

FIRST YEAR B.PHARMACY COURSE OUTCOMES (2019 Pattern)

Subject Code	Subject	Course Outcome Number	Course Outcome
BP101T	Human Anatomy and Physiology I– Theory	The students will be able to	
		1	Define anatomy & physiology and explain basic terminologies used in anatomy and physiology, Homeostasis and the progression of structural levels.
		2	Explain the structure and functions of cell, Cell division and General principles of cell communication and intracellular signal transduction, Structure, location and functions of various types of tissues.
		3	Recognizes the anatomy and physiology of integumentary system, skeletal system and joints
		4	Clarify concepts and knowledge of body fluid and blood, anatomy and physiology of lymphatic system
		5	Describe anatomy and physiology of Peripheral nervous system and special senses
		6	Explain the anatomy and physiology of cardiovascular system
BP102T	Pharmaceutical Analysis I – Theory	The students will be able to	
		1	Illuminate relevance & significance of Analytical Chemistry to Pharmaceutical Sciences.
		2	Differentiate pharmacopoeias currently in use and explain the contents of official monographs in pharmacopoeias.
		3	Analyse purity of various chemical compound by official methods of control like limit tests and qualitative tests
		4	Apply various volumetric and electrochemical titrations technique in analysis.
		5	To discriminate various graphical methods to detect the end point in volumetric titration and by electro chemical techniques.
		The students will be able to	
		1	Understand pharmacy profession & status of pharmaceutical industry in India
		2	Describe various dosage form including solid, monophasic, Biphasic formulations
		3	Identify the prescription and its parts

BP103T	Pharmaceutics I – Theory	4	Calculate the dose and prepare various dosage forms.
		5	Discuss various semisolid dosage form including suppositories
		6	Understand and relate various pharmaceutical incompatibilities.
		The students will be able to	
		1	Differentiate various pharmacopoeias currently in use and explain the contents of official monographs in pharmacopoeias
BP104T	Pharmaceutical Inorganic Chemistry – Theory	2	Recognise impure and pure chemical compound and explain official methods of control like limit tests
		3	Elaborate the concepts of Acid, bases and buffers in pharmaceutical systems and calculate tonicity of various solutions
		4	Describe important functions of extracellular and intracellular ions in the body
		5	Illustrate importance of various inorganic medicinal agents like Dental products, Gastrointestinal agent, Expectorants, Emetics, Haematinics, Poisons and Antidotes, Astringents with their method of preparation, properties, storage, assay, uses and marketed formulations.
		6	Discuss about radiopharmaceuticals and explain storage conditions, precautions, pharmaceutical applications of radioactive substances
		The students will be able to	
		1	Understand process, barriers and perspectives of communication
BP105T	Communication skills – Theory *	2	Understand elements ,types & styles of communication
		3	Develop listening and effective writing skills
		4	Develop interview skills
		5	Develop Leadership qualities and essentials
		The students will be able to	
		1	Student will able to know mathematics theory and their application in Pharmacy
BP106RB T BP106RM	Remedial Biology/ Remedial Mathematics –	2	Student will able to solve the different types of problems by applying theory.
		3	Student will able to understand the important application of mathematics in Pharmacy.
		4	Student will able to learn the classification and salient features of five kingdoms of life.
		5	Student will able to understand the basic components of anatomy & physiology of plant
		6	Student will able to understand the basic components of anatomy & physiology animal with special reference to human

T	Theory*	The students will be able to	
		1	Outline types, uses, care and handling of microscope and identify histological characteristics of different types of tissues
BP107P	Human Anatomy and Physiology – Practical	2	Identify axial and appendicular bones of human skeleton
		3	Enumerate WBC and RBC count in practical physiology using hemocytometry
		4	Determine bleeding time and clotting time in practical Physiology
		5	Estimate haemoglobin content by Sahli's acid haematin method and detect blood group
		6	Determine erythrocyte sedimentation rate, heart rate and pulse rate, blood pressure
		The students will be able to	
		1	To explain the correct use of laboratory equipments with calibration of various apparatus and instrument (Potentiometer/pH meter, Conductometer) used in analytical chemistry laboratory together with safety measures to be followed.
BP108P	Pharmaceutical Analysis I – Practical	2	To describe preparation of standard volumetric solutions and evaluate strength of standard volumetric solutions.
		3	To evaluate quality of bulk drug and its formulation with thorough understanding of principle and procedure used in different volumetric titration methods such as aqueous, non-aqueous, precipitation, complexometric, redox titration methods.
		4	To explain gravimetric analytical method to separate and analyte from mixture of sample solution.
		5	To estimate strength and pKa of various acids using Potentiometer/ pH meter.
		6	Identify impurities from pharmaceutical substances by performing limit tests
		The students will be able to	
		1	Perform and Understand formulation and evaluation of monophasic liquid dosage forms

BP109P	Pharmaceutics I – Practical	2	Perform and Understand formulation and evaluation of Pharmaceutical biphasic liquid dosage forms
		3	Perform and Understand formulation and evaluation of pharmaceutical powders
		4	Perform and Understand formulation and evaluation of semisolid dosage form
		The students will be able to	
		1	Identify impurities from pharmaceutical substances by performing limit tests
BP110P	Pharmaceutical Inorganic Chemistry Practical	2	Identify acidic and basic radicals from given inorganic unknown sample
		3	Analyse swelling power, acid neutralizing capacity of various Inorganic compounds
		4	Synthesize pharmaceutical inorganic compounds and calculate their theoretical, practical and percentage yield
		The students will be able to	
		1	Understand process, barriers and perspectives of communication
BP111P	Communication skills – Practical*	2	Understand elements ,types & styles of communication
		3	Develop listening and effective writing skills
		4	Develop interview skills
		5	Develop Leadership qualities and essentials
		The students will be able to	
BP112RBP	Remedial Biology – Practical*	1	Student will able to learn the classification and salient features of five kingdoms of life.
		2	Student will able to understand the basic components of anatomy & physiology of plant
		The students will be able to	
		1	Describe basic fundamentals structural features of neurons, mechanism of neurotransmitters, anatomy and physiology of central nervous system.
		2	Recognises structure and functions of Digestive system and Energetics

BP201T	Human Anatomy and Physiology II – Theory	3	Explain concepts and knowledge of basic organs and mechanism involve in respiration along with clinical significance and disorders of respiratory system.
		4	Explain the anatomy and physiology of Urinary systems and Endocrine system involve in regulation of Body functions
		5	Clarify anatomy and physiology of male and female reproductive system and introduction to genetics.
		The students will be able to	
		1	To write the structure, name and the type of isomerism of the organic compound.
BP202T	Pharmaceutical Organic Chemistry I – Theory	2	To write the reaction, name the reaction and orientation of reactions
		3	To identify/confirm the identification of organic compound
		4	To sudy account for reactivity/stability of compounds
		The students will be able to	
		1	Illustrate and write the fundamental concepts, chemistry and biochemical role of biomolecules like carbohydrates, lipids, proteins and nucleic acids.
BP203T	Biochemistry – Theory	2	Explain the concepts like bioenergetics, ETC, oxidative phosphorylation.
		3	Outline various metabolic pathways, their integration and significance in physiological and pathological conditions.
		4	Explain genetic organization of mammalian genome, as well as processes like replication, transcription, translation.
		5	Summarize and explain catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs along with their therapeutic as well as diagnostic applications.
		The students will be able to	
		1	Extend the knowledge of pathophysiology, Basic principles of Cell injury and adaptation and basic mechanism involved in the process of inflammation and repair.
BP204T	Pathophysiology – Theory	2	Describe the etiology and pathogenesis of cardiovascular system, respiratory system and renal system.
		3	Name the signs and symptoms and Mention the complications of the haematological dseases, endocrine system, nervous system, Gastrointestinal system disorder.
		4	Describe the etiology and pathogenesis, Name the signs and symptoms and Mention the complications of cancer and disease of bones and joints.

		5	Summarize the pathogenesis, Name the signs and symptoms and Mention the complications of infectious disease and sexual transmitted diseases (AIDS, Syphilis, Gonorrhea).
		The students will be able to	
		1	To understand various types of application of computers in pharmacy
		2	To understand the importance of the various types of databases
BP205T	Computer Applications in Pharmacy – Theory *	3	To describe various applications of databases in pharmacy
		The students will be able to	
		1	To understand various types of application of computers in pharmacy
		2	To understand the importance of the various types of databases
BP206T	Environmental sciences – Theory *	3	To describe various applications of databases in pharmacy
		The students will be able to	
		1	Explain the integumentary and special senses using specimen, models, etc.
		2	Demonstrate the general neurological examination, the function of olfactory nerve and the visual acuity
BP207P	Human Anatomy and Physiology II – Practical	3	Illustrate the reflex activity, positive and negative feedback mechanism and total blood count by cell analyser
		4	To observe the different types of taste and Recording of body temperature, basal mass index, tidal volume and vital capacity
		5	Describe the nervous system, endocrine, digestive, respiratory, cardiovascular systems, urinary and reproductive systems with the help of models, charts and specimens.
		6	Explain family planning devices and pregnancy diagnosis test, Permanent slides of vital organs and gonads
		The students will be able to	
		1	To identify organic compound by their preliminary test.
		2	To study detection of elements like Nitrogen, Sulphur and Halogen by Lassaigne's test
		3	To determine Melting point/Boiling point of organic compounds
BP208P	Pharmaceutical Organic Chemistry I– Practical	4	Preparation of the derivatives and confirmation of the unknown compound by melting point/ boiling point.
		The students will be able to	

		1	Demonstrate laboratory skills to identify biomolecules by qualitative and quantitative tests.
BP209P	Biochemistry – Practical	2	Determine various biomolecules in blood/serum.
		3	Identify abnormal constituents in urine.
		4	Demonstrate enzymatic action of salivary amylase.
		The students will be able to	
		1	To understand various types of application of computers in pharmacy
BP210P	Computer Applications in Pharmacy – Practical*	2	To understand the importance of the various types of databases
		3	To describe various applications of databases in pharmacy