

COURSE TITLE: PHYSIOLOGY

STUDY HOURS: 120+40

PAPER: 2

TERM: 1st

MARKS

THEORY: 60

PRACTICAL: 15

TIME: 2.30 Hrs

The physiology of the following topics will consist of brief description of the function of part of the body.

Course Contents	STUDY HOURS (THEORY+PRACTICAL)
A. The cell and its function	6+2
A1. Structure and Functions of a human cell	
A1..1 The cytoplasm and its organelles	
A1..2 Functional system of the cell	
A2. Endocytosis & Phagocytosis	
A2.1 Ingestion and digestion by the cell	
A.2.2 Functions/Structures of Golgi apparatus	
A.2.3 Cell Division	
A.2.4 Cell reproduction.	
B Circulatory system	3
Cardiovascular system (Heart and circulation)	12+4
B1 Description of Heart and vessels (arteries, vein, and capillaries)	
B 2 Cardiac cycle, diastole and systole	
B 3 Functions of atria and ventricles	
B 4 Functions of valves	
B 5 Heart pumping (Work output of heart)	
B 6 Cardiac output, stroke volume etc.	
B 7 Heart sounds	
B 8 Introduction and function of Lymphatic system	
B9 Introduction to blood pressure and measuring of blood pressure	
C IMMUNITY	3
C1 Blood Cell and there function	
C1.1 RBC	
C1.2 WBC	
C1.3 Platelets	
C2 Composition of blood	
C3 Plasma Protein	
C4 Blood groups	
C5 Coagulation of blood	

- C6 Definition and classification of immunity
 - C6.1 Antigen
 - C6.2 Antibody

D Respiratory System

12+4

- D1 Function of the lungs
- D2 Basic mechanism of respiration
- D2 Inspiration, expiration mechanism
- D3 Respiratory rate and tidal volume definitions
- D4 Rate and control of respiration
 - D4.1 Chemical control
 - D4.2 Nervous control
- D5 Transport of oxygen and carbon dioxide in the blood and body fluids

E Gastro intestinal tract.

12+4

- E1** Ingestion of food, mastication (Chewing)/Digestion and Swallowing
- E2 Functions of Saliva, Salivary glands
- E3 Functions of stomach
- E4 Functions of Saliva, Gastric Secretion,
- E5 Storage function, mixing of food
- E6 Function of small intestine
- E7 Function of Secretions of the small intestine, secretion of large intestine, Digestion and absorption of food
- E8 Function of large intestine
- E9 Function of secretion of large intestine,
- E10 Digestion and absorption of food
- E11 Function of Liver, spleen and gall bladder
- E12 Functions of Pancreatic secretion, Bile secretion

F Metabolism

12+4

- F1 introduction to Metabolism**
- F2 Introduction to fat Metabolism
- F3 Introduction to protein Metabolism
- F4 Introduction to Carbohydrates Metabolism, Role of glucose in Carbohydrate
- F5 Metabolism, Transport of glucose in body tissue,
- F6 Introduction to Lipid metabolism
- F7 Use of proteins for energy,
- F8 Vitamins and their metabolic role.
- F9 Maintenance of body temperature

G Nervous System

12+6

- G1 Functions of brain, cerebrum cerebellum spinal cord.

- G2 Name of Cranial nerves and their supply
- G3 Introduction to Autonomic nervous system and their function briefly (Parts and functions)

H Endocrine Glands. 12+4

- H1 Introduction to endocrine glands
- H2 The pituitary hormones and their functions
- H3 The thyroid hormone, and there function
- H4 The adreno cortical hormones and there function
- H5 Parathyroid hormones and their functions

I Reproductive System 12+4

- I1 Functions of the male reproductive organs
- I2 Functions of the female reproductive system
- I3 Testosterone and other male sex hormones
- I4 Pregnancy, Lactation and female hormones

J Urinary System 12+4

- J1 Function of Kidney
- J2 Function of Urinary bladder
- J3 Micturition

K Special Senses 12+4

- K1 Introduction to Sensory organs and their function
- K2 Functions and refracting function of eye
- K3 Function of external ear, middle ear and internal ear
- K5 The functions of Tongue and salivary glands.
- K6 The functions of nose and tonsils / Adenoids.
- K7 The functions of skin and its appendages

Recommended Book Foundations of anatomy and physiology by Kathleen J.W. Wilson
Anatomy Physiology for nurses by Roger Watson.

Reference: Books Guyton Text book of Physiology by Guyton by Saunders Company