Program	Diploma in Pharmacy (D.Pharm)	**Year - 1**
Type of Course	-	
Prerequisite		
Course Objective	-	
Effective From A.Y.	2024-25	

Teaching Scheme (Contact Hours)				Examination Scheme				
				Theory Marks		Practical Marks		
Lecture	Tutorial	Lab	Credit	External Marks (T)	Internal Marks (T)	External Marks (P)	Internal Marks (P)	Total Marks
3	1	3	8	80	20	80	20	200

SEE *- Semester End Examination,* ***CIA*** *- Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
1	**Introduction and Scope** • Scope of Anatomy and Physiology Definition of various terminologies	2	3
2	**Structure of Cell** • Components and its functions	2	3
3	**Tissues of the human body** • Epithelial, Connective, Muscular and Nervous tissues their sub-types and characteristics.	4	5
4	**Haemopoietic system** • Composition and functions of blood • Process of Hemopoiesis • Characteristics and functions of RBCs, WBCs and platelets • Mechanism of Blood Clotting • Importance of Blood groups	8	11
5	**Lymphatic system** • Lymph and lymphatic system, composition, function and its formation. • Structure and functions of spleen and lymph node.	3	3
6	**Cardiovascular system** • Anatomy and Physiology of heart • Blood vessels and circulation (Pulmonary, coronary and systemic circulation) • Cardiac cycle and Heart sounds, Basics of ECG • Blood pressure and its regulation	8	11
7	**Osseous system** • Structure and functions of bones of axial and appendicular skeleton, Classification, types and movements of joints, disorders of joints.	6	8
8	**Respiratory system** • Anatomy of respiratory organs and their function • Regulation, and Mechanism of Respiration • Respiratory volumes and capacities – definitions	4	5
9	**Digestive system**	8	11

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
	• Anatomy and Physiology of the GIT • Anatomy and functions of accessory glands • Physiology of digestion and absorption		
10	**Skeletal muscles** • Histology • Physiology of muscle contraction • Disorder of skeletal muscles	2	3
11	**Nervous system** • Classification of nervous system • Anatomy and physiology of cerebrum, cerebellum, mid brain • Function of hypothalamus, medulla oblongata and basal ganglia • Spinal cord-structure and reflexes • Names and functions of cranial nerve. • Anatomy and physiology of sympathetic and parasympathetic nervous system (ANS)	8	11
12	**Sense organs - Anatomy and physiology** • Eye • Ear • Skin • Tongue • Nose	6	8
13	**Urinary system** • Anatomy and physiology of urinary system • Physiology of urine formation • Renin - angiotensin system • Clearance tests and micturition	4	5
14	**Endocrine system (Hormones and their functions)** • Pituitary gland • Adrenal gland • Thyroid and parathyroid gland • Pancreas and gonads	6	8
15	**Reproductive system** • Anatomy of male and female reproductive system • Physiology of menstruation • Spermatogenesis and Oogenesis • Pregnancy and parturition	4	5
	Total	75	100

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy

Level	Remembrance	Understanding	Application	Analyze	Evaluate	Create
Weightage	30	30	10	20	10	0

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.

Course Outcomes

At the end of this course, students will be able to:	
CO1	Knowledge and understanding about anatomical features of the important human organs and tissues.
CO2	Knowledge and understanding about homeostatic mechanisms regulating the normal physiology in the human system.
CO3	Knowledge and understanding about significance of various vital physiological parameters of the human body.
CO4	Ability to Perform the haematological tests, Record, monitor and document the vital physiological parameters, Describe the anatomical features of the important human tissues and significance of various characteristics of the human body.

Reference Books

1.	**Human Anatomy and physiology And health education** By Dr. R K Goyal | B. S. SHAH PRAKASHAN
2.	**Ross and Wilson Anatomy and Physiology in Health and Illness** By Anne Waugh and Allison Grant
3.	**Human Anatomy and Physiology - I (TextBook)** By S.S. Randhawa and Atul Kabra | Pee Vee S.Vikas and Co
4.	**Human Anatomy and Physiology - II (TextBook)** By Payal Mittal and Manish Goswami | Pee Vee s. vikas and co.
5.	**Human Physiology** By C. C. Chatterjee | CBS Publishers
6.	**Elements of Human Anatomy, Physiology and Health Education** By Derasari and Gandhi | B. S. SHAH PRAKASHAN
7.	**Fundamentals of Medical Physiology** By K. Sambulingam and P Sambulingam
8.	**Human Anatomy and Physiology (TextBook)** By S. Chaudhary and A. Chaudhary | Pee Vee publication
9.	**Human Anatomy and Physiology** By Tortora Gerard J
10.	**Practical Anatomy, Physiology and Biochemistry, Experimental Physiology** By Goyal R.K., Natvar M.P. and Shah S.A.
11.	**Practical Anatomy and Physiology** By Dr. R. K. Goyal & Dr. N. M. Patel | B. S. PRAKASHAN | 15th
12.	**Text Book of Practical Physiology (TextBook)** By Ranade V.G.
13.	**Textbook of Practical Anatomy and Physiology (TextBook)** By S.R. Kale and R.R. Kale | Nirali publication

List of Practical

1.	Introduction to compound microscope.
2.	Microscopic study of epithelial and connective tissue
3.	Microscopic study of muscular tissue and nervous tissue.
4.	To study General techniques for the collection of blood
5.	To find out bleeding time of own blood.
6.	To find out clotting time of own blood.
7.	To find out blood group of own blood.
8.	Determination of RBC count of blood.
9.	Determination of WBC count of blood
10.	Identification of axial bones
11.	Identification of appendicular bones
12.	Measurement of height, weight, and BMI
13.	Recording of Body temperature
14.	Determination of radial pulse, heart rate.
15.	Recording of blood pressure
16.	Recording oF Pulse Oxygen
17.	Recording force of air expelled using Peak Flow Meter
18.	Estimation of hemoglobin content Oxygen carrying capacity and color index
19.	Determination of erythrocyte sedimentation rate (ESR)
20.	Study of Cardiovascular system and Respiratory system
21.	Study of Digestive system and Urinary system
22.	Study of Nervous system
23.	Study of Endocrine system and Reproductive system
24.	Study of Eye, Ear, Skin

List of Tutorial

1.	Introduction and scope of anatomy and physiology and Structure of Cell
2.	Structure of Cell and Tissues of the human body
3.	Tissues of the human body and Haemopoietic system
4.	Haemopoietic system
5.	Haemopoietic system blood component
6.	Haemopoietic system and Lymphatic system
7.	Lymphatic system and Cardiovascular system
8.	Cardiovascular system
9.	Cardiovascular system ECG
10.	Osseous system
11.	Osseous system and joints
12.	Respiratory system
13.	Respiratory system and Digestive system
14.	Digestive system
15.	Digestive system and accessory gland
16.	Skeletal muscles and Nervous system
17.	Nervous system
18.	Nervous system and its part
19.	Nervous system and Sense organ
20.	Sense organ
21.	Sense organ and Urinary System
22.	Urinary System and Endocrine system
23.	Endocrine system
24.	Endocrine system and Reproductive system
25.	Reproductive system