

Anatomy

1st Professional Examination:

Marks distribution of Assessment of Anatomy

Total Marks-500

- Written= 200 (Formative 20+MCQ (SBA+MTF) 40 (SAQ+SEQ) 140)
- SOE= 150
- Practical= 150

Assesment in Anatomy

| Component | Marks | Total marks | |
|---|--------------|-------------|--------------|
| Formative Assesment | 10+10 | 20 | |
| WRITTEN EXAMINATION | | | |
| Paper-I- MCQ(SBA+MTF) (SAQ+SEQ) | 20 70 | 180 | |
| Paper-II- MCQ (SBA+MTF) (SAQ+SEQ) | 20 70 | | |
| ORAL EXAMINATION (Structured) | | | |
| Board I | 75 | 150 | |
| Board II | 75 | | |
| PRACTICAL EXAMINATION | Board I | Board II | |
| Objective structured practical Exam (OPSE) | 30 | 30 | 75+75 |
| Dissection | 10 | 10 | |
| Anatomy of Radiology and imaging | 10 | 10 | |
| Lucky Slides | 10 | 10 | |
| Living Anatomy | 10 | 10 | |
| Practical Khata | 05 | -- | |
| Grand Total | | 500 | |

Department of Anatomy, for Session 2022-23

| Contents |
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| <p><u>Core:</u></p> <ul style="list-style-type: none"> • Definition, subdivisions of anatomy and its importance in the study of medicine. • Anatomical terminologies, anatomical planes & positions. • Skeletal system; Bones- classification, consumption, functions, parts of a developing long bone, blood supply, periosteum & endosteum. Ossification- definition, centers, processes. Factors affecting growth of bone. • Cartilages: composition, types, characters, locations and functions. • Joint: classification, characteristics of each type and movements, stability of the joints. Clinical conditions association with joints. General plan of blood supply and nerve supply of joints. • Muscular systems: different ways of classification, characteristics and functions different types. • Skeletal muscle- classification; principle applied to innervation & contraction. • Blood vascular system: component parts, general plan, structure, classification. • Differences between different types of vessels. Nutrition and innervations of vessels. • Circulation- systemic, portal 7 pulmonary circulation characteristic features of each type. |

- Vascular anastomosis: types, sites, characteristics, features of lymph capillaries. Comparison with blood capillary.
- Lymphoid organs: classification, distribution & functions.

Core:

- Human Cell- basic organization, types of constituents, cell membrane.
- Nuclease- structure & functions
- Cytoplasm, organelles and inclusion- structure & functions
- Functional correlation of different types of cells (protein secreting, ion transporting, steroid secreting, mucus secreting, antibody producing cell) in respect of their nuclear, cytoplasmic, membrane and surface feature.

Core:

- Chromosomes: Basic structure
- terms 7 definitions: Gene, Gene locus, genome, genotype, phenotype, genetic trait etc.

Contents

General Histology

Basic tissues:

- Definition, classification, components, characters, distribution and functions of
- Epithelial tissue and its subtypes
- Connective tissue and its subtypes
- Muscular tissue and its subtypes
- Structure and functions of
- Cell surface specialization
- Inter cellular junction

Histological structure of

- Smooth muscle tissue
- Cardiac muscle tissue
- Skeletal muscle tissue
- Mechanism of muscle contraction
- Structure and function of Nervous tissue
- Neurons
- Neuroglia

Contents

Systemic Histology: histological structures of

- Respiratory system: Respiratory tract & Lung
- Vascular system: Different types of arteries, capillary & vein
- Lymphoid organs: Thymus, spleen, lymph node & tonsil
- Digestive system & associated Glands: tongue, esophagus, stomach, intestine, Liver, gall bladder, pancreas
- Exocrine glands: salivary glands

- Urinary system: kidney, ureter, urinary bladder
- Male reproductive system: testis, epididymis, vas deferens, seminal vesicle
- Female reproductive system: ovary, uterus, uterine tube, vagina
- Endocrine glands: pituitary, thyroid, parathyroid, adrenal glands
- Skin and its appendages

Contents

Core:

- Introduction: terms and definition; Significance of study of embryology.
- Basic process of development: proliferation, growth, differentiation, inductors, evocators and organizer
- Cell division: Types
- Chromosomal changes during cell division with anomalies Gametogenesis and maturation of Germ cells.
- Fertilization: Events, factors influencing the fertilization;
- Progress in 1st week of development
- Progress in 2nd week of development.
- Progress in 3rd week of development.
- Derivatives of germ layers: ectoderm, mesoderm & endoderm.
- Foetal membranes: Placenta, chorion, amnion, umbilical cord, yolk sac etc.
- Twins
- Teratology

Additional:

- Human Evolution
- Concepts of medical biotechnology in relation to embryology
- Molecular regulation & cell signaling

Contents

Core:

Development and their Anomalies of

- Skeletal system & vertebral column
- Muscular system
- Upper and lower limb
- Digestive system with associated glands
- Respiratory system
- Cardiovascular System & aortic arches
- Coelomic cavity & the diaphragm
- Skin & mammary gland
- Urinary system
- Male and female Reproduction system
- Pituitary & suprarenal gland
- Face & neck & their associated organs
- Nervous System
- Eye & Ear

Additional:

Development of

- Lymphatic System
- Vascular System

Contents

Core:

- Introduction to Nervous system,
- Composition of grey matter and white matter
- Nerve fibers: structure classifications & functions,
- myelination, degeneration, regeneration
- Receptors: definition, structure classifications location & functions
- Synapse: definition, structure classifications & functions
- Autonomic nervous system: parts, autonomic nerve plexuses & ganglia
- Coverings of brain and spinal cord: Pia, arachnoid and dura mater, their extension, folds, spaces, nerve supply & blood supply
- Ventricular system and Cerebrospinal fluid (CSF): Location of different ventricles of brain, the formation, composition, circulation, absorption & functions of CSF
- Blood-brain and Blood-CSF barriers: Composition & function

Contents

Core:

Motor system

- Cerebrum (motor areas): Gyri, sulci and important functional areas with effects of lesion; mode of blood supply
- Pyramidal & extrapyramidal system & effects of their lesion Cerebellum: parts, functional lobes, nuclei, peduncles & functions, blood supply, clinical conditions
- Basal nuclei: locations, parts, functions artery supply & clinical conditions
- Motor and mixed Cranial Nerves: Classification, functional components, cranial nerve nuclei and course of cranial nerves

Sensory system

- Dermatome & axial line
- Cerebrum (sensory areas): Gyri, sulci and important functional areas with effects of lesion; mode of blood supply
- Ascending tracts of spinal cord with effects of lesions
- Diencephalon: parts & functions Sensory cranial nerves & Smell, visual & auditory pathway
- Spinal Cord: Length, extension, enlargement, blood supply, cross-sections at different level
- Brain stem: blood supply, cross sections at different levels
- Reticular formation
- Limbic system

Contents

Thorax

Core:

- Counting of ribs and costal cartilages
- Heart-apex and borders

- Lung-borders and apex
- Trachea & Bronchi
- Esophagus
- Triangle of auscultation
- Jugular notch
- Sternal angle
- Area of superficial Cardiac dullness

Common carotid and subclavian artery Internal thoracic artery

Superior extremity

Core:

- Nerves: Radial, Ulnar, Median nerve, Axillary nerve
- Arteries: Bronchial, Radial, Ulnar artery, superficial and deep palmar arch
- Veins: cephalic, basilic & median cubital vein
- Flexor retinaculum
- Anatomical snuff box
- Medial humeral epicondyle

Contents

CORE:

Abdomen

- Trans-pyloric plane, Trans tubercular plane, Subcostal plane, mid clavicular line
- Regions of abdomen
- Superficial & deep inguinal ring, Inguinal canal
- Abdominal aorta & inferior vena cava
- Stomach, Duodenum, Pancreas, Liver, Gall bladder, Bile duct, spleen, Kidney from back & Mac Burney's point
- Transverse colon, ureter from front and back, celiac trunk, splenic artery, Root of the mesentery

Inferior extremity

- Common peroneal nerve, Tibial nerve
- Popliteal artery
- Anterior & posterior tibial artery
- Arteria dorsalis pedis
- Great Saphenous vein
- Small Saphenous vein
- Adductor tubercle
- Lateral and Medial Malleolus
- Greater trochanter of femur Anterior superior iliac spine

Additional

- Femoral nerve, sural nerve, Medial and lateral plantar artery, plantar arch.

Contents

Head and neck

- Facial artery, Facial vein
- Internal jugular vein, External jugular vein
- Common Carotid artery & its bifurcation
- Facial Nerve & their branches
- vagus nerve in the neck
- Parotid gland and its duct
- Frontal and maxillary air sinuses
- Thyroid gland
- Tip of the coracoid process
- Inferior angle of scapula Tip of the 7th cervical spine

Additional:

- Pterion, lambda
- Middle meningeal artery

Contents

Core:

Radio opaque structures

Radio-lucent structures

Plain X-ray of the

- chest PA view
- abdomen AP view
- pelvis AP view
- arm including proximal & distal joints AP & lateral view
- forearm including proximal & distal joints AP & lateral view
- hand including proximal & distal joints
- thigh including proximal & distal joints AP & lateral view
- leg including proximal & distal joints AP & lateral view
- foot including proximal & distal joints AP & lateral view
- head & neck (cervical spine) AP & lateral view
- Paranasal sinuses OM view

Additional:

- Common normal Ultrasonography, Isotope scan.
- Magnetic Resonance Images (MRI), CT scan
- Coronary Angiograph

Contents

Thorax

- Pleurisy/Pleural effusion
- Pneumothorax
- Coronary artery disease
- Pericarditis/ pericardial effusion
- Flail chest

- Paralysis of the diaphragm

Abdomen

- Portal vein obstruction
- Hydrocele
- Hernia
- Peritonitis, ascites Gastric ulcer
- Duodenal ulcer
- Gall stone/cholecystitis
- appendicitis
- Benign hyperplasia of prostate, Prostatic cancer
- Cystocele
- Stress incontinence
- Rupture urethra
- Salpingitis
- Ectopic pregnancy
- Prolapse of uterus / vagina
- Hemorrhoids
- Undescended testis
- Psoas abscess
- Ischiorectal abscess

Contents

Head & Neck

- Fracture of the skull bones
- Scalp injury Piriform fossa and foreign body
- Otitis media
- Sinusitis
- Epistaxis Tonsillitis
- Swelling of thyroid gland
- Mumps
- Cavernous vein thrombosis
- Cervical rib

CNS & Eyeball

- Injury to brain /eye ball / spinal cord/cranial nerves
- Meningitis
- Hydrocephalus
- Cerebral ischemia, intracranial hemorrhage (extradural, subarachnoid, cerebral)
- Papilledema
- Horner's syndrome

Superior extremity

- Dislocation of shoulder joint Brachial plexus & injury to its nerves
- Carpal tunnel syndrome
- Colle's fracture
- Breast abscess & breast cancer

Inferior extremity

- Varicose vein
- Deep vein thrombosis
- Nerve injury
- Dislocation of hip joint
- Rupture of menisci & cruciate ligament, Bursitis
- Deformities of foot

Contents

- Arterial pulsation
- Intravenous injections
- Intramuscular injection
- Apex beat, mitral, tricuspid, aortic & pulmonary areas
- Sternal puncture
- Pleural effusion
- Pericardial effusion
- Coronary angiogram
- Bronchoscopy
- Laryngoscopy
- Paracentesis /peritoneal dialysis
- Ryle's tube
- Endoscopy
- Liver abscess
- Vasectomy Tubal ligation
- Nasogastric intubation
- Palpation of Cervical lymph node
- Lumbar puncture
- Epidural/spinal anesthesia
- Pudendal block
- Fundoscopy

**Regional Anatomy: THORAX CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)****Contents**

- Thoracic wall formation, thoracic cavity, intercostal space and mediastinum.
- Bones and joints of the thorax
- Spinal nerve/intercostal nerve
- Heart with pericardium.
- Lung with pleura, trachea and bronchus.
- Blood vessels, nerves and lymphatics of the thorax.
- The diaphragm.
- Oesophagus
- Clinical Anatomy

**Regional Anatomy: SUPERIOR EXTREMITY CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)**

Regional Anatomy: SUPERIOR EXTREMITY CARD

| Contents |
|---|
| <ul style="list-style-type: none">• Pectoral region with mammary gland• Axilla• Superficial dissection of the upper limb, back and scapular region including quadrangular & triangular space Front of the arm, forearm and palm• Back of the arm, forearm and dorsum of hand• Blood supply, lymphatic drainage, cutaneous innervation & dermatome of superior extremity• Bones & joints of the upper limb• Clinical Anatomy |

**Regional Anatomy: ABDOMEN CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)**

| Contents |
|--|
| <ul style="list-style-type: none">• Anterior wall of the abdomen with hernial region.• Stomach, abdominal part of the oesophagus Duodenum, pancreas and spleen.• The mesentery and mesenteric vessels. jejunum and ileum.• Large intestine. rectum & anal canal• Liver with the biliary apparatus including gall bladder; portal vein.• Kidney, suprarenal gland, ureter, urinary bladder & urethra.• Ovary, uterus, uterine tube, female external organs and perineum.• Vas deferens, seminal vesicle, prostate and male external genital organs. Muscles, blood vessels, lymphatics and nerves of the posterior abdominal wall.• Muscles, blood vessels lymphatics, nerves of the pelvis.• Lumbar vertebra, bony pelvis & joints• Clinical Anatomy |

**Regional Anatomy: INFERIOR EXTREMITY CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)**

| Contents |
|---|
| <ul style="list-style-type: none">• Front and medial side of the thigh• Gluteal region and back of the thigh• Front of the leg and dorsum of the foot• Lateral side, medial side and back of the leg including the popliteal fossa sole of the foot• Bones & joints of lower limb• Arches of the foot• Blood supply, lymphatic drainage, cutaneous innervation & dermatome of inferior extremity• Clinical Anatomy |

**Regional Anatomy: HEAD & NECK CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)**

Contents

- Bones & joints of head and neck
- Scalp and temporal region
- Face and orbit
- Anterior triangle and its subdivisions, submandibular region including thyroid gland
- Posterior triangle
- Mouth and tongue
- Pharynx
- Nose and paranasal sinuses
- Larynx
- Vertebral column and deep dissection of the back of the neck
- External, middle and internal ear.
- Clinical Anatomy

**Regional Anatomy: CENTRAL NERVOUS SYSTEM & EYEBALL CARD
(DISSECTION, DEMONSTRATION, & TUTORIAL)**

Contents

- Introduction to the nervous system, cranial cavity and orbit.
- General examination of the brain
- Superficial attachments of cranial nerves
- meninges of the brain
- Cerebrum: lobes of cerebrum, sulci, gyri & important functional areas, blood supply, formation of Circle of Willis
- Diencephalon: thalamus, hypothalamus, meta thalamus, epithalamus and pituitary gland
- Basal nuclei, internal capsule, extra pyramidal system and limbic system
- Brain stem and reticular formation Cranial nerves
- Ventricles and cerebrospinal fluid Spinal cord & spinal nerves eyeball
- Clinical Anatomy.