HUMAN ANATOMY AND PHYSIOLOGY-I (THEORY)

UNIT-1

- **Introduction to human body**

  Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology.

- **Cellular level of organization**

  Structure and function of cell, transport across cell membrane, cell division, cell junction.

  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 organization**

  Classification of tissues, structure, location and function of epithelial, molecule and nervous and connective tissues.

UNIT-II

- **Integumentary system**

  Structure and function of skin

- **Skeletal system**

  Divisions of skeletal system, types of bone, salient features an 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.

UNIT III

- **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

UNIT-IV

- **Peripheral nervous system**

  Classification and peripheral nervous system , structure and functions of sympathetic and parasympathetic nervous system

  Origin and function of spinal nerves

- **Special senses**

  Structure and functions of eye, ear, nose and tongue and their disorders.

UNIT-V

- **Cardiovascular system**

  Heart – anatomy of heart, 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.

HUMAN ANATOMY AND PHYSIOLOGY (practical) BP107P

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 WBCs count
8. Enumeration of Total RBCs 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