

3 rd Semester	RBM3C002	Human Anatomy and Physiology	L-T-P 3-0-0	3 CREDITS
--------------------------	----------	------------------------------	----------------	-----------

Module-I: (8 Hrs.)

Cells: Introduction to cells, composition of cells, movements of the cell membrane, lifecycle of cells, action potential

Blood: Composition of blood, production of blood, blood groups, identification of blood group

Module-II: (10 Hrs.)

Blood vessels and cardiac system: Types of blood vessels, structure of the blood vessels, blood supply to different organs including lungs, heart, liver and kidney, structure of the heart, electrophysiology of the heart, cardiac cycle, blood pressure.

Nervous system: Structure of the nerve cells, classification of neurons and nerve fibers, the synapse, nerve pathways, general functions of the nervous system, nervous tissue, cell membrane potential, brain, spinal cord.

Module-III: (12 Hrs.)

Respiratory system: Anatomy of the respiratory system, Physiology of respiration, regulation of respiration.

Musculoskeletal system: Structure of skeletal muscle, muscle contraction, muscular response, smooth muscles, cardiac muscles, skeletal muscles, bone structure, bone development, functions of bones, organization of the skeleton, joints of the skeletal systems, types of the joints and joint movements.

Module-IV: (7 Hrs.)

Digestive system: Gastrointestinal tract, movements of the gastrointestinal tract, liver, pancreas.

Excretory system: Kidney, nephrons, mechanism of urine formation, skin and sweat glands.

Module-V: (8 Hrs.)

Somatic and special senses: Introduction, receptors and sensations, somatic sense, special senses, sense of smell, sense of taste, sense of hearing, sense of equilibrium, sense of sight.

Books:

- *Martini and Nath, Fundamentals of Anatomy and Physiology, Pearson, 11th ed, 2018*
- *Wood, Laboratory Manual for Anatomy and Physiology, Pearson, 6th ed, 2017*
- *K. Saladin, Anatomy and Physiology, McGraw-Hill, 5th ed, 2016*
- *Richard S Snell, Clinical Anatomy by Regions, Lippincott Williams & Wilkins, 8th edition, 2007*