pharmacist.
BP703T.2	CO2	To understand the concept of community pharmacy, pharmacy stores management, inventory control, record keeping and role of community pharmacists.
BP703T.3	CO3	To understand role of pharmacist in rational drug therapy, drug monitoring, medication history, patient counseling, patient compliance and ADR detection, reporting and monitoring.
BP703T.4	CO4	Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states and to know pharmaceutical care services

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	0	0	0	2	1	2	2	0	3	2	2
CO2	3	2	0	0	0	1	2	2	3	0	3	3	3
CO3	3	2	2	0	0	2	1	2	2	0	3	2	2
CO4	3	2	2	2	0	2	2	3	3	0	3	3	3
Average	3.00	1.75	2.00	2.00	0.00	1.75	1.50	2.25	2.50	0.00	3.00	2.50	2.50

4	Course Code:	BP704T
	Subect Name	NOVEL DRUG DELIVERY SYSTEM
Course Outcomes		
BP704T.1	CO1	Study of controlled Drug Release Systems and Polymers
BP704T.2	CO2	Study of microencapsulation & its applications
BP704T.3	CO3	Study of formulation and evaluation of various and Novel drug delivery systems like Mucosal, Implantable, Transdermal, Gastroretentive & Naso-pulmonary
BP704T.4	CO4	Study of targeted, ocular and Intrauterine drug delivery systems

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	2	3	2	1	2	3	3	3	3
CO2	3	2	2	2	2	3	2	1	2	3	3	3	3
CO3	3	2	2	2	1	1	2	1	2	1	3	3	3
CO4	3	2	1	3	2	1	2	2	2	1	2	3	3
Average	3.00	2.00	1.75	2.25	1.75	2.00	2.00	1.25	2.00	2.00	2.75	3.00	3.00



5	Course Code:	BP705 P
	Subect Name	Instrumental Methods of Analysis
Course Outcomes		
BP705P.1	CO1	To study the basic of instrumentation of various analytical instruments and their calibration.
BP705P.2	CO2	Understand the concept of linearity, absorbance maxima, calibration curve method, and calculation of absorptivity constant.
BP705P.3	CO3	Understand the concept of Assay of APIs and formulation by various analytical techniques including UV spectroscopy. Flourimetry, colorimetry and Flame photometry.
BP705P.4	CO4	To develop analytical skills in data interpretation and calculations of purity of API in formulations using chromatogrphic techniques.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	0	3	0	0	3	0	3	3	3
CO2	3	2	3	3	0	3	0	0	3	0	3	3	3
CO3	3	2	3	3	0	3	0	0	3	0	3	3	3
CO4	3	2	3	3	0	3	0	0	3	0	3	3	3
Average	3.00	2.00	3.00	3.00	0.00	3.00	0.00	0.00	3.00	0.00	3.00	3.00	3.00




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 Warangal (Dt) - 506 331 (T.S)



COURSE OUTCOMES, CO-PO , CO-PSO mapping

**B.Pharmacy
VIII Semester**

PCI REGULATION

1	Course Code:	BP801T
	Subect Name	BIOSTATISTICS AND RESEARCH METHODOLOGY
	Course Outcomes	
	BP801T.1	CO1 To understand the research need
	BP801T.2	CO2 To know the statistical techniques and to apply those to solve the statistical problems
	BP801T.3	CO3 To operate statistical tools like M.S. Excel, SPSS, R and MINITAB® and DoE
	BP801T.4	CO4 To design and analysis of experiments

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	1	3	3	0	0	0	2	0	0	2	1	2
CO2	1	1	3	3	0	0	0	2	0	0	2	1	2
CO3	1	1	3	3	0	0	0	2	0	0	2	1	1
CO4	1	1	3	3	0	0	0	2	0	0	2	2	1
Average	1.00	1.00	3.00	3.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	1.25	1.50

2	Course Code:	BP802T
	Subect Name	SOCIAL AND PREVENTIVE PHARMACY
	Course Outcomes	
	BP802T.1	CO1 To Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.
	BP802T.2	CO2 To explain various national and international health and disease control programmes.
	BP802T.3	CO3 Develop a critical way of thinking based on current healthcare development.
	BP802T.4	CO4 Evaluate alternative ways of solving problems related to health and pharmaceutical issues.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	0	0	0	1	2	1	2	2	0	2	2	2
CO2	1	1	1	0	2	2	2	2	2	0	2	2	3
CO3	1	2	2	0	2	2	1	2	2	0	2	3	2
CO4	1	0	3	0	2	2	2	2	2	0	2	3	3
Average	1.00	1.50	2.00	0.00	1.75	2.00	1.50	2.00	2.00	0.00	2.00	2.50	2.50

3	Course Code:	BP803ET
	Subect Name	PHARMA MARKETING MANAGEMENT
Course Outcomes		
BP803T.1	CO1	Basic concepts of Management
BP803T.2	CO2	Understanding of marketing concepts and techniques and their applications in the pharmaceutical industry
BP803T.3	CO3	Basic concepts of Human Resource Development
BP803T.4	CO4	Understanding of Product decision. Promotion and pricing of products

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	1	2	2	0	3	3	1	3	0	0	0	2	2
CO2	2	2	2	0	3	3	1	2	0	0	0	2	2
CO3	1	2	2	0	3	3	1	3	0	0	0	2	2
CO4	2	2	2	0	3	3	1	2	0	0	0	2	2
Average	1.50	2.00	2.00	0.00	3.00	3.00	1.00	2.50	0.00	0.00	0.00	2.00	2.00

4	Course Code:	BP804ET
	Subect Name	PHARMACEYTICAL REGULATORY SCIENCE
Course Outcomes		
BP804T.1	CO1	Know the regulatory requirements for approval of new drugs, and drug products in regulated markets (India & other countries). The US, EU, Japan
BP804T.2	CO2	Understand the process of drug discovery and development
BP804T.3	CO3	Know the regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
BP804T.4	CO4	Understand the regulatory approval process and their registration in Indian and international markets.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	0	0	0	0	3	3	2
CO2	3	0	0	2	0	0	0	0	0	0	3	3	2
CO3	3	0	0	2	0	0	0	0	0	0	3	3	2
CO4	3	0	0	2	0	0	0	0	0	0	3	3	2
Average	3.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	2.00

5	Course Code:	BP805ET
	Subect Name	PHARMACOVIGILANCE
Course Outcomes		
BP805T.1	CO1	Writing case narratives of adverse events and their quality and helps in detecting ADRS prevention of ADRS and assesment of ADRS

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	0	2	3	2	1	0	3	3	3

BP806ET.1	CO2	To Understand importance of drug safety monitoring and explain History, development, National and international scenario of pharmacovigilance & comprehend dictionaries, coding and terminologies used in pharmacovigilance.
BP806ET.2	CO3	To Understand detection and assessment of new adverse drug reactions, Adverse drug reaction reporting systems and communication in pharmacovigilance, PV Program of India (PvPI) requirement for ADR reporting in India ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning. CIOMS requirements for ADR reporting
BP806ET.3	CO4	To Comprehend methods of safety data during pre-clinical, clinical and post approval phases of drugs' life cycle.
BP806ET.4	CO5	To Write case narratives of adverse events and their quality.

CO2	2	2	2	2	0	1	3	2	1	0	1	3	3
CO3	3	1	2	2	0	2	3	2	1	0	2	2	3
CO4	3	1	2	2	0	2	3	2	1	0	3	3	3
CO5	3	2	1	2	0	2	2	2	1	0	3	3	3
Average	2.80	1.60	1.80	2.00	0.00	1.80	2.80	2.00	1.00	0.00	2.40	2.80	3.00

6	Course Code:	BP806ET
	Subect Name	QUALITY CONTROL AND STANDARDIZATION OF HERBALS
Course Outcomes		
BP806ET.1	CO1	Gain knowledge on biological source ,active constituents and uses of crude drugs
BP806ET.2	CO2	Understand the techniques of evaluation of crude drugs as per the WHO guidelines
BP806ET.3	CO3	Understand the basic principles of cultivation, collection and storage of crude drugs
BP806ET.4	CO4	Application of the crop improvement concepts involved in techniques for improvement of quality of medicinal plants
BP806ET.5	CO5	Exploring the tissue culture technique in medicinal plants

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	1	1	0	0	0	1	3	3	2	3
CO2	3	0	2	2	2	3	3	0	2	0	3	2	3
CO3	3	0	2	2	0	0	1	1	2	2	2	2	3
CO4	3	1	2	2	0	3	2	1	2	0	3	2	3
CO5	3	2	2	3	0	3	2	1	2	0	2	2	3
Average	3.00	1.67	2.00	2.00	1.50	3.00	2.00	1.00	1.80	2.50	2.60	2.00	3.00

7	Course Code:	BP807ET
	Subect Name	COMPUTER AIDED DRUG DESIGN
Course Outcomes		
BP807ET.1	CO1	Understand the design and discovery process of lead molecules
BP807ET.2	CO2	Understand the Classification of drug design tools for drug discovery process
BP807ET.3	CO3	Understand various strategies to develop drug like molecules.
BP807ET.4	CO4	Understand various molecular modelling software to design new drug molecule

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	2	2	3	3	2	3	2	3	3
CO2	3	2	3	3	2	2	3	3	2	3	2	3	3
CO3	3	2	3	3	2	2	3	3	2	3	2	3	3
CO4	3	2	3	3	2	2	3	3	2	3	2	3	3
Average	3.00	2.00	3.00	3.00	2.00	2.00	3.00	3.00	2.00	3.00	2.00	3.00	3.00

8	Course Code:	BP808ET
	Subect Name	CELL AND MOLECULAR BIOLOGY
Course Outcomes		
BP808ET.1	CO1	To summarize cell and molecular biology history, cellular functioning and Composition & describe the chemical foundations of cell biology
BP808ET.2	CO2	To describe structure and functions of cellular membrane, DNA and Cell Cycle
BP808ET.3	CO3	To describe basic molecular genetics mechanisms.
BP808ET.4	CO4	To understand the cell signaling pathways with their regulations and role in disease process

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	2	0	0	0	0	0	0	2	2	2
CO2	2	0	0	2	0	0	0	0	0	0	2	2	2
CO3	2	0	0	2	0	0	0	0	0	0	3	3	3
CO4	2	0	0	2	0	0	0	0	0	0	2	2	2
Average	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	2.25	2.25

9	Course Code:	BP809ET
	Subect Name	COSMETIC SCIENCE
Course Outcomes		
BP809ET.1	CO1	Study of basics of cosmetic and cosmeceutical products
BP809ET.2	CO2	Study of Principles of formulation and building blocks of skin care & Hair care products
BP809ET.3	CO3	Study of formulation and evaluation of Sun protection & other cosmetic products
BP809ET.4	CO4	Study of Cosmetic problems

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	0	0	0	0	0	0	0	0	0	2	2
CO2	2	0	0	3	0	0	0	0	0	0	0	2	2
CO3	2	0	0	3	0	0	0	0	0	0	0	2	2
CO4	2	0	0	0	0	0	0	0	0	0	0	2	2
Average	2.00	0.00	0.00	3.00	0.00	2.00	2.00						



10	Course Code:	BP810ET
	Subect Name	PHARMACOLOGICAL SCREENING METHODS
Course Outcomes		
BP810ET.1	CO1	know how to handle animals
BP810ET.2	CO2	know about various techniques for screening of drugs for different pharmacological activities
BP810ET.3	CO3	Guidelines, and regulations for screening new drug molecules on animal

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	3	1		0	0	2	1	0	0	3	3	3
CO2	2	3	1	3	0	0	2	1	0	0	3	3	3
CO3	3	3	2	3	0	0	2	1	0	0	3	3	3
Average	2.33	3.00	1.33	3.00	0.00	0.00	2.00	1.00	0.00	0.00	3.00	3.00	3.00

11	Course Code:	BP811ET
	Subect Name	ADVANCED INSTRUMENTATION TECHNIQUES
Course Outcomes		
BP811ET.1	CO1	Express the principle of the advanced instruments used and justify its applications in drug analysis
BP811ET.2	CO2	Understand the instrumentation of analytical techniques and its application in analysis of drugs
BP811ET.3	CO3	Explain the importance and methods for the calibration of various analytical instruments
BP811ET.4	CO4	Introduction to Extraction techniques and understand the hyphenated techniques.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	0	1	0	0	0	0	3	3	3
CO2	3	2	2	2	0	1	0	0	0	0	3	3	3
CO3	3	2	2	2	0	1	0	0	0	0	3	3	3
CO4	3	2	2	2	0	1	0	0	0	0	3	3	3
Average	3.00	2.00	2.00	2.00	0.00	1.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00

12	Course Code:	BP812ET
	Subect Name	DIETARY SUPPLEMENTS AND NUTRACEUTICALS
Course Outcomes		
BP812ET.1	CO1	Understand the need of supplements by the different group of people to maintain healthy life.
BP812ET.2	CO2	Understand the outcome of deficiencies in dietary supplements.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	2	0	0	0	0	0	2	0	0	2	2	2
CO2	2	2	0	0	0	0	0	3	0	0	3	3	3

BP812ET.3	CO3	Recognize the components in dietary supplements and the application
BP812ET.4	CO4	Acquaint with the regulatory and commercial aspects of dietary supplements including health claims.

CO3	2	2	0	0	0	0	0	2	0	0	2	2	2
CO4	2	2	0	0	0	0	0	3	0	0	3	3	3
Average	2.00	2.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	2.50	2.50	2.50




PRINCIPAL
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COURSE OUTCOMES, CO-PO , CO-PSO mapping

**PHARM.D
I YEAR**

PCI REGULATION

1	Course Code:	1.1T
	Subject Name	Human Anatomy and Physiology-I
Course Outcomes		
1.1.T.1	CO1	To describe the structure (gross and histology) and functions of various organs of the human body.
1.1.T.2	CO2	To describe various homeostatic mechanisms and their imbalances of various systems.
1.1.T.3	CO3	To describe haematological tests and also record blood pressure, heart rate, pulse and Respiratory volumes.
1.1.T.4	CO4	To understand coordinated working pattern of different organs of each system and to enhance the understanding of how the drugs act on the various body systems in correcting the disease state of the organs.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	1	0	0	1	0	2	2	1
CO2	3	0	0	0	0	1	0	0	1	0	2	2	1
CO3	3	0	0	0	0	1	0	0	1	0	2	2	1
CO4	3	0	0	0	0	1	0	0	1	0	2	2	1
Average	3.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	2.00	2.00	1.00

2	Course Code:	1.1 P
	Subject Name	Human Anatomy and Physiology-I
Course Outcomes		
1.1.P.1	CO1	To identify the various tissues of the different systems of the humanbody.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	1	1	1	0	0	0	1	0	0	2	2	2

1.1.P.2	CO2	To study and identify different organs in different systems of the humanbody.
1.1.P.3	CO3	To perform the hematological tests and also record blood pressure, heart rate, pulse and Respiratory volumes.
1.1.P.4	CO4	To perform the various experiments related to special senses and nervous system.

CO2	2	1	1	1	0	0	0	1	0	0	2	2	2
CO3	2	1	1	1	0	0	0	1	0	0	2	2	2
CO4	2	1	1	1	0	0	0	1	0	0	2	2	2
Average	2.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	2.00	2.00	2.00

3	Course Code:	1.2T
	Subject Name	Pharmaceutics
Course Outcomes		
1.2.T.1	CO1	To understand the formulation of different dosage forms.
1.2.T.2	CO2	To understand the basics of the applied field of pharmacy.
1.2.T.3	CO3	To understand different pharmaceutical calculation involved in formulation specifically for children.
1.2.T.4	CO4	To understand the importance of good formulation and effectiveness.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	3	2	0	3	0	3	3	2
CO2	3	0	1	3	0	3	2	0	3	0	3	3	3
CO3	3	0	0	3	0	3	2	0	3	0	3	3	3
CO4	3	0	2	1	0	3	2	0	2	0	3	3	2
Average	3.00	0.00	1.50	2.50	0.00	3.00	2.00	0.00	2.75	0.00	3.00	3.00	2.50

4	Course Code:	1.2P
	Subject Name	Pharmaceutics
Course Outcomes		
1.2.P.1	CO1	To understand the formulation of different dosage forms like solid, liquid and semisolid dosage forms.
1.2.P.2	CO2	To understand the packaging of the different formulations.
1.2.P.3	CO3	To know about the label, storage, application and handling of the dosage forms.
1.2.P.4	CO4	To understand different types of incompatibilities of different dosage forms.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	3	2	0	3	0	3	3	2
CO2	3	0	1	3	0	3	2	0	3	0	3	3	3
CO3	3	0	0	3	0	3	2	0	3	0	3	3	3
CO4	3	0	2	1	0	3	2	0	2	0	3	3	2
Average	3.00	0.00	1.50	2.50	0.00	3.00	2.00	0.00	2.75	0.00	3.00	3.00	2.50



5	Course Code:	1.3T
	Subject Name	Medicinal Biochemistry
Course Outcomes		
1.3.T.1	CO1	To understand the catalytic activity of enzymes and importance of isoenzymes in diagnosis of diseases.
1.3.T.2	CO2	To know the metabolic process of Carbohydrates, Amino acids & Proteins
1.3.T.3	CO3	To understand the genetic organization of mammalian genome; protein synthesis; replication; mutation and repair mechanism.
1.3.T.4	CO4	To know the biochemical principles of organ function tests of kidney, liver and endocrine gland.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	3	2	0	2	2	1	2	1	1	3	2
CO2	3	0	3	2	0	2	2	1	2	1	1	3	3
CO3	3	2	3	2	0	2	2	1	1	1	1	3	2
CO4	3	0	3	2	0	2	2	1	1	1	1	3	3
Average	3.00	2.00	3.00	2.00	0.00	2.00	2.00	1.00	1.50	1.00	1.00	3.00	2.50

6	Course Code:	1.3P
	Subject Name	Medicinal Biochemistry
Course Outcomes		
1.3.P.1	CO1	To perform qualitative analysis and determination of biomolecules in the body fluids.
1.3.P.2	CO2	To perform quantitative analysis and determination of electrolytes.
1.3.P.3	CO3	To estimate SGOT, SGPT, Urea & protein in serum
1.3.P.4	CO4	To study factors affecting enzyme activity and preparation, pH measurement of standard buffer solution functional groups.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	3	2	0	2	2	1	2	1	1	3	2
CO2	3	0	3	2	0	2	2	1	2	1	1	3	3
CO3	3	2	3	2	0	2	2	1	1	1	1	3	2
CO4	3	0	3	2	0	2	2	1	1	1	1	3	3
Average	3.00	2.00	3.00	2.00	0.00	2.00	2.00	1.00	1.50	1.00	1.00	3.00	2.50

7	Course Code:	1.4T
	Subject Name	Pharmaceutical Organic Chemistry
Course Outcomes		
1.4.T.1	CO1	To be able to write IUPAC/Common names of simple organic compounds belonging to different classes of organic compounds in organic chemistry.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	2	0	3	2	0	1	1	3	2	3

1.4.T.2	CO2	To achieve understanding of the some important physical properties of pharmaceutical organic compounds.
1.4.T.3	CO3	To acquire the knowledge and understanding of the Free radical/ nucleophilic [alkyl/ acyl/ aryl] / electrophilic substitution, free radical/ nucleophilic / electrophilic addition, elimination, oxidation and reduction reactions with mechanism, orientation of the reaction, along with order of reactivity, stability of compounds etc.
1.4.T.4	CO4	To gain through knowledge of some named organic reactions with mechanisms.

CO2	3	0	2	2	0	3	2	0	1	1	3	3	2
CO3	3	0	2	2	0	3	2	0	1	1	3	2	2
CO4	3	0	2	2	0	3	2	0	1	1	3	2	2
Average	3.00	0.00	2.00	2.00	0.00	3.00	2.00	0.00	1.00	1.00	3.00	2.25	2.25

8	Course Code:	1.4 P
	Subject Name	Pharmaceutical Organic Chemistry
Course Outcomes		
1.4.P.1	CO1	To acquire the knowledge and understanding of the basic experimental principles related to basic experimental techniques.
1.4.P.2	CO2	To know about the synthesis of pharmaceutical organic molecules by mechanism and Principle.
1.4.P.3	CO3	To identify unknown pharmaceutical organic molecules by systemic qualitative analysis.
1.4.P.4	CO4	To construction of organic stereo models of simple organic molecules.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	2	0	3	2	0	1	1	3	2	3
CO2	3	0	2	2	0	3	2	0	1	1	3	3	2
CO3	3	0	2	2	0	3	2	0	1	1	3	2	2
CO4	3	0	2	2	0	3	2	0	1	1	3	2	2
Average	3.00	0.00	2.00	2.00	0.00	3.00	2.00	0.00	1.00	1.00	3.00	2.25	2.25

9	Course Code:	1.5T
	Subject Name	Pharmaceutical Inorganic Chemistry
Course Outcomes		
1.5.T.1	CO1	To understand applications of inorganic pharmaceuticals.
1.5.T.2	CO2	To achieve Knowledge about the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals by assay, semiquantitative inorganic analysis methods.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	3	0	2	2	0	2	0	1	2	3
CO2	3	0	2	2	0	2	2	0	2	0	1	2	3

1.5.T.3	CO3	To appreciate the importance of inorganic pharmaceuticals in preventing and curing the disease.
1.5.T.4	CO4	To have been introduced to a variety of inorganic drug classes.

CO3	3	0	2	2	0	2	2	0	2	0	1	3	2
CO4	3	0	2	3	0	2	2	0	2	0	2	2	3
Average	3.00	0.00	2.00	2.50	0.00	2.00	2.00	0.00	2.00	0.00	1.25	2.25	2.75

10	Course Code:	1.5P
	Subject Name	Pharmaceutical Inorganic Chemistry
Course Outcomes		
1.5.P.1	CO1	To acquire the knowledge and understanding of the basic lab experimental techniques in Pharmaceutical Inorganic Chemistry.
1.5.P.2	CO2	To become well acquainted with the principles, procedures to make test, standard and reactions of limit tests of inorganic impurities.
1.5.P.3	CO3	To know about assay of drugs by different volumetric titration methods.
1.5.P.4	CO4	To gain knowledge of tests for identity, preparations and test for purity for inorganic pharmaceuticals.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	2	3	0	2	2	0	2	0	1	2	3
CO2	3	0	2	2	0	2	2	0	2	0	1	2	3
CO3	3	0	2	2	0	2	2	0	2	0	1	3	2
CO4	3	0	2	3	0	2	2	0	2	0	2	2	3
Average	3.00	0.00	2.00	2.50	0.00	2.00	2.00	0.00	2.00	0.00	1.25	2.25	2.75

9	Course Code:	1.6T
	Subject Name	Remedial Mathematics
Course Outcomes		
1.6.T.1	CO1	Can apply mathematical concepts & Principles to perform computations for pharmaceutical sciences
1.6.T.2	CO2	Able to create, use and analyse mathematical representations by applying mathematical theory
1.6.T.3	CO3	Know Trigonometry, analytical Geometry, Matrices, determinant, Integration Differential equation and their applications
1.6.T.4	CO4	Perform abstract mathematical reasoning
1.6.T.5	CO5	Obtain knowledge of mathematical relationship

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	0	1	3	0	0	2	0	2	0	0	1	2	2
CO2	0	1	3	0	0	2	0	2	0	0	1	2	2
CO3	0	1	3	0	0	2	0	2	0	0	1	2	2
CO4	0	1	3	0	0	2	0	2	0	0	1	2	2
CO5	0	1	3	0	0	2	0	2	0	0	1	2	2
Average	0.00	1.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	1.00	2.00	2.00





BALAJI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by AICTE & PCI, Under Section 12, New Delhi and Affiliated to kakathiya University, Wgl)

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COURSE OUTCOMES, CO-PO , CO-PSO mapping

PHARM.D

II YEAR

PCI REGULATION

1	Course Code:	2.1T
	Subject Name	Pathophysiology
Course Outcomes		
2.1.T.1	CO1	Describe the etiology of the selected disease states.
2.1.T.2	CO2	Describe the Pathogenesis of the selected diseased states.
2.1.T.3	CO3	Name the signs and symptoms of the diseases.
2.1.T.4	CO4	Mention the complications of the diseases.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	2	3	3	3	0	3	3	3
CO2	3	0	3	3	0	2	3	3	3	0	3	3	3
CO3	3	0	0	0	0	2	3	3	3	0	3	3	3
CO4	3	0	0	0	0	2	3	3	3	0	3	3	3
Average	3.00	0.00	3.00	3.00	0.00	2.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00

2	Course Code:	2.2T
	Subject Name	Pharmaceutical Microbiology
Course Outcomes		
2.2.T.1	CO1	To understand the anatomy, identification, growth factors and sterilization of microorganisms.
2.2.T.2	CO2	To know the mode of transmission of disease-causing microbes, symptoms of disease, and treatment
2.2.T.3	CO3	To do estimation of RNA and DNA and there by identifying the source;

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	2	3	0	1	0	0	1	2	3	2	2
CO2	2	0	2	3	0	1	0	0	1	2	3	2	1
CO3	2	0	2	3	0	1	0	0	1	2	3	2	2

2.2.T.4	CO4	To do cultivation and identification of the microorganisms and their diagnostic test in the lab.
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CO4	2	0	2	3	0	1	0	0	1	2	3	2	1
Average	2.00	0.00	2.00	3.00	0.00	1.00	0.00	0.00	1.00	2.00	3.00	2.00	1.50

3	Course Code:	2.2 P
	Subject Name	Pharmaceutical Microbiology
Course Outcomes		
2.2.P.1	CO1	To study the apparatus used in microbiology & preparation, sterilization of glassware's and media
2.2.P.2	CO2	To study different staining techniques, motility characters, enumeration of microorganism, method of isolation of pure culture and biochemical testing for identification of microorganism
2.2.P.3	CO3	To perform culture sensitivity testing, sterility testing for powder & liquid and determination of MIC
2.2.P.4	CO4	To perform microbiological assay of antibiotics, vitamins and determination of RWC, Widal, Malaria parasite

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2	0	2	3	0	1	0	0	1	2	3	2	2
CO2	2	0	2	3	0	1	0	0	1	2	3	2	1
CO3	2	0	2	3	0	1	0	0	1	2	3	2	2
CO4	2	0	2	3	0	1	0	0	1	2	3	2	1
Average	2.00	0.00	2.00	3.00	0.00	1.00	0.00	0.00	1.00	2.00	3.00	2.00	1.50

4	Course Code:	2.3T
	Subject Name	Pharmacognosy and Phytopharmaceuticals
Course Outcomes		
2.3.T.1	CO1	To know history, scope, sources, classification and quality control methods of natural origin, meaning and significance of Pharmacognostic parameters and Pharmacognostic scheme of study of crude drugs.
2.3.T.2	CO2	To understand techniques of cultivation, collection, storage of crude drugs, morphology and anatomy of plant parts and know primary and secondary metabolites of crude drugs.
2.3.T.3	CO3	To know the source, properties, methods of extraction, active constituents, uses of crude drugs, pharmaceutical and industrial applications of carbohydrates, natural fibres, lipids and proteins and their derived products.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	1	2	0	3	2	1	2	3	3	2	3
CO2	3	0	1	2	0	3	2	1	2	3	3	2	2
CO3	3	0	1	2	0	3	2	1	2	3	3	3	2

2.3.T.4	CO4	To understand adulteration and methods of adulteration of crude drugs.
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CO4	3	0	1	2	0	3	2	1	2	3	3	3	3
Average	3.00	0.00	1.00	2.00	0.00	3.00	2.00	1.00	2.00	3.00	3.00	2.50	2.50

5	Course Code:	2.3 P
	Subject Name	Pharmacognosy and Phytopharmaceuticals
Course Outcomes		
2.3.P.1	CO1	To understand cell wall constituents and cell inclusions
2.3.P.2	CO2	To understand morphology, microscopy and powder characteristics of crudedrugs.
2.3.P.3	CO3	To be able to determine the quality of lipids
2.3.P.4	CO4	To be able to identify unorganized drugs by chemical methods

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	1	2	0	3	2	1	2	3	3	2	3
CO2	3	0	1	2	0	3	2	1	2	3	3	2	2
CO3	3	0	1	2	0	3	2	1	2	3	3	3	2
CO4	3	0	1	2	0	3	2	1	2	3	3	3	3
Average	3.00	0.00	1.00	2.00	0.00	3.00	2.00	1.00	2.00	3.00	3.00	2.50	2.50

6	Course Code:	2.4T
	Subject Name	Pharmacology-I
Course Outcomes		
2.4.T.1	CO1	Understand the pharmacological aspects of drugs falling under the above mentioned chapters.
2.4.T.2	CO2	Handle and carry out the animal experiments.
2.4.T.3	CO3	Appreciate the importance of pharmacology subject as basis of therapeutics.
2.4.T.4	CO4	Correlate and apply the knowledge therapeutically.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	2	3	2	0	0	3	3	3
CO2	3	1	0	2	2		2	0	2	0	2	3	3
CO3	3	0	0	0	0	0	0	2	0	2	3	3	3
CO4	3	0	0	0	0	0	0	2	0	2	3	3	3
Average	3.00	1.00	0.00	2.00	2.00	2.00	2.50	2.00	2.00	2.00	2.75	3.00	3.00

7	Course Code:	2.5T
	Subject Name	Community Pharmacy
Course Outcomes		
2.5.T.1	CO1	Able to provide pharmaceutical care services

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	3	2	3	2	0	3	2	0

2.5.T.2	CO2	Know the business and professional practice management skills in Community pharmacies
2.5.T.3	CO3	Learn to show empathy and provide patient counselling and health screening services to the community
2.5.T.4	CO4	Able to manage minor ailments and provide appropriate OTC medication.
2.5.T.5	CO5	Able to provide rational drug therapy to the patient

CO2	3	0	0	0	0	3	2	3	2	0	3	2	0
CO3	3	0	0	0	0	3	2	3	2	0	1	2	0
	3	0	0	0	0	3	2	2	2	0	1	2	0
CO4	3	0	0	0	0	3	2	3	2	0	3	2	0
Average	3.00	0.00	0.00	0.00	0.00	3.00	2.00	2.80	2.00	0.00	2.20	2.00	0.00

8	Course Code:	2.6T
	Subject Name	Pharmacotherapeutics – I
Course Outcomes		
2.6.T.1	CO1	The Pathophysiology of selected disease states and the rationale for drug therapy. And therapeutic approach to management of these diseases.
2.6.T.2	CO2	The controversies in drug therapy; The importance of preparation of individualised therapeutic plans based on diagnosis; Needs to identify the patient-specific parameters relevant in initiating drug therapy and monitoring therapy (including alternatives, time-course of clinical and laboratory indices of therapeutic response and adverse effects).
2.6.T.3	CO3	Describe the Pathophysiology of selected disease states and explain the rationale for drug therapy.
2.6.T.4	CO4	Summarise the therapeutic approach to management of these diseases including reference to the latest available evidence; discuss the controversies in drug therapy.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	1	3	0	3	3	3
CO2	3	3	3	2	0	3	3	1	3	0	3	3	3
CO3	3	3	3	2	0	3	3	1	3	0	3	3	3
CO4	3	3	3	2	0	3	3	1	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	1.00	3.00	0.00	3.00	3.00	3.00



9	Course Code:	2.6P
	Subject Name	Pharmacotherapeutics – I
Course Outcomes		
2.6.P.1	CO1	Discuss the controversies in drug therapy.
2.6.P.2	CO2	Discuss the preparation of individualised therapeutic plans based on diagnosis.
2.6.P.3	CO3	Identify the patient-specific parameters relevant in initiating drug therapy.
2.6.P.4	CO4	Monitoring of drug therapy (including alternatives, time- course of clinical and laboratory indices of therapeutic response and adverse effects).

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	1	3	0	3	3	3
CO2	3	3	3	2	0	3	3	1	3	0	3	3	3
CO3	3	3	3	2	0	3	3	1	3	0	3	3	3
CO4	3	3	3	2	0	3	3	1	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	1.00	3.00	0.00	3.00	3.00	3.00




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

PHARM.D

III YEAR

PCI REGULATION



1	Course Code:	3.1T
	Subject Name	Pharmacology II
Course Outcomes		
3.1.T.1	CO1	To understand the pharmacological aspects of drugs acting on blood and blood forming agents and pharmacology of drugs acting on renalsystem
3.1.T.2	CO2	To study pharmacology of chemotherapeutic agents, vitamins and essentialminerals
3.1.T.3	CO3	To study immune system, pharmacology of autocoids and hormones and to study principles of animal toxicology
3.1.T.4	CO4	To study the dynamic cell & genome structure and function

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3					2	1	2	2	0	3	3	3
CO2	3					2	1	2	2	0	3	3	3
CO3	3					2	1	2	2	0	3	3	3
CO4	3			2		2	1	2	2	0	3	3	3
Average	3.00	0.00	0.00	2.00	0.00	2.00	1.00	2.00	2.00	0.00	3.00	3.00	3.00

2	Course Code:	3.1 P
	Subject Name	Pharmacology II
Course Outcomes		
3.1.P.1	CO1	To study various routes of drug administration, use of anesthetics in laboratory animals and their handling

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	1	0	0	2	1	2	0	2	3	3

3.1.P.2	CO2	To learn the composition of physiological salt solutions and basic instruments used in experimental pharmacology
3.1.P.3	CO3	To perform isolated experiments using various isolated preparation and the effect of different drugs on the concentration response curves
3.1.P.4	CO4	To study the preclinical screening of various drugs

CO2	3	1	2	1	0	0	2	1	2	0	2	3	3
CO3	3	1	2	2	0	0	2	1	2	0	2	3	3
CO4	3	1	2	1	0	0	2	1	2	0	2	3	3
Average	3.00	1.00	2.00	1.25	0.00	0.00	2.00	1.00	2.00	0.00	2.00	3.00	3.00

3	Course Code:	3.2T
	Subject Name	Pharmaceutical Analysis
Course Outcomes		
3.2.T.1	CO1	To understand validation of analytical instruments & methods as per ICH/ USP guidelines, concept of quality assurance and quality control techniques.
3.2.T.2	CO2	To understand principles, instrumentation and application of various chromatographic techniques employed for the analysis of APIs and formulation.
3.2.T.3	CO3	To understand principle, instrumentation and application of various Electrometric methods.
3.2.T.4	CO4	To Understand principle, instrumentation and application of UV- Vis, Atomic Absorption and Emission Spectroscopy, Flame Photometry, NMR, Massspectroscopy, Flourimetry, Thermal, X ray diffraction techniques.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	0	0	0	0	0	0	3	3	3
CO2	3	0	2	2	0	0	0	0	0	0	3	3	3
CO3	3	0	2	2	0	0	0	0	0	0	3	3	3
CO4	3	0	2	2	0	0	0	0	0	0	3	3	3
Average	3.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00

4	Course Code:	3.2P
	Subject Name	Pharmaceutical Analysis
Course Outcomes		
3.2.P.1	CO1	To perform separation and identification of samples using paper, thin layer chromatographic technique.
3.2.P.2	CO2	To analyze the samples using UV visible spectrophotometer, study the effect of pH, solvent effect, derivatisation on UV spectra.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3		2	2							3	3	3
CO2	3		2	2							3	3	3

3.2.P.3	CO3	To perform potentiometric, conductometric titrations, colorimetry, fluorimetry, nephelometry, flame photometric determination.
3.2.P.4	CO4	To study and demonstrate IR spectroscopy, HPLC, HPTLC, polarimeter etc.

CO3	3		2	2							3	3	3
CO4	3		2	2							3	3	3
Average	3.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00

5	Course Code:	3.3T
	Subject Name	Pharmacotherapeutics – II
Course Outcomes		
3.3.T.1	CO1	To know the pathophysiology of selected disease states and the rationale for drug therapy
3.3.T.2	CO2	To understand the therapeutic approach for management of different diseases
3.3.T.3	CO3	To know the importance of preparation of individualized therapeutic plans based on diagnosis & controversies in drug therapy
3.3.T.4	CO4	To understand & identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	3	3	0	3	3	3
CO2	3	3	3	2	0	3	3	3	3	0	3	3	3
CO3	3	3	3	2	0	3	3	3	3	0	3	3	3
CO4	3	3	3	2	0	3	3	3	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00

6	Course Code:	3.3P
	Subject Name	Pharmacotherapeutics – II
Course Outcomes		
3.3.P.1	CO1	To understand therapeutic goals of the drugs used in different diseases.
3.3.P.2	CO2	To check & analyze drug interactions, adverse drug reactions
3.3.P.3	CO3	To understand dose and frequency of the medications
3.3.P.4	CO4	To understand the time-course of clinical and laboratory indices of therapeutic response and adverse effects.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	3	3	0	3	3	3
CO2	3	3	3	2	0	3	3	3	3	0	3	3	3
CO3	3	3	3	2	0	3	3	3	3	0	3	3	3
CO4	3	3	3	2	0	3	3	3	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00



7	Course Code:	3.4T
	Subject Name	Pharmaceutical Jurisprudence
Course Outcomes		
3.4.T.1	CO1	To appreciate study Pharmaceutical Legislation, relevance and significance of jurisprudence to Pharmaceutical Sciences.
3.4.T.2	CO2	To know fundamentals of legislation to regulate import manufacture, distribution and sales of drug and cosmetics.
3.4.T.3	CO3	To know the various parameters in the Drug and Cosmetic Act and rules, Drug policy, Drug Price Control Order,
3.4.T.4	CO4	To understand the concepts of Narcotic Drugs and Psychotropic substances, Pharmacy Act and Excise duties Act

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	0	0	0	1	1	1	0	0	1	0
CO2	3	0	0	0	0	0	1	1	1	0	0	1	0
CO3	3	0	0	0	0	0	1	1	1	0	0	1	0
CO4	3	0	0	0	0	0	1	1	1	0	0	1	0
Average	3.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00

8	Course Code:	3.5T
	Subject Name	Medicinal Chemistry
Course Outcomes		
3.5.T.1	CO1	Understand modern concept of rational drug design.
3.5.T.2	CO2	Learn development of the anti-infective drugs including structure activity relationship, mechanism of action, synthesis, chemical nomenclature, brand names and side effects of important compounds.
3.5.T.3	CO3	Understand classification, mechanism of action, structure activity relationship, synthesis, nomenclature and side effects of the drugs acting as antineoplastic agents
3.5.T.4	CO4	Understand classification, mechanism of action, structure activity relationship, synthesis, nomenclature and side effects of the drugs acting as Cardiovascular agents, Hypoglycemic agents, Diuretics, Steroidal Hormones and Adrenocorticoidsetc

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	0	0	0	2	3	2	2
CO2	3	0	0	2	0	0	0	0	0	2	3	2	2
CO3	3	0	0	2	0	0	0	0	0	2	3	2	2
CO4	3	0	0	2	0	0	0	0	0	2	3	2	2
Average	3.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	3.00	2.00	2.00

9	Course Code:	3.5 P
	Subject Name	Medicinal Chemistry

Course	Program Outcomes	PSOs
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Course Outcomes		
3.5.P.1	CO1	Learn assays of important drugs from the course
3.5.P.2	CO2	Learn synthesis of medicinally important compounds / drug intermediates with recrystallization, TLC techniques.
3.5.P.3	CO3	Understand monograph analysis of important drugs.
3.5.P.4	CO4	Determine partition coefficients, dissociation constants and molar refractivity of compounds for QSAR analysis.

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	2	0	0	0	0	0	2	3	2	2
CO2	3	0	0	2	0	0	0	0	0	2	3	2	2
CO3	3	0	0	2	0	0	0	0	0	2	3	2	2
CO4	3	0	0	2	0	0	0	0	0	2	3	2	2
Average	3.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	3.00	2.00	2.00

9	Course Code:	3.6T
	Subject Name	Pharmaceutical Formulation
Course Outcomes		
3.6.T.1	CO1	To understand the principle involved in formulation of various pharmaceutical dosage forms
3.6.T.2	CO2	To prepare various pharmaceutical formulation
3.6.T.3	CO3	To perform evaluation of pharmaceutical dosage forms
3.6.T.4	CO4	To understand and appreciate the concept of bioavailability and bioequivalence, their role in clinical situations

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	0	2	0	1	2	0	3	2	2
CO2	3	2	2	2	0	2	0	1	2	0	3	2	2
CO3	3	2	2	2	0	2	0	1	2	0	3	2	2
CO4	3	2	2	2	0	2	0	1	2	0	3	2	2
Average	3.00	2.00	2.00	2.00	0.00	2.00	0.00	1.00	2.00	0.00	3.00	2.00	2.00

9	Course Code:	3.6 P
	Subject Name	Pharmaceutical Formulation
Course Outcomes		
3.6.P.1	CO1	To inculcate various formulation skills
3.6.P.2	CO2	To understand mechanisms behind formulations
3.6.P.3	CO3	To evaluate various quality control analysis of developed formulations.
3.6.P.4	CO4	To understand clinical implications of the various dosage forms.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	0	2	0	1	2	0	3	2	2
CO2	3	2	2	2	0	2	0	1	2	0	3	2	2
CO3	3	2	2	2	0	2	0	1	2	0	3	2	2
CO4	3	2	2	2	0	2	0	1	2	0	3	2	2
Average	3.00	2.00	2.00	2.00	0.00	2.00	0.00	1.00	2.00	0.00	3.00	2.00	2.00




PRINCIPAL
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BALAJI INSTITUTE OF PHARMACEUTICAL SCIENCES

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COURSE OUTCOMES, CO-PO , CO-PSO mapping

PHARM.D

IV YEAR

PCI REGULATION

1	Course Code:	4.1T	
	Subject Name	Pharmacotherapeutics III	
Course Outcomes			
	4.1.T.1	CO1	To understand the etiopathogenesis of selected disease states
	4.1.T.2	CO2	To understand the rationale for drug therapy of the selected disease.
	4.1.T.3	CO3	To understand the importance of individualized therapeutic plans based on diagnosis and controversies in drug therapy
	4.1.T.4	CO4	To learn the general prescribing guidelines for special population

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	3	3	0	3	3	3
CO2	3	3	3	2	0	3	3	3	3	0	3	3	3
CO3	3	3	3	2	0	3	3	3	3	0	3	3	3
CO4	3	3	3	2	0	3	3	3	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00

2	Course Code:	4.1P	
	Subject Name	Pharmacotherapeutics III	
Course Outcomes			
	4.1.P.1	CO1	Able to systemically analyse a case
	4.1.P.2	CO2	Able to diagnose as well as suggest the medicine

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	2	0	3	3	3	3	0	3	3	3
CO2	3	3	3	2	0	3	3	3	3	0	3	3	3

4.1.P.3	CO3	Can perform the patient counselling effectively
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CO3	3	3	3	2	0	3	3	3	3	0	3	3	3
Average	3.00	3.00	3.00	2.00	0.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00

3	Course Code:	4.2T
	Subject Name	Hospital Pharmacy
Course Outcomes		
4.2.T.1	CO1	Able to know various drug distribution methods.
4.2.T.2	CO2	To know the professional practice management skills in hospital pharmacies & appreciate the stores management and inventory control.
4.2.T.3	CO3	To provide unbiased drug information to the doctors & appreciate the practice based research methods.
4.2.T.4	CO4	To know the manufacturing practices of various formulations in hospital set up.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	1	3	3	3	3	3	1	3	3	3
CO2	3	3	2	1	3	3	3	3	3	1	3	3	3
CO3	3	3	2	1	3	3	3	3	3	1	3	3	3
	3	2	2	1	3	3	3	3	3	1	3	3	3
Average	3.00	2.25	2.00	1.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

4	Course Code:	4.3T
	Subject Name	Clinical Pharmacy
Course Outcomes		
4.3.T.1	CO1	Describe general principles involved in the management of poisoning
4.3.T.2	CO2	Differentiate the clinical symptoms and management of various acute poisonings
4.3.T.3	CO3	Distinguish the clinical symptoms and management of chronic poisoning by heavy metals
4.3.T.4	CO4	Devise public and health care professionals in the management of emergency cases

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	2	1	3	3	3	3	1	3	3	3
CO2	3	3	2	2	1	3	3	3	3	1	3	3	3
CO3	3	3	2	2	1	3	3	3	3	1	3	3	3
CO4	3	3	2	2	1	3	3	3	3	1	3	3	3



4.3.T.5	CO5	Evaluate, minimize and prevent the substance abuse cases in local population
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CO5	3	3	2	2	1	3	3	3	3	1	3	3	3
Average	3.00	3.00	2.00	2.00	1.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

4	Course Code:	4.3P
	Subject Name	Clinical Pharmacy
Course Outcomes		
4.3.P.1	CO1	Can analyse, interpret and formulate drug information.
4.3.P.2	CO2	Able to detect monitoring parameters in therapeutics for determination of liver and kidney abnormalities.
4.3.P.3	CO3	Can identify, detect, assess and monitor ADR

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	2	1	3	3	3	3	1	3	3	3
CO2	3	3	2	2	1	3	3	3	3	1	3	3	3
CO3	3	3	2	2	1	3	3	3	3	1	3	3	3
Average	3.00	3.00	2.00	2.00	1.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

5	Course Code:	4.4T
	Subject Name	Biostatistics & Research Methodology
Course Outcomes		
4.4.T.1	CO1	Recognise the importance of biostatistics in pharmacy
4.4.T.2	CO2	understand the research methodology in the design of pharmacoepidemiological study
4.4.T.3	CO3	Discuss the methods of collection of data and its analysis and Interpretation
4.4.T.4	CO4	Discuss and evaluate various softwares for statistical analysis of data

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	2	0	3	3	1	1	0	3	3	2
CO2	3	3	3	3	0	3	2	1	1	0	3	3	2
CO3	3	3	2	2	0	2	2	1	1	0	2	2	2
CO4	3	3	3	3	0	3	3	1	1	0	3	2	2
Average	3.00	3.00	2.50	2.50	0.00	2.75	2.50	1.00	1.00	0.00	2.75	2.50	2.00

6	Course Code:	4.5T
	Subject Name	Biopharmaceutics & Pharmacokinetics

Course	Program Outcomes											PSOs	
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Course Outcomes		
4.5.T.1	CO1	To understand the concepts of bioavailability and bioequivalence of drug products and their significance
4.5.T.2	CO2	Use plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
4.5.T.3	CO3	Understand the concepts of bioavailability and bioequivalence of drug products and their significance
4.5.T.4	CO4	Understand the concept of dissolution and application of in vitro in vivo correlation in drug product development

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	0	3	0	2	2	0	0	0	2	2	2
CO2	3	0	3	3	0	2	2	0	0	0	2	3	2
CO3	2	0	0	3	0	2	1	0	0	0	1	3	3
CO4	3	0	3	2	0	1	2	0	0	0	2	1	3
Average	2.75	0.00	3.00	2.75	0.00	1.75	1.75	0.00	0.00	0.00	1.75	2.25	2.50

7	Course Code:	4.6T
	Subject Name	Clinical Toxicology
Course Outcomes		
4.6.P.1	CO1	Understand general working knowledge of the principles and practice of clinical toxicology
4.6.P.2	CO2	Demonstrate an understanding of health implications of toxic exposure and commonly involved chemicals for toxicity
4.6.P.3	CO3	Demonstrate and apply an understanding of the history, assessment and therapy associated with management of toxic exposure
4.6.P.4	CO4	Demonstrate and apply understanding of characteristics of treatment guidelines for specific toxic substance
4.6.P.5	CO5	Know several preventive approaches to reduce unintentional poisoning

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	0	3	3	0	0	2	2	0	0	3	3	3
CO2	3	0	3	3	0	0	2	2	0	0	3	2	3
CO3	3	0	3	3	0	0	2	2	0	0	3	2	2
CO4	3	0	0	3	3	0	2	2	0	0	3	3	2
CO5	3	0	0	3	0	0	2	2	0	0	3	3	2



4.6.P.6	CO6	Demonstrate an understanding of general toxicology principles and clinical management practice
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CO6	3	0	0	3	0	0	2	2	0	0	3	2	3
Average	3.00	0.00	3.00	3.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	2.50	2.50




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

PHARM.D V YEAR

PCI REGULATION

1	Course Code:	5.1T
	Subject Name	CLINICAL RESEARCH
Course Outcomes		
5.1.T.1	CO1	Explain the regulatory requirements for conducting clinical trial.
5.1.T.2	CO2	Demonstrate the types of clinical trial designs
5.1.T.3	CO3	Explain the responsibilities of key players involved in clinical trials.
5.1.T.4	CO4	Execute safety monitoring, reporting and close-out activities.
5.1.T.5	CO5	Explain the principles of Pharmacovigilance.
5.1.T.6	CO6	Detect new adverse drug reactions and their assessment.

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	1	1	3	3	2	2	0	3	3	3
CO2	3	3	3	1	1	3	3	2	2	0	3	3	3
CO3	3	3	3	1	1	3	3	2	2	0	3	3	3
CO4	3	3	3	1	1	3	3	2	2	0	3	3	3
CO5	3	3	3	1	1	3	3	2	2	0	3	3	3
CO6	3	3	3	1	1	3	3	2	2	0	3	3	3
Average	3.00	3.00	3.00	1.00	1.00	3.00	3.00	2.00	2.00	0.00	3.00	3.00	3.00

2	Course Code:	5.2T
	Subject Name	PHARMACOEPIDEMIOLOGY AND PHARMACOECONOMICS
Course Outcomes		
5.2.T.1	CO1	Acquire the knowledge about the scope and applications of the Pharmacoepidemiology.

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	1	0	3	3	3	3	0	3	3	2



5.2.T.2	CO2	Acquire the knowledge about the measurement of outcomes, assessment of the risk and conduct of Pharmacoepidemiological studies.
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CO2	3	3	2	1	0	3	3	3	3	0	3	3	2
Average	3	3	2	1	0	3	3	3	3	0	3	3	2

3	Course Code:	5.3T
	Subject Name	CLINICAL PHARMACOKINETICS AND PHARMACOTHERAPEUTIC DRUG MONITORING
Course Outcomes		
5.3.T.1	CO1	Appreciate the importance of the clinical pharmacokinetics and therapeutic drug monitoring.
5.3.T.2	CO2	Acquire the knowledge about the design of dosage regimens, pharmacokinetics of drug interactions, therapeutic drug monitoring, dosage adjustment in the renal and hepatic diseases, population pharmacokinetics And pharmacogenetics.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	0	1	3	3	3	3	0	3	3	3
CO2	3	2	2	0	1	3	3	3	3	0	3	3	3
Average	3.00	2.00	2.00	0.00	1.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	3.00

4	Course Code:	5.4
	Subject Name	CLERKSHIP
Course Outcomes		
5.4.1	CO1	Capable of delivering clinical pharmacy services efficiently
5.4.2	CO2	Able to plan and execute pharmaceutical care
5.4.3	CO3	Possess sound knowledge of therapeutics

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	3	1	3	3	3
CO2	3	3	3	3	3	3	3	3	3	1	3	3	3
CO3	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

5	Course Code:	5.5
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Subject Name		PROJECT WORK
Course Outcomes		
5.4.T.1	CO1	To Acquire the Knowledge and skills required for performing a project in The hospital and clinical settings.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00




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COURSE OUTCOMES, CO-PO , CO-PSO mapping

PHARM.D

VI YEAR

PCI REGULATION

1	Course Code:	6.1
	Subject Name	Internship
Course Outcomes		
6.1.1	CO1	Expert in providing patient care as well as manage and use resources efficiently as a member of health care team
6.1.2	CO2	Capable of promoting health improvement, wellness and disease prevention in cooperation with other related professionals and community
6.1.3	CO3	Developed skills in monitoring of the national health programmes and schemes with effective communication skill

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	3	1	3	3	3
CO2	3	3	3	3	3	3	3	3	3	1	3	3	3
CO3	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

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COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutics)

I sem

PCI REGULATION

1	Course Code:	MPH101T
	Subject Name	Modern Pharmaceutical Analytical Techniques
Course Outcomes		
MPH101T.1	CO1	Understand the theories, laws, instrumentation of UV-Visible spectroscopy, IR spectroscopy, Spectrofluorimetry.
MPH101T.2	CO2	Understand the detail study of Mass spectroscopy
MPH101T.3	CO3	A detail explanation of principle, apparatus, instrumentation and types of Chromatography.
MPH101T.4	CO4	Understand the detail information about Electrophoresis.
MPH101T.5	CO5	study about Immunological assays and thermal techniques
MPH101T.6	CO6	Understand the concept of NMR Spectroscopy

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	3	1	3	3	1	1	0	3	2	3
CO2	3	2	2	3	1	3	3	1	1	0	3	1	3
CO3	3	2	2	3	1	3	3	1	1	0	3	2	3
CO4	3	2	2	3	1	3	3	1	1	0	3	1	3
CO5	3	2	2	3	1	3	3	1	1	0	3	2	3
CO6	3	2	2	3	1	3	3	1	1	0	3	1	3
Average	3.00	2.00	2.00	3.00	1.00	3.00	3.00	1.00	1.00	0.00	3.00	1.50	3.00

2	Course Code:	MPH102T
	Subject Name	Drug Delivery System
Course Outcomes		

Course Outcomes	Program Outcomes										PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1

MPH102T.1	CO1	Understand the formulation, various mechanisms of drug delivery and pharmacokinetic studies of Sustained and controlled release.
MPH102T.2	CO2	Study about Carriers for drug delivery
MPH102T.3	CO3	Understand the concept of Rate controlled drug delivery system.
MPH102T.4	CO4	Study of various Drug delivery systems like oral drug delivery system, GRDDS, Mucoadhesive, buccal DDS, Ocular delivery system.
MPH102T.5	CO5	Understand the concept of Transdermal drug delivery system.
MPH102T.6	CO6	Study about Protein delivery, peptide delivery and personalised medicine.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	3	1	3	3	1	1	0	3	2	3
CO2	3	2	2	3	1	3	3	1	1	0	3	1	3
CO3	3	2	2	3	1	3	3	1	1	0	3	2	3
CO4	3	2	2	3	1	3	3	1	1	0	3	1	3
CO5	3	2	2	3	1	3	3	1	1	0	3	2	3
CO6	3	2	2	3	1	3	3	1	1	0	3	1	3
Average	3.00	2.00	2.00	3.00	1.00	3.00	3.00	1.00	1.00	0.00	3.00	1.50	3.00

3	Course Code:	MPH103T
	Subject Name	Modern pharmaceuticals
Course Outcomes		
MPH103T.1	CO1	Understand the concept of Preformulation and Optimization techniques in pharmaceutical formulation.
MPH103T.2	CO2	A detail study about validation.
MPH103T.3	CO3	Understand the explanation about cGMP & Industrial management.
MPH103T.4	CO4	Compression, compaction, consolidation of tablet and dissolution testing.
MPH103T.5	CO5	Understand concept of Regression(linearity) standard deviation, standard error Chi square test, ANOVA test

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	3	0	3	3	1	2	0	3	3	3
CO2	3	2	2	3	0	3	3	1	2	0	3	3	3
CO3	3	2	2	3	0	3	3	1	2	0	3	3	3
CO4	3	2	2	3	0	3	3	1	2	0	3	3	3
CO5	3	2	2	3	0	3	3	1	2	0	3	3	3
Average	3.00	2.00	2.00	3.00	0.00	3.00	3.00	1.00	2.00	0.00	3.00	3.00	3.00

4	Course Code:	MPH104T
	Subject Name	IPR and Regulatory Affairs

Course	Program Outcomes	PSOs
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Course Outcomes		
MPC104.1	CO1	Study about Drug product development.
MPC104.2	CO2	Understand about ICH- Guidelines.
MPC104.3	CO3	ANDA for generic drugs and US registration for foreign drugs.
MPC104.4	CO4	Brief introduction to CDSCO, WHO, USFDA, EMEA, TGA, MHRA, MCC, ANVISA
MPC104.5	CO5	Understand detail about patents
MPC104.6	CO6	Copy right, trademark, Geographical indication act, patent litigation.

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	3	0	3	3	1	2	1	3	3	3
CO2	3	2	2	3	0	3	3	2	1	1	3	3	3
CO3	3	1	1	3	0	1	3	1	2	1	3	3	3
CO4	3	2	2	3	0	2	3	2	2	1	3	3	3
CO5	3	1	2	3	0	3	3	2	2	1	3	3	3
Average	3.00	1.40	1.80	3.00	0.00	2.40	3.00	1.60	1.80	1.00	3.00	3.00	3.00

5	Course Code:	MPH105P
	Subject Name	Modern Pharmaceutical Analytical Techniques(PRACTICAL)
	Course Code:	
MPH105P.1	CO1	Analysis of pharmacopieal compounds and their formulations by UV visible spectrophotometer.
MPH105P.2	CO2	Simultaneous estimation of multi component containing formulations by UV/HPLC spectrophotometer.
MPH105P.3	CO3	Experiments based on HPLC
MPH105P.4	CO4	Experiments based on Gas chromatography.
MPH105P.5	CO5	Estimation of riboflavin/quinine sulphate by fluorimetry.
MPH105P.6	CO6	Estimation of sodium/potassium by flame photometry.

Course Outcomes	Program Outcomes											PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	1	3	3	1	3	1	3	3	3
CO2	3	2	3	3	1	3	3	1	3	1	3	3	3
CO3	3	2	3	3	1	3	3	1	3	1	3	3	3
CO4	3	2	3	3	1	3	3	1	3	1	3	3	3
CO5	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00



BALAJI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by AICTE & PCI, Under Section 12, New Delhi and Affiliated to kakathiya University, Wgl)

Laknepally (V) Narsampet (M) Warangal Rural (Dist) Telangana State 506331

Contact : +91 9866050044 (Office), +91 9866652412 (Principal), +91 8718-230521 (Fax)

COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutics)

II sem

PCI REGULATION



1	Course Code:	MPH201T
	Subject Name	Advanced Biopharmaceutics & Pharmacokinetics
Course Outcomes		
MPH201T.1	CO1	Study about formulation and physicochemical factors of dissolution, drug absorption from the gastrointestinal tract and transport model.
MPH201T.2	CO2	Understand concept of Biopharmaceutic consideration in drug product design and invivo performance.
MPH201T.3	CO3	Detail study about pharmacokinetics and applications of pharmacokinetics.
MPH201T.4	CO4	Understand about Non linear pharmacokinetics and drug interaction.
MPH201T.5	CO5	Drug product performance, bioavailability and bioequivalence studies.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	2	3	3	1	3	1	3	3	3
CO2	3	2	3	3	3	3	3	1	3	1	3	3	3
CO3	3	2	3	3	3	3	3	1	3	1	3	3	3
CO4	3	2	3	3	3	3	3	1	3	1	3	3	3
CO5	3	2	3	3	3	3	3	1	3	1	3	3	3
Average	3.00	2.00	3.00	3.00	2.80	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

2	Course Code:	MPH202T
	Subject Name	Molecular pharmaceutics (Nano technology & targeted DDS)(NTDS)

Course	Program Outcomes	PSOs
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Course Outcomes		
MPC2.2.1	CO1	Understand concept of Targeted drug delivery system.
MPC2.2.2	CO2	Study about types, preparation and evaluation of nano particles and liposomes.
MPC2.2.3	CO3	Understand the explanation about preparation, applications of monoclonal antibodies, niosomes, aquasomes, phytosomes and electrosomes.
MPC2.2.4	CO4	Detail explanation about Pulmonary drug delivery systems.
MPC2.2.5	CO5	Understand about nucleic acid based therapeutic delivery system.
MPC2.2.6	CO6	Study of vaccine delivery systems and commercial formulations

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	3	3	3	3	1	3	1	3	3	3
CO2	3	2	3	3	3	3	3	1	3	1	3	3	3
CO3	3	2	3	3	3	3	3	1	3	1	3	3	3
CO4	3	2	3	3	3	3	3	1	3	1	3	3	3
CO5	3	2	3	3	3	3	3	1	3	1	3	3	3
CO6	3	2	3	3	3	3	3	1	3	1	3	3	3
Average	3.00	2.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

3	Course Code:	MPH203T
	Subject Name	Pharmaceutical Production Technology
Course Outcomes		
MPH203T.1	CO1	A detail Study about tablet production process and coating technology
MPH203T.2	CO2	Plant layout and equipments for Parenteral production.
MPH203T.3	CO3	Understand concept of Lyophilization & spray drying technology.
MPH203T.4	CO4	Study on production process and filling machines involved in hard gelatin capsule, soft gelatin capsule preparation and Dispersion system.
MPH203T.5	CO5	Types of packing materials, machinery, labelling, package printing for different dosage forms.
MPH203T.6	CO6	Understand concept of Air handling systems.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	3	1	3	3	3
CO2	3	3	3	3	0	3	3	3	3	1	3	3	3
CO3	3	3	3	3	2	3	3	3	3	1	3	3	3
CO4	3	3	3	3	2	3	3	3	3	1	3	3	3
CO5	3	3	3	3	3	3	3	3	3	1	3	3	3
CO6	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	2.17	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00

4	Course Code:	MPH204T
	Subject Name	Cosmetics and Cosmeceuticals
Course Outcomes		
MPH204T.1	CO1	Study about Cosmetic regulatory and provisions related to manufacture of cosmetics.
MPH204T.2	CO2	Biological aspects like structure and problems of skin, hair and teeth.
MPH204T.3	CO3	Understand about formulation building blocks for creams shampoos tooth paste like surfactants, emollient, rheological additives and preservatives.
MPH204T.4	CO4	Detail study on perfumes
MPH204T.5	CO5	Design of cosmeceutical products for acne, dry skin, pigmentation, dental cavities etc.
MPH204T.6	CO4	Herbal cosmetics for hair, skin and oral care.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	1	2	3	3	3	3	1	3	1	3	3	3
CO2	3	2	2	3	3	1	3	2	1	1	3	3	3
CO3	3	2	3	3	3	3	3	2	2	1	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	2	3	3	2	3	1	3	3	3
Average	3.00	2.33	2.67	3.00	2.83	2.67	3.00	2.17	2.50	1.67	3.00	3.00	3.00


PRINCIPAL
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COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutical Analysis) I sem

PCI REGULATION

1	Course Code:	MPA101T
	Subject Name	Modern Pharmaceutical Analytical Techniques
Course Outcomes		
MPA101T.1	CO1	Understand the theories, laws, instrumentation of UV-Visible spectroscopy,IR spectroscopy, Spectrofluorimetry.
MPA101T.2	CO2	Understand the detail study of Mass spectroscopy
MPA101T.3	CO3	A detail explanation of principle,apparatus, instrumentation and types of Chromatography.
MPA101T.4	CO4	Understand the detail information about Electrophoresis.
MPA101T.5	CO5	study about Immunological assys and thermal techniques
MPA101T.6	CO6	Understand the concept of NMR Spectroscopy

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	1	3	1	3	3	3
CO2	3	3	3	3	3	3	3	1	3	1	3	3	3
CO3	3	3	3	3	3	3	3	1	3	1	3	3	3
CO4	3	3	3	3	3	3	3	1	3	1	3	3	3
CO5	3	3	3	3	3	3	3	1	3	1	3	3	3
CO6	3	3	3	3	3	3	3	1	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

2	Course Code:	MPA102T
	Subject Name	Advance pharmaceutical analysis
Course Outcomes		
MPA102T.1	CO1	To study of principles and procedures involved in nonaqueous complex metric oxidation reduction methods

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	2	3	3	1	3	1	3	3	3

MPA102T.2	CO2	to study principles and procedures involved in electrometric methods
MPA102T.3	CO3	to learn principles and procedures involved in analysis
MPA102T.4	CO4	to practice principles and procedures in quantitative determination
MPA102T.5	CO5	to learn different analytical techniques

CO2	3	3	3	3	2	3	3	1	3	1	3	3	3
CO3	3	3	3	3	3	3	3	1	3	1	3	3	3
CO4	3	3	3	3	2	3	3	1	3	1	3	3	3
CO5	3	3	3	3	3	3	3	1	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	2.40	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

3	Course Code:	MPA103T
	Subject Name	Pharmaceutical Validation
Course Outcomes		
MPA103T.1	CO1	knowledge of Calibration, Qualification and validation
MPA103T.2	CO2	process validation of different dosage forms
MPA103T.3	CO3	Validation of analytical methods for estimation of drugs
MPA103T.4	CO4	Cleaning and validation of equipments employed in the manufacturing of pharmaceuticals

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	1	3	1	3	3	3
CO2	3	3	3	3	3	3	3	1	3	1	3	3	3
CO3	3	3	3	3	3	3	3	1	3	1	3	3	3
CO4	3	3	3	3	3	3	3	1	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

4	Course Code:	MPA104T
	Subject Name	Food Analysis
Course Outcomes		
MPA104T.1	CO1	Various analytical Techniques in the determination of Food Constituents
MPA104T.2	CO2	Various analytical Techniques in the determination of Food additives
MPA104T.3	CO3	Various analytical Techniques in the determination of Finished Food products
MPA104T.4	CO4	Various analytical Techniques in the determination of Pesticide in foods

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	0	3	3	1	1	1	3	3	3
CO2	3	2	3	2	0	2	3	1	1	1	3	3	3
CO3	3	3	1	3	0	2	3	1	2	1	3	3	3
CO4	3	2	2	3	0	2	3	1	2	1	3	3	3
Average	3.00	2.50	2.25	2.75	0.00	2.25	3.00	1.00	1.50	1.00	3.00	3.00	3.00



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COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutical Analysis)

II sem

PCI REGULATION

1	Course Code:	MPA201T	
	Subject Name	Advanced Instrumental analysis	
Course Outcomes			
MPA201T.1	CO1	to know the principles and procedures of UV and IR	
MPA201T.2	CO2	to know the principles and procedures of MS	
MPA201T.3	CO3	to know the principles and procedures of NMR	
MPA201T.4	CO4	Knowledge on Biochemical Chromatography	

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	1	3	3	3	3	3	3	3	3
CO2	3	3	3	3	2	3	3	3	3	3	3	3	3
CO3	3	3	3	3	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3	3	3	3
Average	3.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	2.50	3.00	3.00	3.00

2	Course Code:	MPA202T	
	Subject Name	Modern Bioanalytical Techniques	
Course Outcomes			
MPA202T.1	CO1	Extraction of drug from Biological samples	
MPA202T.2	CO2	Separation of drugs from Biological Samples	
MPA202T.3	CO3	Guidelines for BA-BE studies	

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	0	3	3	1	3	1	3	3	3
CO2	3	3	3	3	0	3	3	1	3	1	3	3	3
CO3	3	3	3	3	0	3	3	1	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	0.00	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00

3	Course Code:	MPA203T	
	Subject Name	Quality Control and Quality assurance	
Course Outcomes			

Course Outcomes	Program Outcomes										PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1

MPA203T.1	CO1	Study of evaluation and scopes of quality control and quality assurance, Good laboratory practices, ICH guidelines.
MPA203T.2	CO2	Understand about cGMP guidelines according to sch.M
MPA203T.3	CO3	Study on analysis of raw materials and packing materials, finished products quality control tests according to IP, B.P, USP for different dosage forms.
MPA203T.4	CO4	Detail information on Documentation in pharmaceutical industry and submission document for regulators DMFs.
MPA203T.5	CO5	Manufacturing operations and controls, introduction, scope of IPR, trade mark, copy right and patents.

CO1	3	3	3	3	2	3	3	1	3	1	3	3	3
CO2	3	3	3	3	2	3	3	3	3	1	3	3	3
CO3	3	3	3	3	2	3	3	2	3	1	3	3	3
CO4	3	3	3	3	2	3	3	3	3	1	3	3	3
CO5	3	3	3	3	3	3	3	3	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	2.20	3.00	3.00	2.40	3.00	1.00	3.00	3.00	3.00

4	Course Code:	MPA204	
	Subject Name	Advanced Pharmaceutical Analysis - II	
Course Outcomes			
MPA204.T	CO1	Qualitative and Quantitative determination of various organic compounds	
MPA204.T	CO2	Knowledge and applications of Chromatographic techniques	
MPA204.T	CO3	elemental analysis	
MPA204.T	CO4	evaluation of cosmetic products	

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	0	3	3	1	3	1	3	3	3
CO2	3	3	3	3	0	3	3	1	3	1	3	3	3
CO3	3	3	3	3	0	3	3	1	3	1	3	3	3
CO4	3	3	3	3	0	3	3	1	3	1	3	3	3
Average	3.00	3.00	3.00	3.00	0.00	3.00	3.00	1.00	3.00	1.00	3.00	3.00	3.00


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COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutical Quality Assurance)

I sem

PCI REGULATION

1	Course Code:	MQA101T
	Subject Name	Modern Pharmaceutical Analytical Techniques
Course Outcomes		
MQA101T.1	CO1	Understand the theories, laws, instrumentation of UV-Visible spectroscopy, IR spectroscopy, Spectrofluorimetry, Flame emission spectroscopy.
MQA101T.2	CO2	Understand the detail study of Mass spectroscopy
MQA101T.3	CO3	A detail explanation of principle, apparatus, instrumentation and types of Chromatography.
MQA101T.4	CO4	Understand the detail information about Electrophoresis.
MQA101T.5	CO5	study about Potentiometry and thermal techniques.
MQA101T.6	CO6	Understand the concept of NMR Spectroscopy

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	3	1	3	3	1	1	0	3	2	3
CO2	3	2	2	3	1	3	3	1	1	0	3	1	3
CO3	3	2	2	3	1	3	3	1	1	0	3	2	3
CO4	3	2	2	3	1	3	3	1	1	0	3	1	3
CO5	3	2	2	3	1	3	3	1	1	0	3	2	3
CO6	3	2	2	3	1	3	3	1	1	0	3	1	3
Average	3.00	2.00	2.00	3.00	1.00	3.00	3.00	1.00	1.00	0.00	3.00	1.50	3.00

2	Course Code:	MQA102T
	Subject Name	Quality Management Systems.
Course Outcomes		
MQA102T.1	CO1	Understand about quality, customer focus and cost of quality.
MQA102T.2	CO2	Understand basics of Pharmaceutical quality management.

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	1	1	3	1	1	3	2	3	3	3
CO2	3	3	3	1	2	3	1	1	3	2	3	3	3

MQA102T.3	CO3	Study on 6 system inspection model such as quality management system, production system, facility and equipment system, laboratory control system, material system, packing and labeling system.
MQA102T.4	CO4	ICH guidelines for drug stability
MQA102T.5	CO5	Detail study on statistical process control.
MQA102T.6	CO6	Study on regulatory compliance through quality management and development of quality culture benchmarking.

CO3	3	3	3	1	2	3	1	1	3	2	3	3	3
CO4	3	3	3	1	2	3	1	1	3	2	3	3	3
CO5	3	3	2	1	2	3	1	1	1	3	3	3	3
CO6	3	2	3	3	3	3	3	1	3	3	3	3	3
Average	3.00	2.83	2.83	1.33	2.00	3.00	1.33	1.00	2.67	2.33	3.00	3.00	3.00

3	Course Code:	MQA103T
	Subject Name	Quality Control and Quality assurance
Course Outcomes		
MQA103T.1	CO1	Study of evaluation and scopes of quality control and quality assurance, Good laboratory practices, ICH guidelines.
MQA103T.2	CO2	Understand about cGMP guidelines according to sch.M
MQA103T.3	CO3	Study on analysis of raw materials and packing materials, finished products quality control tests according to I.P, B.P, USP for different dosage forms.
MQA103T.4	CO4	Detail information on Documentation in pharmaceutical industry and submission document for regulators DMFs.
MQA103T.5	CO5	Manufacturing operations and controls, introduction, scope of IPR, trade mark, copy right and patents.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	1	3	3	1	3	0	3	3	3
CO2	3	2	3	3	1	3	3	1	3	0	3	3	3
CO3	3	2	3	3	2	3	3	1	3	0	3	3	3
CO4	3	2	3	3	1	3	3	1	3	0	3	3	3
CO5	3	2	3	3	2	3	3	1	3	0	3	3	3
Average	3.00	2.20	3.00	3.00	1.40	3.00	3.00	1.00	3.00	0.00	3.00	3.00	3.00

4	Course Code:	MQA104T
	Subject Name	Product Development and Technology Transfer

Course Outcomes	Program Outcomes	PSOs
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Course Outcomes		
MQA104T.1	CO1	Knowledge on basic principles of drug discovery & development
MQA104T.2	CO2	knowledge on Preformulation studies
MQA104T.3	CO3	able to understand and analyse Pilot plant scales and large scale manufacturing techniques
MQA104T.4	CO4	Various methods of packing & Quality control tests
MQA104T.5	CO5	Knowledge on Technology transfer

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	3	2	1	1	3	1	2	0	3	3	2
CO2	3	2	3	2	1	1	3	1	2	0	3	3	2
CO3	3	2	3	2	2	1	3	1	2	0	3	3	2
CO4	3	2	3	2	2	2	3	1	3	0	3	2	3
CO5	3	3	3	3	3	3	2	1	2	0	2	3	2
Average	3.0	2.2	3.0	2.2	1.8	1.6	2.8	1.0	2.2	0.0	2.8	2.8	2.2

5	Course Code:	MPQ105P
	Subject Name	Modern Pharmaceutical Analytical Techniques(PRACTICAL)
Course Outcomes		
MQA105P.1	CO1	Analysis of pharmacopoeial compounds and their formulations by UV visible spectrophotometer.
MQA105P.2	CO2	Simultaneous estimation of multi component containing formulations by UV/HPLC spectrophotometer.
MQA105P.3	CO3	Experiments based on HPLC
MQA105P.4	CO4	Experiments based on Gas chromatography.
MQA105P.5	CO5	Estimation of riboflavin/quinine sulphate by fluorimetry.
MQA105P.6	CO6	Estimation of sodium/potassium by flame photometry.

Course Outcomes	Program Outcomes										PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	3	0	2	3	1	3	0	3	3	3
CO2	3	2	3	3	0	2	1	3	1	3	1	3	3
CO3	3	2	3	3	0	2	1	3	1	3	1	3	3
CO4	3	2	3	3	0	2	1	3	1	3	1	3	3
CO5	3	3	2	1	0	2	1	1	3	0	3	3	3
CO6	3	3	2	2	0	2	1	1	3	0	3	3	3
Average	3.00	2.50	2.50	2.50	0.00	2.00	1.33	2.00	2.00	1.50	2.00	3.00	3.00



BALAJI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by AICTE & PCI, Under Section 12, New Delhi and Affiliated to kakathiya University, Wgl)

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COURSE OUTCOMES, CO-PO , CO-PSO mapping

M.Pharmacy(Pharmaceutical Quality Assurance)

II sem

PCI REGULATION

1	Course Code:	MQA201T
	Subject Name	HAZARDS AND SAFETY MANAGEMENT
Course Outcomes		
MQA201T.1	CO1	to understand about environmental problems
MQA201T.2	CO2	Impart basic knowledge about the environment and its problems
MQA201T.3	CO3	develop an attitude of concern for industry environment
MQA201T.4	CO4	Safety standards in pharmaceutical industry

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	1	3	1	3	3	3	3	3
CO2	3	2	3	3	3	2	3	1	3	3	3	3	3
CO3	3	2	1	3	3	3	3	1	3	3	3	3	3
CO4	3	3	1	3	3	3	3	1	3	3	3	3	3
Average	3.00	2.50	2.00	3.00	3.00	2.25	3.00	1.00	3.00	3.00	3.00	3.00	3.00

2	Course Code:	MQA202T
	Subject Name	Pharmaceutical Validation
Course Outcomes		
MQA202T.1	CO1	knowledge of Calibration, Qualification and validation
MQA202T.2	CO2	process validation of different dosage forms
MQA202T.3	CO3	Validation of analytical methods for estimation of drugs
MQA202T.4	CO4	Cleaning and validation of equipments employed in the manufacturing of pharmaceuticals

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	1	3	3	3	3	3
CO2	3	3	3	3	3	3	3	1	3	3	3	3	3
CO3	3	3	3	3	3	3	3	1	3	3	3	3	3
CO4	3	3	3	3	3	3	3	1	3	3	3	3	3

Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00
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3	Course Code:	MQA203T
	Subject Name	Audits and regulatory Compliance
Course Outcomes		
MQA203T.1	CO1	To understand the importance of auditing
MQA203T.2	CO2	To understand the methodology of auditing
MQA203T.3	CO3	to carry out the audit process
MQA203T.4	CO4	To prepare audit report

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	1	3	3	3	3	3
CO2	3	3	3	3	3	3	3	1	3	3	3	3	3
CO3	3	3	3	3	3	3	3	1	3	3	3	3	3
CO4	3	3	3	3	3	3	3	1	3	3	3	3	3
Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00

4	Course Code:	MQA204T
	Subject Name	Pharmaceutical Manufacturing Technology
Course Outcomes		
MQA204T.1	CO1	The common practice in the pharmaceutical Industry development
MQA204T.2	CO2	Principle and practice of Aseptic process technology and non sterile manufacturing technology
MQA204T.3	CO3	Principles and implementation of QBD and process analytical Technology

Course Outcomes	Program Outcomes									PSOs			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	3	3	3	3	3	3	3


PRINCIPAL
 Balaji Institute of Pharmaceutical Sciences
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