



VIDHYADEEP UNIVERSITY

VIDHYADEEP INSTITUTE OF PHARMACY, ANITA, SURAT



B. PHARMACY SEMESTER: I

Subject Name: HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code: BP101TP

Scope: This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.

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

CO	STATEMENTS
C101.1	To discuss the anatomy and physiology of human body in the cellular as well tissue level and basic life process,
C101.2	To explain the anatomy and physiology of Integumentary and Musculoskeletal system
C101.3	To describe about blood and lymphatic system
C101.4	To explain about Peripheral nervous system
C101.5	To discuss of Special senses
C101.6	To illustrate the Cardiovascular system and associated disease

Teaching Scheme and Examination Scheme:

Teaching Scheme (hr./ Week)				Evaluation Scheme			
Theory	Tutorial	Practical	Total	Internal	External	Internal	External
				Theory Exam		Practical Exam	
3	1	4	8	25	75	25	75

Sr No	Course content	(hr)
1	<p>Introduction to human body: Definition and scope of anatomy and 10 physiologies, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology</p> <p>Cellular level of organization: Structure and functions of cell, transport across cell membrane, cell division, cell junctions. General principles of cell communication, intracellular signaling pathway activation by extracellular signal molecule, Forms of intracellular signaling: a) Contact dependent b) Paracrine c) Synaptic d) Endocrine</p> <p>Tissue level of organization: Classification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues.</p>	10

2	Integumentary system: Structure and functions of skin Skeletal system: Divisions of skeletal system, types of bone, salient features and functions of bones of axial and appendicular skeletal system Organization of skeletal muscle, physiology of muscle contraction, neuromuscular junction Joints Structural and functional classification, types of joints movements and its articulation	10
3	Body fluids and Blood: Body fluids, composition and functions of blood, 10 hemopoeisis, formation of hemoglobin, anemia, mechanisms of coagulation, blood grouping, Rh factors, transfusion, its significance and disorders of blood, Reticulo endothelial system Lymphatic system: Lymphatic organs and tissues, lymphatic vessels, lymph circulation and functions of lymphatic system	10
4	Peripheral nervous system: Classification of peripheral nervous system: 8 Structure and functions of sympathetic and parasympathetic nervous system. Origin and functions of spinal and cranial nerves Special senses: Structure and functions of eye, ear, nose and tongue and their disorders.	8
5	Cardiovascular system: Heart – anatomy of heart, blood circulation, blood 7 vessels, structure and functions of artery, vein and capillaries, elements of conduction system of heart and heart beat, its regulation by autonomic nervous system, cardiac output, cardiac cycle. Regulation of blood pressure, pulse, electrocardiogram and disorders of heart.	7

Subject Name: HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code: BP101TP (Practical)

physiology is complimentary to the theoretical discussions in physiology.

Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings.

This is helpful for developing an insight on the subject.

1. Study of compound microscope.
2. Microscopic study of epithelial and connective tissue
3. Microscopic study of muscular and nervous tissue
4. Identification of axial bones
5. Identification of appendicular bones
6. Introduction to hemocytometry.
7. Enumeration of white blood cell (WBC) count
8. Enumeration of total red blood corpuscles (RBC) count
9. Determination of bleeding time 10. Determination of clotting time
11. Estimation of hemoglobin content
12. Determination of blood group.
13. Determination of erythrocyte sedimentation rate (ESR).
14. Determination of heart rate and pulse rate. 15. Recording of blood pressure

Recommended Books:

1. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypee brothers medical publishers, New Delhi.
2. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
3. Physiological basis of Medical Practice-Best and Taylor. Williams & Wilkins Co, Riverview, MI USA
4. Text book of Medical Physiology- Arthur C, Guyton and John.E. Hall. Miamisburg, OH, U.S.A.
5. Principles of Anatomy and Physiology by Tortora Grabowski. Palmetto, GA, U.S.A.
6. Textbook of Human Histology by Inderbir Singh, Jaypee brother's medical publishers, New Delhi
7. Textbook of Practical Physiology by C.L. Ghai, Jaypee brother's medical publishers, New Delhi
8. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee brother's medical publishers, New Delhi