Faculty of Pharmacy
Bachelor of Pharmacy (B. Pharm.)
(W. E. F.: 2023-24)
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Name of Faculty	:	Faculty of Pharmacy
Name of Program	:	Bachelor of Pharmacy
Course Code	:	1BPH01
Course Title	:	Human Anatomy and Physiology-I
Type of Course	:	Basic Pharmaceutical Sciences
Year of Introduction	:	2023-24

Prerequisite	:	Zeal to learn the subject
Course Objective	:	This course will discuss the following aspects of 1. Explain the gross morphology, structure and functions of various organs of the human body. 2. Describe the various homeostatic mechanisms and their imbalances. 3. Identify the various tissues and organs of different systems of human body. 4. Perform the various experiments related to special senses and nervous system. 5. Appreciate coordinated working pattern of different organs of each system
Course Outcomes	:	Upon successful completion of this course, the students will be able to
	CO1	To learn (understand) the fundamentals of Anatomy & physiology of human body
	CO2	To learn identification of various tissues and organs of human body
	CO3	To understand the blood circulation system
	CO4	To remember body fluids and the functions of blood

Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	SEE	CIA	SEE	CIA	
3	1	4	6	75	25	35	15	150

Legends: ***L****-Lecture;* ***T****–Tutorial/Teacher Guided Theory Practice;* ***P*** *– Practical,* ***C*** *– Credit,* ***SEE*** *– Semester End Examination,* ***CIA*** *- Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

Course Content

Unit No.	Topics	Teaching Hours	Weightage	Mapping with COs
1	• Introduction to human body: Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic Cellular level of organization anatomical terminology. • 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 • Tissue level of organizationClassification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues.	10	22.22%	CO1 CO2
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	22.22%	CO1 CO2
3	• Body fluids and blood: Body fluids, composition and functions of blood, 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	22.22%	CO1 CO2 CO4
4	• Peripheral nervous system: Classification of peripheral nervous system: 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.	08	17.77%	CO1 CO2

5	• Cardiovascular system: Heart – anatomy of heart, blood circulation, blood 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.	07	15.55%	CO1 CO2 CO3

Suggested List of Experiments

Sr. No.	Name of Experiment	Teaching Hours
1	Study of compound microscope.	04
2	Microscopic study of epithelial and connective tissue	04
3	Microscopic study of muscular and nervous tissue	04
4	Identification of axial bones	04
5	Identification of appendicular bones	04
6	Introduction to hemocytometry.	04
7	Enumeration of white blood cell (WBC) count	04
8	Enumeration of total red blood corpuscles (RBC) count	04
9	Determination of bleeding time	04
10	Determination of clotting time	04
11	Estimation of hemoglobin content	04
12	Determination of blood group	04
13	Determination of erythrocyte sedimentation rate (ESR).	04
14	Determination of heart rate and pulse rate.	04
15	Recording of blood pressure.	04

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	**25**	**75**	**00**	**00**	**00**	**00**

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Suggested Learning Websites

Sr. No.	Name of Website
1	https://pci.nic.in/pdf/Syllabus_B_Pharm.pdf
2	https://www.aicte-india.org/downloads/bpharma.pdf.
3	https://www.ipc.gov.in/
4	https://www.ayush.gov.in/
5	https://ayudmla.gujarat.gov.in/home.php
6	https://www.fda.gov/
7	https://www.pharmacopoeia.com/
8	https://ipapharma.org/
9	https://gpat.nta.nic.in/
10	https://drnaitiktrivedi.com/
11	https://gdc4gpat.com/course/gpat/
12	https://niscpr.res.in/
13	https://delnet.in/
14	https://ihubgujarat.in/
15	https://www.ssipgujarat.in/

Reference Books

Sr. No.	Name of Reference 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 Tailor. Williams & Wilkins Co,Riverview,MI USA
4	Text book of Medical Physiology- Arthur C,Guyton andJohn.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.

9	Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
10	Text book of Medical Physiology- Arthur C, Guyton and John. E. Hall. Miamisburg, OH, U.S.A.
11	Human Physiology (vol 1 and 2) by Dr. C.C. Chatterrje ,Academic Publishers Kolkata