

PHYSIOLOGY (Practical)

Paper 10

Marks 100

NOTE: Practicals of the subject shall be designed from time to time on the basis of the above mentioned theoretical topics and availability of the facilities, e.g. Experimental Physiology includes:

1. **BLOOD:** Determination of Haemoglobin (Hb), Determination of ESR, RBC Count, WBC Count, DLC (Differential Leucocyte Count), Bleeding Time, Coagulation Time and Blood groups.
2. **RESPIRATION:** Estimation of vital capacity and its relation to posture and standard vital capacity, Determination of Tidal volume and Demonstration of Artificial Respiration.
3. **CARDIOVASCULAR SYSTEM:** Recording of Arterial Pulse, Recording of Arterial Blood Pressure and Electro-cardiogram.
4. **SENSORY SYTEM:** Visual activity, far vision, near vision and Field of vision (Perimetry).
5. **NEURAL CONTROL MECHANISM:** Nerve Muscle Preparation in frog, Effect of Temperature on muscle and Demonstration of spinal reflexes.

ANATOMY & HISTOLOGY (Theory)

Paper 5

Marks 50

Course Objectives: After the completion of this course the students should be able to understand the basic structure of various organs of our body not only at gross level but also at tissues or cell level

1. **INTRODUCTION: ANATOMICAL TERMINOLOGY:** Definition. Cell, tissue, organ system.
2. **STRUCTURE OF CELL:** Cell Membrane, Cytoplasm, Organelles, Nucleus, Cell cycle.
3. **TISSUES OF BODY:** Types of tissues with examples;
 - a. Epithelial Tissue: General characters, classification.
 - b. Connective Tissue: Structure and types of Connective tissue and Cartilage.
 - c. Bones: Structure and types of bones and joints.
 - d. Muscles: Structure of skeletal muscle, smooth muscle and cardiac muscle.
4. **INTEGUMENTARY SYSTEM:**
 - a. Skin Structure: (Epidermis, dermis).
 - b. Glands of Skin: (Sweat, Sebaceous).
 - c. Hair: Structure, function.
 - d. Nail: Structure, function.
5. **CARDIOVASCULAR SYSTEM:**
 - a. Heart: Structure of Heart, Location of Heart, Blood Supply to Heart.
 - b. Blood Vessels: Main blood vessels arising & entering the heart. Types of blood vessels

with examples.

6. **ALIMENTARY SYSTEM:** Name and structure of different parts of alimentary system and their inter-relationship.
7. **URINARY SYSTEM:** Name and structure of organs of urinary system and their inter-relationship.
8. **REPRODUCTIVE SYSTEM:** Male and Female reproductive systems. Name, structure and association of the organs.
9. **ENDOCRINE SYSTEM:**
 - a. Pituitary gland: Structure and relation to hypothalamus.
 - b. Thyroid gland: Structure.
 - c. Adrenal gland: Structure.
10. **NERVOUS SYSTEM:** Introduction: Cells of Nervous System (Neuron), Accessory cells of N.S. and Organization of N.S.
 - (a) Brain; Meninges (Cerebrum cerebral Lobes. Ventricles, Cerebellum Anatomy of Cerebellum, Brain Stem Mid-Brain. Pons. Medulla Oblongata, Diencephalon. Thalamus Hypothalamus and Cranial Nerves).
 - (b) Spinal Cord Meninges (C.S.F. Internal Structure, Sensory and Motor Pathway, Spinal Reflexes, Peripheral spinal Nerves, Autonomic Nervous System includes Sympathetic N.S. and Parasympathetic Nervous System).

11. **HISTOLOGY (Theory):**

- (a) Underlying principles of histological techniques and staining specific tissues should be explained.
- (b) Staining of paraffin and frozen sections will be given to the students.
- (c) Most of the teaching should be done on stained and mounted sections and every type of normal tissue will be covered.

ANATOMY & HISTOLOGY (Practical)

Paper 11

Marks 50

NOTE: Practicals of the subject shall be designed from time to time on the basis of the above mentioned theoretical topics and availability of the facilities.

1. Demonstration of the preparation and staining of slides.
2. Histological examination of slides: Epithelium, Muscle tissue and Connective tissue.
3. Organ system: Lung, Kidney, Stomach, Appendix, Skin, Intestine and Gall bladder.