

- Structure of lymph capillaries and mechanism of lymph circulation*
- Concept of lymphoedema and spread of tumors via lymphatics and venous system*

Topic: Introduction to the nervous system (AN7.1 to AN7.8)

- General plan of nervous system with components of central, peripheral and autonomic nervous systems
- Components of nervous tissue and their functions
- Parts of a neuron
- Classification of neurons based on structure and function
- Structure of a typical spinal nerve
- Principles of sensory and motor innervation of muscles*
- Concept of loss of innervation of a muscle with its applied anatomy
- Type of synapses*
- Differences between sympathetic and spinal ganglia*

B. GENERAL HISTOLOGY**Topic: Epithelium (AN65.1 to AN65.2)**

- Identification of epithelium under the microscope
- Correlation of structure and function of epithelia
- Ultrastructure of epithelium*

Topic: Connective tissue histology (AN66.1 to AN66.2)

- Types of connective tissue with functional correlation
- Ultrastructure of connective tissue*

Topic: Muscle histology (AN67.1 to AN67.3)

- Classification of muscle
- Structure-function correlation of muscle
- Ultrastructure of muscle tissue*

Topic: Nervous tissue histology (AN68.1 to AN68.3)

- Description and identification of unipolar and multipolar neurons, ganglia, peripheral nerve
- Structure-function correlation of neuron
- Ultrastructure of nervous tissue*

Topic: Blood vessels – histology (AN69.1 to AN69.3)

- Identification of elastic and muscular blood vessels, capillaries under the microscope
- Types and structure-function correlation of blood vessels
- Ultrastructure of blood vessels*

Topic: Glands and Lymphoid tissue (AN70.1 to AN70.2)

- Identification of exocrine glands under the microscope

- Differentiation between serous, mucous and mixed acini
- Identification of lymphoid tissue under the microscope
- Microanatomy of lymph node, spleen, thymus, tonsil and correlation of structure with function

Topic: Bone and Cartilage (AN71.1 to AN71.2)

- Identification of bone under the microscope
- Types and structure-function correlation of bone
- Identification of cartilage under the microscope
- Types and structure function correlation of cartilage

Topic: Integumentary System (AN72.1)

- Identification of skin and its appendages under the microscope
- Correlation of structure and function

C. GENETICS**Topic: Chromosomes (AN73.1 to AN73.3)**

- Structure of chromosomes with classification
- Technique of karyotyping with its applications
- Lyon's hypothesis

Topic: Patterns of Inheritance (AN74.1 to AN74.4)

- Various modes of inheritance with examples
- Pedigree charts for the various types of inheritance
- Examples of diseases of each mode of inheritance
- Multifactorial inheritance with examples
- Genetic basis and clinical features of achondroplasia, cystic fibrosis, vitamin D resistant rickets, haemophilia, Duchenne's muscular dystrophy and sickle cell anaemia*

Topic: Principle of Genetics, Chromosomal Aberrations and Clinical Genetics (AN75.1 to AN75.5)

- Structural and numerical chromosomal aberrations
- Mosaics and chimeras with examples
- Genetic basis and clinical features of Prader Willi syndrome, Edward syndrome and Patau syndrome*
- Genetic basis of variation: polymorphism and mutation
- Principles of genetic counselling

D. GENERAL EMBRYOLOGY**Topic: Introduction to embryology (AN76.1 TO AN76.2)**

- Stages of human life