

FIRST YEAR B.PHARMACY COURSE OUTCOMES (2019 Pattern)					
Subject Code	Subject	Course Outcome Number	Course Outcome		
BP101T	Human Anatomy and Physiology I – Theory	<b>The students will be able to</b>			
		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	<b>The students will be able to</b>			
		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.		
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		<b>The students will be able to</b>			

BP103T	Pharmaceutics I – Theory	1	To understand pharmacy profession & status of pharmaceutical industry in India.
		2	To display moral & ethical values in pharmacy practices & to understand carrier opportunity.
		3	To relate & understand the importance of pharmacopeia & compendia in formulating the dosage form.
		4	To describe & recognize alternative system of medicine.
		5	To define & classifying various dosage form & enlist excipients use in formulating dosage form.
		6	To understand the importance of preformulation parameters & justify their significance in formulation development.
		7	To classify types of solution, evolves their properties & understand the formulations aspect.
		8	To summarize the concept and significance of Q.C & Q. A.
BP104T	Pharmaceutical Inorganic Chemistry – Theory	<b>The students will be able to</b>	
		1	Differentiate various pharmacopoeias currently in use and explain the contents of official monographs in pharmacopoeias
		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
BP105T	Communication skills – Theory *	<b>The students will be able to</b>	
		1	Understand process, barriers and perspectives of communication
		2	Understand elements ,types & styles of communication
		3	Develop listening and effective writing skills
		4	Develop interview skills
		5	Develop Leadership qualities and essentials
		<b>The students will be able to</b>	

<b>BP106R</b> <b>BT</b> <b>BP106R</b> <b>MT</b>	<b>Remedial Biology/ Remedial Mathematics Theory*</b>	<table border="1"> <tr><td>1</td><td>Student will able to know mathematics theory and their application in Pharmacy</td></tr> <tr><td>2</td><td>Student will able to solve the different types of problems by applying theory.</td></tr> <tr><td>3</td><td>Student will able to understand the important application of mathematics in Pharmacy.</td></tr> <tr><td>4</td><td>Student will able to learn the classification and salient features of five kingdoms of life.</td></tr> <tr><td>5</td><td>Student will able to understand the basic components of anatomy &amp; physiology of plant</td></tr> <tr><td>6</td><td>Student will able to understand the basic components of anatomy &amp; physiology animal with special reference to human</td></tr> </table>	1	Student will able to know mathematics theory and their application in Pharmacy	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
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<b>BP107P</b>	<b>Human Anatomy and Physiology – Practical</b>	<p style="text-align: center;"><b>The students will be able to</b></p> <table border="1"> <tr><td>1</td><td>Outline types, uses, care and handling of microscope and identify histological characteristics of different types of tissues</td></tr> <tr><td>2</td><td>Identify axial and appendicular bones of human skeleton</td></tr> <tr><td>3</td><td>Enumerate WBC and RBC count in practical physiology using hemocytometry</td></tr> <tr><td>4</td><td>Determine bleeding time and clotting time in practical Physiology</td></tr> <tr><td>5</td><td>Estimate haemoglobin content by Sahli's acid haematin method and detect blood group</td></tr> <tr><td>6</td><td>Determine erythrocyte sedimentation rate, heart rate and pulse rate, blood pressure</td></tr> </table>	1	Outline types, uses, care and handling of microscope and identify histological characteristics of different types of tissues	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
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BP108P	Practical Analysis I – Practical	<p>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.</p> <p>4 To explain gravimetric analytical method to separate and analyte from mixture of sample solution.</p> <p>5 To estimate strength and pKa of various acids using Potentiometer/ pH meter.</p> <p>6 Identify impurities from pharmaceutical substances by performing limit tests</p>
BP109P	Pharmaceutics I – Practical	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Describe different dosage forms.</p> <p>2 <del>formulate different and evaluate different monophasic and biphasic liquids dosage form</del></p> <p>3 <del>formulate and evaluate different powder dosage form</del></p> <p>4 Formulate different semi-solid dosage form</p>
BP110P	Pharmaceutical Inorganic Chemistry Practical	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Identify impurities from pharmaceutical substances by performing limit tests</p> <p>2 <del>Identify acidic and basic radicals from given inorganic unknown sample</del></p> <p>3 <del>Analyse swelling power, acid neutralizing capacity of various Inorganic compounds</del></p> <p>4 Synthesize pharmaceutical inorganic compounds and calculate their theoretical, practical and percentage yield</p>
BP111P	Communication skills – Practical*	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Understand process, barriers and perspectives of communication</p> <p>2 Understand elements ,types &amp; styles of communication</p> <p>3 Develop listening and effective writing skills</p> <p>4 Develop interview skills</p> <p>5 Develop Leadership qualities and essentials</p>
BP112R BP	Remedial Biology – Practical*	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Student will able to learn the classification and salient features of five kingdoms of life.</p> <p>2 Student will able to understand the basic components of anatomy &amp; physiology of plant</p>
		<b>The students will be able to</b>

BP201T	<b>Human Anatomy and Physiology II – Theory</b>	<p>1 Describe basic fundamentals structural features of neurons, mechanism of neurotransmitters, anatomy and physiology of central nervous system.</p> <p>2 Recognises structure and functions of Digestive system and Energetics</p> <p>3 Explain concepts and knowledge of basic organs and mechanism involve in respiration along with clinical significance and disorders of respiratory system.</p> <p>4 Explain the anatomy and physiology of Urinary systems and Endocrine system involve in regulation of Body functions</p> <p>5 Clarify anatomy and physiology of male and female reproductive system and introduction to genetics.</p>
BP202T	<b>Pharmaceutical Organic Chemistry I – Theory</b>	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 To write the structure, name and the type of isomerism of the organic compound.</p> <p>2 To write the reaction, name the reaction and orientation of reactions</p> <p>3 To identify/confirm the identification of organic compound</p> <p>4 To study account for reactivity/stability of compounds</p>
BP203T	<b>Biochemistry – Theory</b>	<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Illustrate and write the fundamental concepts, chemistry and biochemical role of biomolecules like carbohydrates, lipids, proteins and nucleic acids.</p> <p>2 Explain the concepts like bioenergetics, ETC, oxidative phosphorylation.</p> <p>3 Outline various metabolic pathways, their integration and significance in physiological and pathological conditions.</p> <p>4 Explain genetic organization of mammalian genome, as well as processes like replication, transcription, translation.</p> <p>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.</p>
		<p style="text-align: center;"><b>The students will be able to</b></p> <p>1 Extend the knowledge of pathophysiology, Basic principles of Cell injury and adaptation and basic mechanism involved in the process of inflammation and repair.</p>

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 diseases, 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, Gonorrhoea).			
BP205T	Computer Applications in Pharmacy – Theory *	<b>The students will be able to</b>				
		1	To understand various types of application of computers in pharmacy			
		2	To understand the importance of the various types of databases			
		3	To describe various applications of databases in pharmacy			
BP206T	Environmental sciences – Theory *	<b>The students will be able to</b>				
		1	To understand various types of application of computers in pharmacy			
		2	To understand the importance of the various types of databases			
		3	To describe various applications of databases in pharmacy			
BP207P	Human Anatomy and Physiology II –Practical	<b>The students will be able to</b>				
		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			
		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			
		<b>The students will be able to</b>				

BP208P	Pharmaceutical Organic Chemistry I – Practical	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	
		4	compound by melting point/ boiling point.	
BP209P	Biochemistry – Practical	<b>The students will be able to</b>		
		1	Demonstrate laboratory skills to identify biomolecules by qualitative and quantitative tests.	
		2	Determine various biomolecules in blood/serum.	
		3	Identify abnormal constituents in urine.	
		4	Demonstrate enzymatic action of salivary amylase.	
BP210P	Computer Applications in Pharmacy – Practical*	<b>The students will be able to</b>		
		1	To understand various types of application of computers in pharmacy	
		2	To understand the importance of the various types of databases	
		3	To describe various applications of databases in pharmacy	

