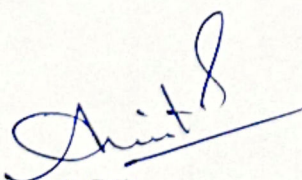


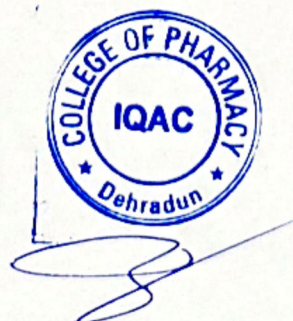



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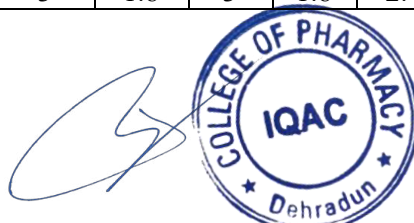
Course Name: Human Anatomy and Physiology I- Theory		
Course Code: BP101T		
CO	Course Outcomes	BL
BP101T CO1	Explain the gross morphology, anatomical terminology, Homoeostasis, and Cell signaling of the human body & identify the various cells, tissues, and organs of different systems	2
BP101T CO2	Compare and contrast the different parts of the human skin and skeletal system.	2
BP101T CO3	Estimate different components available in the human body fluid and lymphatic system.	2
BP101T CO4	Classify the peripheral nervous system, nerves, and morphology of special senses.	2
BP101T CO5	Recognize the major organs and vessels and understand the function of a different human system.	1

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP101T CO1	3	-	2	3	-	2	2	3	2	-	3
BP101T CO2	3	2	-	3	-	2	2	3	2	-	3
BP101T CO3	3	-	2	3	-	2	2	3	2	-	2
BP101T CO4	3	2	2	3	-	2	2	3	2	-	
BP101T CO5	3	-	2	3	-	2	3	3	2	-	3
AVERAGE	3	2.0	2.00	3	-	2.0	2.2	3	2.0	-	2.75

Course Name: Pharmaceutical Analysis I- Theory		
Course Code: BP102T		
CO	Course Outcomes	BL
BP102TCO1	Illuminate the significance of pharmacopeia and limit tests in pharmaceutical analysis.	1
BP102TCO2	Understand the fundamental concepts related to the analytical determination of compounds	2
BP102TCO3	Understand the preparation and standardization of normal and molar solutions	2
BP102TCO4	Acknowledge the principle, instrumentation, and application of volumetric analysis	2
BP102TCO5	Acknowledge the principle, instrumentation, and application of electrochemical analysis.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP102TCO1	3	2	3	-	3	-	3	2	3	-	3
BP102TCO2	3	2	3	-	3	-	-	2	3	-	3
BP102TCO3	3	3	3	3	3	3	3	2	3	-	3
BP102TCO4	3	-	3	3	3	3	3	1	3	-	3
BP102TCO5	3	-	3	3	3	3	3	1	3	-	3
AVERAGE	3.0	1.4	3	1.8	3	1.8	2.4	1.6	3	-	3

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Course Name: Pharmaceutics I- Theory		
Course Code: BP103T		
CO	Course Outcomes	BL
BP103TCO1	Discuss the history of the profession of Pharmacy in India & Pharmacopeia and its development.	2
BP103TCO2	Explain the prescription and Posology of drugs in children.	2
BP103TCO3	Elaborate and apply different pharmaceutical calculations and incompatibility.	2
BP103TCO4	Explain the different dosage forms with their formulation and evaluation.	2

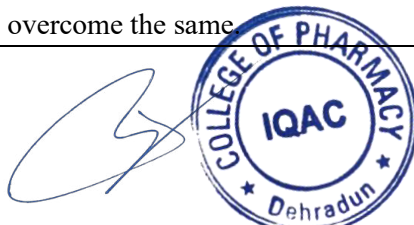
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP103TCO1	3	-	2	2	-	2	-	2	2	-	3
BP103TCO2	3	2	2	2	-	2	2	2	2	-	3
BP103TCO3	3	2	2	2	-	-	2	-	2	-	2
BP103TCO4	3	2	2	2	-	2	2	2	2	-	3
AVERAGE	3.0	2.0	2.0	2.0	-	2.0	2.0	2.0	2.0	-	2.75

Course Name: Pharmaceutical Inorganic Chemistry- Theory		
Course Code: BP104T		
CO	Course Outcomes	BL
BP104TCO1	Define Pharmacopoeias and identify sources of impurities in inorganic compounds.	1
BP104TCO2	Describe the basic concepts of Acids, Bases buffers, and electrolytes	2
BP104TCO3	Understanding of the medicinal and pharmaceutical importance of inorganic compounds.	2
BP104TCO4	Describe the concepts and principles of radiopharmaceutical measurements.	2
BP104TCO5	Appraise the physical and chemical properties of inorganic compounds.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP104TCO1	3	2	2	3	-	2	2	2	-	2	2
BP104TCO2	3	-	3	2	-	2	-	2	2	2	3
BP104TCO3	3	2	3	3	-	2	2	2	2	2	2
BP104TCO4	3	-	2	2	-	-	2	-	2	2	2
BP104TCO5	3	-	-	3	-	-	2	2	-	2	2
AVERAGE	3	2	2.5	2.6	-	2.0	2.0	2.0	2.0	2.0	2.75

Course Name: Communication Skills- Theory		
Course Code: BP105T		
CO	Course Outcomes	BL
BP105TCO1	Understand the meaning and the process of effective communication, along with its classification into various types.	2
BP105TCO2	Comprehend the different elements and barriers to effective communication and develop ways to overcome the same	2

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BP105TCO3	Construct clear concepts of writing, listening, and speaking skills in English Communication.	2
BP105TCO4	Acquire the knowledge of body language and presentation skills to communicate in interviews and professional situations.	2
BP105TCO5	Understand the concept of teamwork, leadership, and the importance of personal development skills.	2

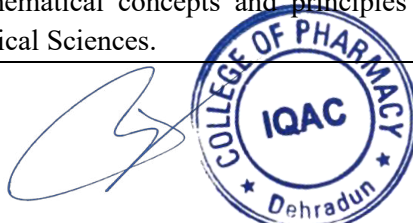
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP105TCO1	-	3	3	2	2	-	-	3	-	-	3
BP105TCO2	-	3	3	2	2	3	-	3	-	-	3
BP105TCO3	-	3	3	2	2	3	-	3	-	-	3
BP105TCO4	-	3	3	2	2	3	-	3	-	-	3
BP105TCO5	-	3	3	2	3	3	-	3	-	-	3
AVERAGE	-	3	3	2	2.2	3	-	3	-	-	3

Course Name: Remedial Biology- Theory		
Course Code: BP106RBT		
CO	Course Outcomes	BL
BP106RBTCO1	Understand the characters of living organisms and the classification of kingdoms.	2
BP106RBTCO2	Develop basic knowledge of the morphology and functions of various parts of plants.	6
BP106RBTCO3	Discuss the functions of organs in the various systems of the human body.	2
BP106RBTCO4	Explain the physiology of the brain and spinal cord and the role of the kidney in the regulation of body fluids.	2
BP106RBTCO5	Discuss the role of hormones in the regulation of various organs functioning in the body.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP106RBTCO1	3	2	-	-	-	2	-	-	2	-	3
BP106RBTCO2	3	2	-	2	-	2	2	-	2	-	2
BP106RBTCO3	3	-	-	2	-	2	2	2	2	-	3
BP106RBTCO4	3	-	-	2	-	2	2	2	2	-	2
BP106RBTCO5	3	-	-	2	-	2	2	2	2	-	3
AVERAGE	3.0	2.0	-	2.0	-	2.0	2.0	2.0	2.0	-	2.6

Course Name: Remedial Mathematics- Theory		
Course Code: BP106RMT		
CO	Course Outcomes	BL
BP106RMTCO1	Discuss the mathematical knowledge and understanding to help in the field of Clinical Pharmacy.	2
BP106RMTCO2	Apply mathematical concepts and principles to perform computations for Pharmaceutical Sciences.	3

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BP106RMTCO3	Create, use, and analyze mathematical representations and mathematical relationships.	6
BP106RMTCO4	Construct and develop basic tools that are employed in working out numerical problems in day-to-day operations in the labs.	6

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP106RMTCO1	3	-	3	2	-	2	2	-	2	-	2
BP106RMTCO2	3	-	3	2	-	-	2	-	1	-	2
BP106RMTCO3	3	-	3	-	-	-	-	-	-	-	2
BP106RMTCO4	3	-	3	3	-	2	2	-	1	-	2
AVERAGE	3.0	-	3.0	2.3	-	2.0	2.0	-	1.3	-	2.0

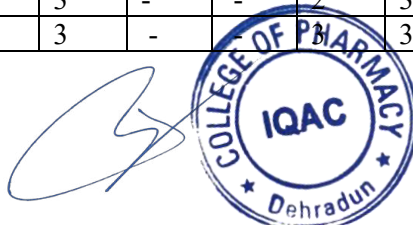
Course Name: Human Anatomy and Physiology I- Practical		
Course Code: BP107P		
CO	Course Outcomes	BL
BP107PCO1	Use the microscope effectively for the microscopic study of various tissues.	2
BP107PCO2	Identify axial and appendicular bones of the human skeleton.	3
BP107PCO3	Demonstrate the different tissues and organs of the different systems of the human body.	3
BP107PCO4	Perform the hematological test, like blood cell count, hemoglobin estimation, bleeding/clotting time, and blood group determination	4
BP107PCO5	Measure the blood pressure, heart rate, and pulse rate	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP107PCO1	3	2	2	2	-	2	2	2	2	-	3
BP107PCO2	3	2	2	2	-	2	2	1	2	-	2
BP107PCO3	3	2	2	2	-	2	2	2	2	-	3
BP107PCO4	3	3	3	3	-	3	3	2	3	-	3
BP107PCO5	3	3	3	3	-	3	3	2	3	-	3
AVERAGE	3.0	2.4	2.4	2.4	-	2.4	2.4	1.8	2.4	-	2.8

Course Name: Pharmaceutical Analysis I- Practical		
Course Code: BP108P		
CO	Course Outcomes	BL
BP108PCO1	To develop a limit test to identify the impurities in substances.	3
BP108PCO2	To explore the preparation and standardization of normal and molar solutions	6
BP108PCO3	To assess the assay of the compound by volumetric analysis	6
BP108PCO4	To assess the assay of the compound by electrochemical analysis	6

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP108PCO1	3	3	3	-	-	2	3	3	3	-	3
BP108PCO2	3	3	3	-	-	2	3	3	3	-	3

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BP108PCO3	3	3	3	3	-	3	3	3	3	-	3
BP108PCO4	3	3	2	3	-	3	3	3	3	-	3
AVERAGE	3	3	2.8	3	-	2.8	3	3	3	-	3

Course Name: Pharmaceutics I- Practical		
Course Code: BP109P		
CO	Course Outcomes	BL
BP109PCO1	Select excipients and additives in the preparation of various dosage forms.	2
BP109PCO2	Apply different calculations in the formulations of pharmaceuticals.	3
BP109PCO3	Formulate different pharmaceutical formulations, including cosmetic products.	6
BP109PCO4	Create labels for different pharmaceutical preparations	6

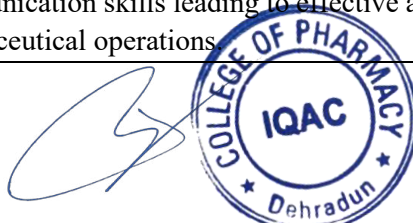
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP109PCO1	3	2	3	2	2	-	2	2	2	-	3
BP109PCO2	3	2	3	3	-	-	2	-	2	-	3
BP109PCO3	3	3	3	3	2	-	2	2	2	-	3
BP109PCO4	3	3	2	2	2	-	2	2	-	-	3
AVERAGE	3.0	2.5	2.8	2.5	2.0	-	2.0	2.0	2.0	-	3.0

Course Name: Pharmaceutical Inorganic Chemistry- Practical		
Course Code: BP110P		
CO	Course Outcomes	BL
BP110PCO1	To develop a limit test to identify the impurities in substances.	3
BP110PCO2	To develop the identification test of inorganic salt	6
BP110PCO3	To perform a test of purity for an inorganic compound	6
BP110PCO4	To prepare inorganic pharmaceuticals.	6

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP110PCO1	3	3	3	-	3	3	3	2	3	-	3
BP110PCO2	3	3	3	-	3	3	3	1	3	-	3
BP110PCO3	3	3	3	-	3	3	3	2	3	-	3
BP110PCO4	3	3	3	-	3	3	3	2	3	-	3
AVERAGE	3.0	3.0	3.0	-	3.0	3.0	3.0	1.75	3.0	-	3.0

Course Name: Communication Skills: Practical		
Course Code: BP111P		
CO	Course Outcomes	BL
BP111PCO1	Develop linguistic competence through accuracy in grammar, pronunciation & vocabulary.	6
BP111PCO2	Develop communication skills leading to effective and productive interaction in the areas of pharmaceutical operations	6

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BP111PCO3	Enhance competence in both spoken & written language using a wide range of communication strategies.	3
BP111PCO4	Listen and comprehend Spoken English and respond appropriately in different socio-cultural and professional contexts.	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP111PCO1	-	2	2	2	2	2	-	3	2	-	3
BP111PCO2	-	2	2	2	2	2	-	3	2	-	3
BP111PCO3	-	2	2	2	2	2	-	3	2	-	3
BP111PCO4	-	2	2	2	2	2	-	3	2	-	3
AVERAGE	-	2	2	2	2	2	-	3	2.0	-	3

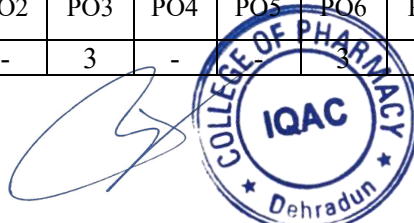
Course Name: Remedial Biology- Practical		
Course Code: BP112RBP		
CO	Course Outcomes	BL
BP112RBPCO1	Know the handling of microscope and permanent slide preparation techniques.	2
BP112RBPCO2	Understand the structure of the cell and its inclusions	2
BP112RBPCO3	Identify various plant parts and organize their modifications.	3
BP112RBPCO4	Assess the microscopical study and identification of tissues pertinent to the stem, root, leaf, seed, fruit, and flower.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP112RBPCO1	3	2	2	-	2	-	-	2	-	-	2
BP112RBPCO2	3	2	2	2	2	-	-	1	-	-	2
BP112RBPCO3	3	2	2	3	-	-	-	2	-	-	2
BP112RBPCO4	3	2	2	3	2	-	-	2	-	-	2
AVERAGE	3.0	2	2.0	2.7	2.0	-	-	1.75	-	-	2.0

Course Name: Pharmaceutical Organic Chemistry II – Theory		
Course Code: BP301T		
CO	Course Outcomes	BL
BP301TCO1	To know the structure and medicinal uses of organic compounds and their derivative	2
BP301TCO2	To enlighten the method of preparation of different organic compounds and their derivative	2
BP301TCO3	To explore the stability and significance of orientation in chemical reactivity	3
BP301TCO4	To elaborate on the mechanism of a chemical reaction	3
BP301TCO5	To acquire the knowledge of analytical parameter determination of fats and oils	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP301TCO1	3	-	3	-	3	3	3	2	3	3	3

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BP301TCO2	3	-	3	-	-	3	3	1	3	3	3
BP301TCO3	3	-	3	-	-	3	3	2	3	3	3
BP301TCO4	3	-	3	-	-	3	3	2	3	3	3
BP301TCO5	3	-	3	-	-	3	3	1	3	3	3
AVERAGE	3	-	3	-	-	3	3	1.6	3	3	3

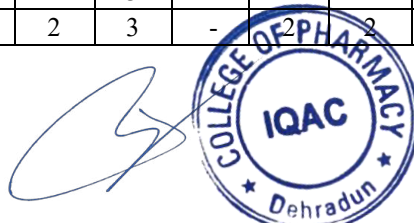
Course Name: Physical Pharmaceutics I – Theory		
Course Code: BP302T		
CO	Course Outcomes	BL
BP302TCO1	List the basic concepts of various theories, laws, and equations related to solubility and different states of matter.	1
BP302TCO2	Discuss the various physicochemical properties of drug molecules in the designing the dosage forms.	2
BP302TCO3	Explain the Principles and concepts of surface tension with different isotherms.	2
BP302TCO4	Understand the principles of complexation, protein binding & stability constant.	2
BP302TCO5	Apply the appropriate steps involved in the preparation of pharmaceutical buffer solutions.	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP302TCO1	3	2	2	-	-	-	2	2	2	1	3
BP302TCO2	3	2	2	2	-	-	2	2	3	2	3
BP302TCO3	3	2	2	2	-	-	-	2	2	-	3
BP302TCO4	3	-	2	-	-	-	2	2	2	2	3
BP302TCO5	3	2	2	2	-	-	2	2	2	3	3
AVERAGE	3.0	2.0	2.0	2.0	-	-	2.0	2.0	2.2	2.0	3.0

Course Name: Pharmaceutical Microbiology – Theory		
Course Code: BP303T		
CO	Course Outcomes	BL
BP303TCO1	Understand the basic concepts, history, and principles of microbiology.	2
BP303TCO2	Describe the classification and identification of microorganisms.	2
BP303TCO3	Summarize the principles of sterilization techniques, Spoilage, disinfection & its evaluation, and mechanisms of microbial pathogenesis.	2
BP303TCO4	Apply appropriate methods using aseptic conditions to control microbial growth and demonstrate the ability to perform assays.	3
BP303TCO5	Examine the sterility testing of pharmaceutical products.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP303TCO1	3	-	-	-	-	2	2	1	2	2	2
BP303TCO2	3	-	-	-	-	2	2	2	3	2	2
BP303TCO3	3	2	2	3	-	2	-	2	-	-	2
BP303TCO4	3	2	2	3	-	2	2	2	2	2	2
BP303TCO5	3	3	2	3	-	2	2	2	2	2	2

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AVERAGE	3	2.3	2.0	3	-	2	2.0	1.8	2.3	2.0	2.0
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Course Name: Pharmaceutical Engineering – Theory		
Course Code: BP304T		
CO	Course Outcomes	BL
BP304TCO1	Interpret the basic structure and working of various machines employed in the pharmaceutical industry for various unit operations.	4
BP304TCO2	Select the appropriate process or method for required unit operation, for example, evaporation, filtration, size reduction, size separation, etc.	2
BP304TCO3	Choose and adapt the best material and method for designing the pharmaceutical plant	2
BP304TCO4	Explain the reasons behind the failure in developing a certain type of set for carrying out a particular unit operation	2
BP304TCO5	Understand the handling of materials and machines.	2

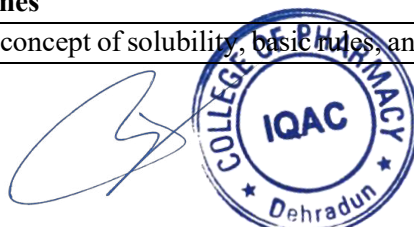
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP304TCO1	3	2	2	1	-	-	1	1	1	-	2
BP304TCO2	1	2	3	2	-	-	1	1	2	-	2
BP304TCO3	2	3	1	2	-	-	1	1	-	-	2
BP304TCO4	2	2	1	1	-	-	1	2	2	-	2
BP304TCO5	2	3	1	-	-	-	1	1	2	-	2
AVERAGE	2	2.4	1.6	1.5	-	-	1.0	1.2	1.75	-	2.0

Course Name: Pharmaceutical Organic Chemistry II- Practical		
Course Code: BP305P		
CO	Course Outcomes	BL
BP305PCO1	To study the fundamental concepts relevant to organic compound preparation and identification	2
BP305PCO2	To explore the chemical reaction for the preparation of an organic compound	2
BP305PCO3	To prepare and submit organic compounds.	6
BP305PCO4	To determine the analytical parameters of fat and oil.	6

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP305PCO1	3	-	3	-	3	3	3	2	3	3	3
BP305PCO2	3	3	3	-	3	3	3	1	3	3	3
BP305PCO3	3	3	3	-	3	3	3	2	3	3	3
BP305PCO4	3	3	3	-	3	3	3	2	3	3	3
AVERAGE	3.0	3.0	3.0	-	3.0	3.0	3.0	1.75	3.0	3.0	3.0

Course Name: Physical Pharmaceutics I- Practical		
Course Code: BP306P		
CO	Course Outcomes	BL
BP306PCO1	Understand the concept of solubility, basic rules, and equations regarding Physical	2

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ODD SEMESTER
Course Outcomes and CO-PO Mapping



	Principles.	
BP306PCO2	Apply the Phenomenon of the Partition coefficient and CST with different solvents and solutes with suitable equipment.	3
BP306PCO3	Apply the concept of Surface tension with different methods with the help of different equipment.	3
BP306PCO4	Analyze and evaluate the concept of pKa, surfactant, and adsorption with appropriate methods.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP306PCO1	3	2	2	-	2	2	-	3	2	-	3
BP306PCO2	3	2	2	2	3	2	-	3	2	-	3
BP306PCO3	3	2	2	2	3	2	-	3	2	-	2
BP306PCO4	3	2	2	2	3	2	-	2	2	-	2
AVERAGE	3.0	2.0	2.0	2.0	2.8	2.0	-	2.8	2.0	-	2.5

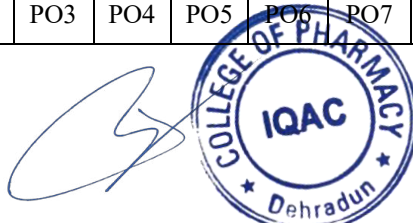
Course Name: Pharmaceutical Microbiology- Practical		
Course Code: BP307P		
CO	Course Outcomes	BL
BP307PCO1	Execute and handle the tools and equipment used for demonstrating microbiological techniques.	3
BP307PCO2	Identify and distinguish microorganisms by staining & biochemical tests.	1
BP307PCO3	Select numerous techniques of handling microorganism cultivation & Isolation technique of microorganisms.	1
BP307PCO4	To explore Sterilization techniques, microbiological assay techniques to assess the strength and efficiency	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP307PCO1	2	-	-	3	-	1	1	-	-	-	2
BP307PCO2	2	3	2	2	-	1	1	1	3	2	2
BP307PCO3	2	3	3	2	1	1	1	1	3	2	2
BP307PCO4	2	3	3	2	1	1	1	1	3	2	2
AVERAGE	2.0	3.0	2.7	2.3	1.0	1.0	1.0	1.0	3.0	2.0	2.0

Course Name: Pharmaceutical Engineering- Practical		
Course Code: BP308P		
CO	Course Outcomes	BL
BP308PCO1	Demonstrate the construction and working of available equipment to be used in the laboratory.	3
BP308PCO2	Calculate the drying rate of the sample slurry.	4
BP308PCO3	Examine various factors affecting the rate of evaporation and filtration.	4
BP308PCO4	Estimate particle size distribution of a given sample.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
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BP308PCO1	3	2	2	-	-	-	-	2	-	1	2
BP308PCO2	3	1	-	2	-	-	2	2	-	1	2
BP308PCO3	3	1	2	3	-	1	1	1	-	1	2
BP308PCO4	3	1	2	2	-	1	1	1	1	1	2
AVERAGE	3.00	1.3	2.0	2.3	-	1.00	1.3	1.50	1.00	1.00	2.00

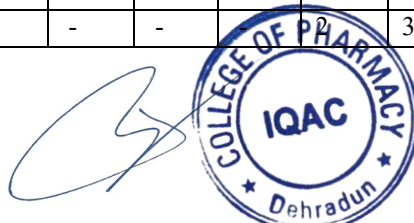
Course Name: Medicinal Chemistry II- Theory		
Course Code: BP501T		
CO	Course Outcomes	BL
BP501TCO1	To elaborate on the chemical classification of different medicinal compounds.	3
BP501TCO2	To explore the mode of action of medicinal compounds.	3
BP501TCO3	To explore the pharmacokinetics of medicinal compounds.	3
BP501TCO4	To illustrate the Structural Activity relationship of a selective class of medicinal compounds.	3
BP501TCO5	To acquire the synthesis of selected medicinal compounds.	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP501TCO1	3	-	3	2	3	3	3	2	3	-	3
BP501TCO2	3	-	3	2	-	3	3	1	3	-	3
BP501TCO3	3	-	3	2		3	3	2	3	-	3
BP501TCO4	3	-	3	2	3	3	3	2	3	-	3
BP501TCO5	3	-	3	2	3	3	3	2	3	-	3
AVERAGE	3	-	3	2	1.8	3	3	1.8	3	-	3

Course Name: Industrial Pharmacy I- Theory		
Course Code: BP502T		
CO	Course Outcomes	BL
BP502TCO1	Recognize the significance of Preformulation in pharmacy and its function in designing dosage forms.	1
BP502TCO2	Recall the fundamental substances and excipients required for the Pharmaceutical Dosage Forms.	1
BP502TCO3	Understand the instrumentation and methods for the formulation of pharmaceutical Dosage forms.	2
BP502TCO4	Understand the fundamentals of quality control tests and their acceptance criteria in pharmaceutical formulation.	2
BP502TCO5	Identify different pharmaceutical packaging materials, including their characteristics, suitability for various dosage forms, and effect on product stability.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP502TCO1	3	2	2	2	-	2	2	2	2	-	2
BP502TCO2	3	-	-	-			3	2	3	-	3

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Course Outcomes and CO-PO Mapping



BP502TCO3	3	2	3	3	-	2	-	2	2	-	3
BP502TCO4	3	3	3	2	-	2	2	2	2	-	3
BP502TCO5	3	3	3	2	-	2	2	2	2	-	2
AVERAGE	3.0	2.5	2.8	2.3	-	2	2.3	2.0	2.2	-	2.6

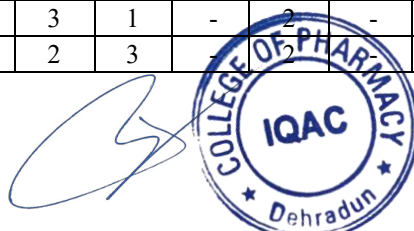
Course Name: Pharmacology II- Theory		
Course Code: BP503T		
CO	Course Outcomes	BL
BP503TCO1	Discuss the pharmacology of drugs acting on the cardiovascular system and be able to use drugs rationally.	2
BP503TCO2	Understand the classification and describe the pharmacology of drugs acting on the urinary system, and be able to use drugs rationally.	2
BP503TCO3	Classify and describe the pharmacology of autocooids and related drugs, and be able to use drugs rationally.	2
BP503TCO4	Understand the classification and describe the pharmacology of drugs acting on the endocrine system and be able to use drugs rationally.	2
BP503TCO5	Explain the application of bioassay and its type.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP503TCO1	3	-	3	2	-	2	1	2	2	-	2
BP503TCO2	3	-	2	2	-	2	1	2	2	-	3
BP503TCO3	3	-	3	2	-	2	1	2	2	-	2
BP503TCO4	3	-	2	2	-	2	1	2	2	-	3
BP503TCO5	3	-	2	3	-	2	1	2	2	-	2
AVERAGE	3.0	-	2.4	2.2	-	2.0	1.0	2.0	2.0	-	2.4

Course Name: Pharmacognosy and Phytochemistry II- Theory		
Course Code: BP504T		
CO	Course Outcomes	BL
BP504TCO1	Explain the basic metabolic pathways and formation of secondary metabolites in crude drugs.	2
BP504TCO2	Discuss the Pharmacognosy and commercial application of secondary metabolites.	2
BP504TCO3	Implement the isolation, identification, and analysis of Phytoconstituents.	3
BP504TCO4	Explain the industrial production, estimation, and utilization of Phytoconstituents.	2
BP504TCO5	Execute the basics of Phytochemistry and modern technology involved in the isolation, purification, and identification of crude drugs.	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP504TCO1	3	-	-	3	-	2	-	2	2	1	2
BP504TCO2	3	-	3	1	-	2	-	2	2	1	2
BP504TCO3	3	-	2	3	-	2	-	2	2	2	2

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Course Outcomes and CO-PO Mapping



BP504TCO4	3	-	3	3	-	2	2	2	2	2	2
BP504TCO5	3	-	2	3	-	2	2	2	2	1	2
AVERAGE	3.0	-	2.5	2.6	-	2.0	2.0	2.0	2.0	1.4	2.0

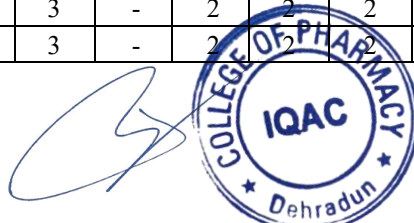
Course Name: Pharmaceutical Jurisprudence- Theory		
Course Code: BP505T		
CO	Course Outcomes	BL
BP505TCO1	Understand the various Schedules as per the Drug & Cosmetic Act and agencies governing the manufacturing and sale of pharmaceutical products.	2
BP505TCO2	Illustrate the basic concepts of different Indian Pharmaceutical Acts, laws, and rules.	2
BP505TCO3	Explain the regulatory bodies of the Pharmacy Act, Medicinal and Toilet Preparation Act, and Narcotic Drug and Psychotropic Substances Act.	2
BP505TCO4	Classify the various Indian Pharmaceutical Acts, i.e., Drug & Magic Remedies Act, Prevention of Cruelty to Animals Act, and National Pharmaceutical Pricing Authority.	2
BP505TCO5	Apply the concept of pharmaceutical legislation and code of ethics during the pharmaceutical practice, and Information regarding Intellectual Property Rights, Patent Act, and Right to Information Act.	3

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP505TCO1	3	2	1	-	-	1	2	1	2	-	2
BP505TCO2	3	3	2	-	2	1	2	1	1	-	2
BP505TCO3	2	3	1	-	1	2	2	1	2	-	2
BP505TCO4	2	3	1	2	2	2	2	1	2	-	2
BP505TCO5	3	2	1	1	1	2	2	1	2	-	2
AVERAGE	2.60	2.60	1.20	1.5	1.5	1.60	2.0	1.00	1.8	-	2.0

Course Name: Industrial Pharmacy I- Practical		
Course Code: BP506P		
CO	Course Outcomes	BL
BP506PCO1	Understand the basic ideas and rules guiding pharmaceutical Preformulation research and formulation assessment.	2
BP506PCO2	Apply knowledge of pharmaceutical Preformulation studies to determine the characteristics of various APIs.	3
BP506PCO3	Analyze and evaluate the quality control tests of various pharmaceutical dosage forms.	5
BP506PCO4	Develop pharmaceutical and cosmetic formulations to show their aptitude for designing and developing Medicinal/cosmetic products.	6

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP506PCO1	3	3	3	-	2	2	2	2	2	-	2
BP506PCO2	3	3	3	-	2	2	2	2	2	-	3

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BP506PCO3	3	3	2	2	2	2	2	2	2	2	-	2
BP506PCO4	3	3	3	3	2	2	2	2	2	2	-	3
AVERAGE	3.0	3.0	2.8	2.5	2.0	2.0	2.0	2.0	2.0	2.0	-	2.5

Course Name: Pharmacology II- Practical		
Course Code: BP507P		
CO	Course Outcomes	BL
BP507PCO1	Prepare PSS and perform experiments related to the cardiovascular system.	3
BP507PCO2	Understand and be able to plot the DRC of agonists and antagonists, and perform bioassays like matching, interpolation, three-point, and four-point using various drugs also calculate PA2 and PD2 values.	2
BP507PCO3	Understand the effect of spasmogens, spasmolytics, anti-inflammatories, analgesics, and anti-allergic drugs in various models.	2
BP507PCO4	Correlate the data and draw an inference	4

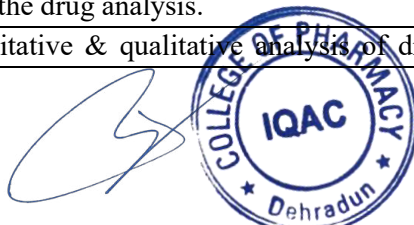
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP507PCO1	3	2	3	-	1	2	2	2	2	-	2
BP507PCO2	3	2	3	3	2	3	2	2	2	-	2
BP507PCO3	3	2	3	-	1	3	2	2	2	-	2
BP507PCO4	3	3	1	2	1	2	2	2	2	-	2
AVERAGE	3.0	2.75	2.5	2.5	1.25	2.5	2.0	2.0	2.0	-	2.0

Course Name: Pharmacognosy and Phytochemistry II – Practical		
Course Code: BP508P		
CO	Course Outcomes	BL
BP508PCO1	Know the microscopy and macroscopic of crude drugs.	2
BP508PCO2	Understand the process of extraction and isolation of crude drugs.	2
BP508PCO3	Examine the different chemical tests to analyze the specific crude drugs.	4
BP508PCO4	Estimate the various phytoconstituents by using specific separation methods.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP508PCO1	3	-	2	2	1	2	-	2	1	-	2
BP508PCO2	3	2	2	3	2	2	2	2	3	2	2
BP508PCO3	3	-	2	2	2	2	2	2	2	2	2
BP508PCO4	3	2	2	2	2	2	1	2	3	2	2
AVERAGE	3.0	2.0	2.0	2.3	1.75	2.0	1.66	2.0	2.25	2.0	2.0

Course Name: Instrumental Methods of Analysis–Theory		
Course Code: BP701T		
CO	Course Outcomes	BL
BP701TCO1	Assess the existing knowledge, concepts, techniques, and methodologies appropriate to the drug analysis.	4
BP701TCO2	Perform quantitative & qualitative analysis of drugs using various analytical	4

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ODD SEMESTER
Course Outcomes and CO-PO Mapping



	instruments.	
BP701TCO3	Appraise the interaction of matter with the electromagnetic spectrum.	4
BP701TCO4	Device the handling of sophisticated instruments/equipment.	4
BP701TCO5	Interpret chromatograms and apply different chromatographic methods in various qualitative and quantitative analysis scenarios.	4

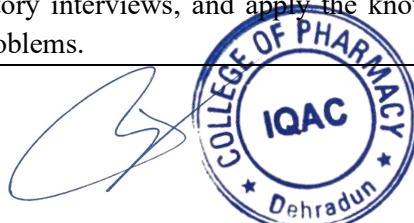
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP701TCO1	3	2	3	3	-	1	2	2	2	-	3
BP701TCO2	3	2	3	3	-	2	2	2	2	-	3
BP701TCO3	3	2	3	3	-	1	2	2	2	-	3
BP701TCO4	3	2	3	3	-	2	2	2	2	-	3
BP701TCO5	3	2	3	3	-	2	2	2	2	-	3
AVERAGE	3	2	3	3	-	1.6	2	2.0	2	-	3.0

Course Name: Industrial Pharmacy II- Theory		
Course Code: BP702T		
CO	Course Outcomes	BL
BP702TCO1	Define the basic concepts of pilot plant scale-up techniques in pharmaceutical dosage forms.	1
BP702TCO2	Understand the concepts regarding technology transfer from lab scale to commercial scale	2
BP702TCO3	Outline the ideas about the regulatory approval process and the regulatory requirements of drug products.	2
BP702TCO4	Illustrate the basic knowledge of various quality management systems.	2
BP702TCO5	Classify the role and responsibility of regulatory agencies in the approval of drugs.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP702TCO1	3	2	2	3	-	2	2	2	2	-	3
BP702TCO2	3	2	2	-	-	2	2	2	-	-	1
BP702TCO3	3	-	-	-	-	3	2	2	-	-	3
BP702TCO4	3	2	3	2	-	2	2	2	2	-	2
BP702TCO5	3	2	-	-	-	3	2	2	-	-	3
AVERAGE	3.0	2.0	2.3	2.5	-	2.4	2.0	2.0	2.0	-	2.4

Course Name: Pharmacy Practice		
Course Code: BP703T		
CO	Course Outcomes	BL
BP703TCO1	Acquire the knowledge on the organization of hospitals, various methods of distribution, and hospital formulary in hospitals.	2
BP703TCO2	Demonstrate the knowledge of therapeutic drug monitoring, and patient medication history interviews, and apply the knowledge to the assessment of drug-related problems.	3

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BP703TCO3	Appraise the therapy of the patient through medication and clinical review.	2
BP703TCO4	Explain the principles of drug store management and inventory control methods during practice.	2
BP703TCO5	Interpret clinical laboratory tests of specific disease states to provide better patient-centered service.	4

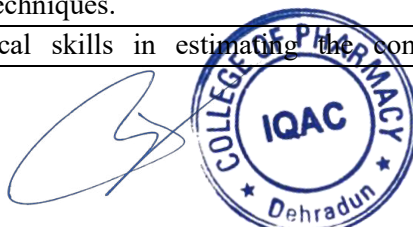
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP703TCO1	3	-	-	-	-	3	3	2	3	-	3
BP703TCO2	3	2	2	-	-	3	3	2	3	-	3
BP703TCO3	3	2	2	-	2	3	3	2	2	-	3
BP703TCO4	3	3	3	2	-	3	2	2	2	-	3
BP703TCO5	3	2	2	2	2	3	3	2	2	-	3
AVERAGE	3	2.3	2.3	2	2.0	3	2.8	2.0	2.4	-	3.0

Course Name: Novel Drug Delivery System		
Course Code: BP704T		
CO	Course Outcomes	BL
BP704TCO1	Explain the principle and technology used in the design of sustained-release and controlled-release drug delivery systems.	2
BP704TCO2	Discuss the criteria for selection of drugs and polymers for the development of Novel drug delivery systems.	2
BP704TCO3	Elaborate on the various approaches for the development and evaluation of novel drug delivery systems.	2
BP704TCO4	Describe the formulation and evaluation of different novel drug delivery systems.	2
BP704TCO5	Discuss various approaches for the development of targeted drug delivery systems and their applications.	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP704TCO1	3	2	2	3	-	-	1	2	1	-	2
BP704TCO2	3	2	2	2	-	-	2	2	2	-	3
BP704TCO3	3	2	2	3	-	-	2	2	2	-	3
BP704TCO4	3	2	2	2	-	-	2	2	2	-	3
BP704TCO5	3	2	2	2	-	-	2	2	2	-	2
AVERAGE	3	2.0	2.0	2.4	-	-	1.8	2.0	1.8	-	2.6

Course Name: Instrumental Methods of Analysis – Practical		
Course Code: BP705P		
CO	Course Outcomes	BL
BP705PCO1	Develop skills in determining the absorption maxima of organic compounds and understanding the impact of solvents on their absorption spectra using spectroscopic techniques.	2
BP705PCO2	Acquire practical skills in estimating the concentration of dextrose and	2

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	sulfanilamide using colorimetry, a technique based on the measurement of color intensity.	
BP705PCO3	Gain proficiency in the simultaneous estimation of ibuprofen and paracetamol using UV spectroscopy, a method that utilizes the absorption of ultraviolet light to determine compound concentrations.	2
BP705PCO4	Acquire knowledge and practical skills in the identification of natural compounds based on chromatographic principles	2

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP705PCO1	3	2	2	3	2	1	-	2	2	-	3
BP705PCO2	3	2	-	3	2	1	-	2	2	-	3
BP705PCO3	3	2	2	2	2	2	-	2	2	-	3
BP705PCO4	3	2	2	2	2	2	-	2	2	-	3
AVERAGE	3	2	2	2.5	2.0	1.5	-	2.0	2.0	-	3.0

Course Name: Practice School- Practical		
Course Code: BP706PST		
CO	Course Outcomes	BL
BP706PSTCO1	Study monograph of a specific drug and adverse drug reactions.	1
BP706PSTCO2	Monitor drug therapy of patients through medication charts and clinical reviews.	2
BP706PSTCO3	Collection and interpretation of data obtained from medication history interviews and patient counseling.	4
BP706PSTCO4	Interpretation of laboratory reports and patient counseling in community pharmacy.	4

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BP706PSTCO1	3	-	-	2	-	-	2	2	2	2	3
BP706PSTCO2	3	2	2	2	-	2	2	2	2	2	3
BP706PSTCO3	3	2	2	2	-	-	-	2	2	-	3
BP706PSTCO4	3	-	2	2	-	2	2	2	2	2	3
AVERAGE	3.0	2.0	2.0	2.0	-	2.0	2.0	2.0	2.0	2.0	3.0

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