PACIFIC MEDICAL UNIVERSITY, UDAIPUR

Ph.D. Entrance Syllabus – Medical Anatomy

1. Gross Anatomy (Macroscopic Anatomy)

General Anatomy

- Anatomical terminology
- Planes, axes, movements
- Types of bones, joints, muscles
- Blood supply, nerve supply, lymphatic drainage
- Anatomical variations and clinical relevance

Regional Anatomy

- **Upper Limb** – brachial plexus, axilla, cubital fossa, hand
- **Lower Limb** – femoral triangle, popliteal fossa, hip & knee joints
- **Thorax** – heart, lungs, mediastinum, coronary circulation
- **Abdomen** – peritoneum, abdominal viscera, portal circulation
- **Pelvis & Perineum** – pelvic organs, pelvic diaphragm
- **Head & Neck** – cranial nerves, pharynx, larynx, thyroid, salivary glands
- **Neuroanatomy** – brain, spinal cord, meninges, ventricles

2. Neuroanatomy

- Gross structure of brain and spinal cord
- Functional areas of cerebral cortex
- Basal ganglia, thalamus, hypothalamus
- Brainstem nuclei and tracts
- Cerebellum
- Cranial nerves (origin, course, applied anatomy)
- Autonomic nervous system
- Clinical correlations

3. Histology (Microscopic Anatomy)

- Cell structure and organelles
- Basic tissues: epithelium, connective tissue, muscle, nervous tissue

- Histology of:
    - Cardiovascular system
    - Respiratory system
    - Gastrointestinal tract
    - Liver, pancreas
    - Kidney
    - Endocrine glands
    - Reproductive organs
- Histological techniques and staining

4. Embryology

- Gametogenesis
- Fertilization and implantation
- Development of:
    - Nervous system
    - Cardiovascular system
    - Gastrointestinal system
    - Urogenital system
    - Musculoskeletal system
- Placenta and fetal membranes
- Congenital anomalies and teratology
- Clinical correlations

5. Surface Anatomy & Radiological Anatomy

- Surface landmarks of major organs
- Clinical correlation of surface anatomy
- Radiological anatomy:
    - X-ray
    - CT
    - MRI
    - Ultrasound (basic interpretation)

6. Genetics (Applied Anatomy)

- Chromosomal structure
- Cell division (mitosis & meiosis)
- Numerical and structural chromosomal abnormalities
- Syndromes with anatomical relevance
- Basic molecular genetics

7. Applied & Clinical Anatomy

- Anatomical basis of common clinical conditions
- Surgical anatomy
- Anatomical basis of nerve injuries
- Vascular lesions
- Congenital anomalies
- Trauma anatomy