SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

TAMAKA, KOLAR-563 103, KARNATAKA

M.B.B.S. Degree Course

(Phase-I Anatomy subject)

REVISED CURRICULUM

2019-20

FOUNDATION COURSE

Foundation course for I MBBS will be conducted for one month duration during August for orienting the students to all aspects of the medical college environment, Equipping them with certain basic but important, skills required for patient care and enhancing their communication, language, computer and learning skills which also provides opportunity for peer and faculty interactions and an overall sensitisation to the various learning methodologies.

The major components of the Foundation Course include:

a) **Orientation Program**: This includes orienting students to all the components should be completed as one block in the first week.
b) **Skills Module (Basic)**: This involves skill sessions such as Basic Life Support, First Aid, Universal precautions and biomedical waste and safety management that students need to be trained prior to entering the patient care areas.
c) **Field visit to Community and Primary Health Centre:** These visits provide orientation to the care delivery through community and primary health centers, and include interaction with health care workers, patients and their families.
d) **Professional development including Ethics**: This is an introduction to the concept of Professionalism and Ethics. This component will provide students with understanding that clinical competence, communication skills and sound ethical principles are the foundation of professionalism. It will also provide understanding of the consequences of unethical and unprofessional behavior, value of honesty, integrity and respect in all interactions.
e) **Sports and Extracurricular activities**: These have been included, in order to demonstrate the importance of work-life balance in a demanding profession, and provide an opportunity for students to have compulsory physical activity and to showcase their talents.
f) **Enhancement of Language / Computer skills / Learning Skills**: These are sessions to provide opportunity for the students from diverse background and language competence to undergo training for speaking and writing English, fluency in local language and basic computer skills.

Structure of the foundation course for students

Subjects/ Contents	**Total Teaching hours**
Orientation	30
Skills Module	35
Field visit to Community Health Centre	8
Professional Development including ethics	40
Sports and Extracurricular activities	22
Enhancement of language/ computer skills	40
Total teaching hours	175

***Assessment of Foundation Course should be included in formative assessment of first phase.**

[*] **Medical Council of India. Foundation Course for the Undergraduate Medical Education Program, 2019: pp 1-46.**

ANATOMY

I. GOAL:

The broad goal of the teaching undergraduate students in Anatomy aims at providing comprehensive knowledge of the gross and microscopic structure and development of hu-man body to provide a basis for understanding the clinical correlation of organs or struc-tures involved and the anatomical basis for the disease presentations.

II. COURSE OUTCOMES:

A) KNOWLEDGE:

At the end of the course the student shall be able to :

1. Comprehend the normal disposition, clinically relevant interrelationship, functional and cross sectional anatomy of the various structures in the body.
2. Identify the microscopic structure and correlate elementary ultra-structure of various organs and tissues and correlate the structure with the functions as a prerequisite for understanding the altered state in various disease processes.
3. Comprehend the basic structure and connections of the central nervous system to analyze the integrative and regulative functions of the organs and systems; He/She shall be able to locate the site of gross lesions according to the deficits encountered.
4. Demonstrate knowledge of the basic principles and sequential development of the organs and systems; recognize the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He/She shall be able to explain the developmental basis of the major variations and abnormalities.

B) SKILLS:

At the end of the course the student shall be able to:

1. Identify and locate all the structures of the body and mark the topography of the living anatomy.
2. Identify the organs and tissues under the microscope.
3. Understand the principles of karyotyping and identify the gross congenital anomalies.
4. Understand principles of newer imaging techniques and interpretation of Computerized Tomography (CT) Scan, Sonogram etc.
5. Understand clinical basis of some common clinical procedures i.e. intramuscular and intravenous injection, lumbar puncture etc.

C) INTEGRATION

From the integrated teaching of other basic sciences, student shall be able to comprehend the regulation and integration of the functions of the organs and systems in the body and thus interpret the anatomical basis of disease process.

Teaching Hours Total number of teaching hours - 650 Hours

Theory:	
Lectures	160 Hours
Tutorials	60 Hours
Group Discussion	40 Hours
Total	260 Hours

Practical:	
Dissection	310 Hours
Histology	80 Hours
Total	390 Hours

Teaching/Learning Methods

a. Didactic lectures
b. Dissection/Prosected parts demonstrations/instructions on Mannequins
c. Histology lab-slide study
d. Small group teaching-such as a) Demonstrations b)Tutorials c)Seminars d)Problem based learning e) Discussions for poor performers
e. Surface marking
f. Imaging Anatomy- Radiograms, MRI, ultrasound, etc.
g. e-mode of learning of some of the topics
h. Visit to the museum
i. Integrated teaching at horizontal and vertical levels
j. Batch-wise posting to Radiology and Endoscopies.
k. Study of charts & models
l. Self-directed learning
m. Writing assignments
n. Preparation of scientific article.

SL. NO.	COMPETENCIES	CORE	NON CORE	HOURS
1.	**GENERAL ANATOMY AN 1.1 – AN 7.8**			**12 hrs**
	Anatomical terminology	√		
	General features of bones & Joints	√		
	General features of Muscle	√		
	General features of skin and fascia	√		
	General features of the cardiovascular system	√		
	General Features of lymphatic system	√		
	Introduction to the nervous system	√		
2.	**GENERAL HISTOLOGY AN65.1 – AN 72.1**			**10 hrs**
	Epithelium histology, Connective tissue histology, Muscle histology, Nervous tissue histology, Blood Vessels, Glands & Lymphoid tissue, Bone & Cartilage,skin and its appendages under the microscope and correlate the structure with function	√		
3.	**GENERAL EMBRYOLOGY AN 76.1 – 80.7 ,AN 25.1**			**10 hrs**
	Introduction to embryology, Gametogenesis and fertilization, Second week of development	√		
	3rd to 8th week of development	√		
	Fetal membranes, placenta and umbilical cord, fetal circulation and changes occurring at birth	√		
4.	**UPPER LIMB AN8.1 – AN 13.8**			**14hrs**
	Features of individual bones, Pectoral region, Axilla	√		
	Shoulder and Scapular region, Arm & Cubital fossa	√		
	Forearm & hand, General Features, Joints, radiographs & surface marking.	√		

	Development of mammary gland, development of upper limb		√	
	Describe the arterial anastomosis around the scapula		√	
	Anastomosis around the elbow joint		√	
5.	**Lower limb AN14.1 – AN 20.10**			**14 hrs**
	Features of individual bones, Front & Medial side of thigh, Gluteal region & back of thigh, Hip Joint, Knee joint, Anterolateral compartment of leg & dorsum of foot, Back of Leg & Sole, General Features, Joints, radiographs & surface marking.	√		
	Anatomical basis of Metatarsalgia, Plantar fasciitis, Flat foot, club foot.		√	
	The subtalar and transverse tarsal joints.		√	
	Development of lower limb		√	
6.	**THORAX AN 21.1-AN 25.4**			**11hrs**
	Thoracic cage			
	Features of sternum, typical rib, Ist rib and typical thoracic vertebra, Boundaries of thoracic inlet, cavity and outlet, The extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles, origin, course, relations and branches of a typical intercostal nerve, Mention origin, course and branches/ tributaries of: 1) anterior & posterior intercostal vessels 2) internal thoracic vessels	√		
	Features and movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints, Mechanics and types of respiration, boundaries and contents of the superior, anterior, middle and posterior mediastinum.	√		
	Subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium	√		

	External and internal features of each chamber of heart, Origin, course and branches of coronary arteries, Formation, course, tributaries and termination of coronary sinus, The fibrous skeleton of heart, Conducting system of heart. Formation, course, tributaries and termination of coronary sinus, Fibrous skeleton of heart	√		
	Mediastinum – oesophagus, thoracic duct, arch of aorta, azygos and hemiazygos veins, location and extent of thoracic sympathetic chain	√		
	Lungs & Trachea - blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura, the pleural recesses and their applied anatomy, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate, bronchopulmonary segment, phrenic nerve Blood supply, lymphatic drainage and nerve supply of lungs with surface marking ,systemic embryology,radiology and histology	√		
	Embryological basis of: 1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula	√		
	Developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta	√		
	AN 25.7 Structures seen on a plain x-ray chest (PA view)	√		
	AN 25.9 Surface marking of lines of pleural reflection, lung borders and fissures, trachea, heart borders, apex beat & surface projection of valves of heart	√		
	AN 25.6 Development of aortic arch arteries, SVC, IVC and coronary sinus		√	
	AN 25.8 Barium swallow		√	
7.	**HEAD AND NECK**			**22hrs**
	SKULL OSTEOLOGY			
	AN 26.1 Anatomical position of skull, Identify and locate individual skull bones in skull	√		
	AN 26.2 Features of norma frontalis, verticalis, occipitalis, lateralis and basalis	√		
	AN 26.3 Cranial cavity, its subdivisions, foramina and structures passing through them	√		

	AN 26.4 Morphological features of mandible	√		
	AN 26.5 Features of typical and atypical cervical vertebrae (atlas and axis)	√		
	AN 26.6 Concept of bones that ossify in membran	√		
	AN 26.7 Features of the 7th cervical vertebra	√		
	SCALP			
	AN 27.1 Layers of scalp, its blood supply, its nerve supply and surgical importance	√		
	AN 27.2 Emissary veins with its role in spread of infection from extra cranial route to intracranial venous sinuses	√		
	FACE & PAROTID REGION			
	AN 28.1 Muscles of facial expression and their nerve supply	√		
	AN 28.2 Sensory innervation of face **AN 28.3** Origin /formation, course, branches /tributaries of facial vessels	√ √		
	AN 28.4 Branches of facial nerve with distribution **AN 28.5** Cervical lymph nodes and lymphatic drainage of head, face and neck	√ √		
	AN 28.6 Superficial muscles of face, their nerve supply and actions	√		
	AN 28.7 Anatomical basis of facial nerve palsy	√		
	AN 28.8 Surgical importance of deep facial vein parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance	√		
	AN 28.9 Anatomical basis of Frey's syndrome		√	

	POSTERIOR TRIANGLE OF NECK			
	AN 29.1 Attachments, nerve supply, relations and actions of sternocleidomastoid	√		
	AN 29.2 Anatomical basis of Erb's & Klumpke's palsy	√		
	AN 29.3 Anatomical basis of wry neck		√	
	AN 29.4 Demonstrate attachments of 1) inferior belly of omohyoid,2)scalenus anterior, 3) scalenus medius & 4) levator scapulae		√	
	Cranial cavity			
	An 30.1 Cranial fossae & identify related structures	√		
	AN 30.2 Major foramina with structures passing through them	√		
	AN 30.3 Dural folds & dural venous sinuses	√		
	AN 30.4 Clinical importance of dural venous sinuses	√		
	AN 30.5 Effect of pituitary tumours on visual pathway		√	
	ORBIT			
	AN 31.1 Extra ocular muscles of eyeball	√		
	AN 31.2 Nerves and vessels in the orbit	√		
	AN31.4 Components of lacrimal apparatus	√		
	AN 31.5 Anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	√		
	AN 31.3 Anatomical basis of Horner's syndrome		√	
	ANTERIOR TRIANGLE			
	AN 32.1 Boundaries and subdivisions of anterior triangle	√		
	AN 32.2 Boundaries and contents of muscular, carotid, digastric and submental triangles	√		

	TEMPORAL AND INFRATEMPORAL REGIONS			
	AN 33.1 Extent, boundaries and contents of temporal and infratemporal fossae	√		
	AN 33.2 Attachments, direction of fibres, nerve supply and actions of muscles of mastication	√		
	AN 33.3 Articulating surface, type & movements of temporomandibular join	√		
	AN 33.4 Clinical significance of pterygoid venous plexus	√		
	AN 33.5 Features of dislocation of temporomandibular joint	√		
	SUBMANDIBULAR REGION			
	AN 34.1 Morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion	√		
	AN 34.2 Basis of formation of submandibular stones	√		

	DEEP STRUCTURES IN THE NECK			
	AN 35.1 Parts, extent, attachments, modifications of deep cervical fascia	√		
	An 35.2 Location, parts, borders, surfaces, relations & Blood supply of thyroid gland	√		
	AN 35.3 Origin, parts, course & branches subclavian Artery	√		
	AN 35.4 Origin, course, relations, tributaries and Termination of internal jugular & brachiocephalic veins	√		
	An 35.5 Drainage & applied anatomy of cervical Lymph nodes			
	AN 35.6 Formation, relation & branches of Cervical sympathetic chain	√		
	AN 35.7 Course and branches of IX, X, XI & XII nerve in the neck	√		
	AN 35.8 Anatomically relevant clinical features of Thyroid swellings		√	
	AN 35.9 Clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib		√	
	AN 35.10 Fascial spaces of neck		√	
	MOUTH, PHARYNX & PALATE			
	AN 36.1 1) Morphology, relations, blood supply and applied anatomy of palatine tonsil	√		
	2) composition of soft palate	√		
	AN 36.2 Components and functions of Waldeyer's lymphatic ring	√		
	AN 36.3 Boundaries and clinical significance of pyriform fossa	√		
	AN 36.4 Anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess		√	
	AN 36.5 Clinical significance of Killian's dehiscence		√	

	CAVITY OF NOSE			
	AN 37.1 Features of nasal septum, lateral wall of nose, their blood supply and nerve supply	√		
	AN 37.2 Location and functional anatomy of paranasal sinuses	√		
	AN 37.3 Anatomical basis of sinusitis & maxillary sinus tumours	√		
	LARYNX			
	AN 38.1 Morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	√		
	AN 38.2 Anatomical aspects of laryngitis		√	
	AN 38.3 Anatomical basis of recurrent laryngeal nerve injury		√	
	TONGUE			
	AN 39.1 morphology, nerve supply, embryological basis of nerve supply, blood supply, lymphatic drainage and actions of extrinsic and intrinsic muscles of tongue	√		
	AN 39.2 Anatomical basis of hypoglossal nerve palsy		√	
	ORGANS OF HEARING AND EQUILIBRIUM			
	AN 40.1 Parts, blood supply and nerve supply of external Ear	√		
	AN 40.2 Boundaries, contents, relations and functional anatomy of middle ear and auditory tube	√		
	AN 40.3 Features of internal ear		√	
	AN 40.4 Anatomical basis of otitis externa and otitis media		√	
	AN 40.5 Anatomical basis of myringotomy		√	
	EYEBALL			
	AN 41.1 Parts and layers of eyeball	√		

			√	
	AN 41.2 Anatomical aspects of cataract, glaucoma & central retinal artery occlusion		√	
	AN 41.3 Position, nerve supply and actions of intraocular muscles			
	BACK REGION			
	AN42.1 Contents of the vertebral canal			
	AN42.2 Demonstrate the boundaries and contents of Suboccipital triangle	√		
	AN42.3 Position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis	√	√	
	HEAD & NECK JOINTS, HISTOLOGY, DEVELOPMENT, RADIOGRAPHY & SURFACE MARKING			
	AN 43.1 The movements with muscles producing the movements of atlantooccipital joint & atlantoaxial joint			
	AN 43.2 Microanatomy of pituitary gland, thyroid, parathyroid gland, tongue, salivary glands, tonsil, epiglottis, cornea, retina	√		
	AN 43.3 Microanatomy of olfactory epithelium, eyelid, lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland	√	√	
	AN 43.4 Development and developmental basis of congenital nanomalies of face, palate, tongue, branchial apparatus, pituitary gland, thyroid gland & eye			
	AN 43.5 1) Testing of muscles of facial expression, extraocular muscles, muscles of mastication, 2) Palpation of carotid arteries, facial artery, superficial temporal artery, 3) Location of internal and external jugular veins, 4) Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels	√ √		
			√	

	AN 43.6 Surface projection of- Thyroid gland, Parotid gland and duct,Pterion, Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & accessory nerve	√		
	AN 43.7 Anatomical structures in 1) Plain x-ray skull, 2) AP view and lateral view 3) Plain x-ray cervical spine-AP and lateral view 4) Plain xray of paranasal sinuses	√		
	AN 43.8 Describe the anatomical route used for carotid angiogram and vertebral angiogram		√	
	AN 43.9 Anatomical structures in carotid angiogram and vertebral angiogram		√	
8.	**ABDOMEN (AN44.1 ,AN47.2,AN 47.5 AN 47.8-AN 47.11,AN 47.13)**			**25hrs**
	Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen Anterior abdominal wall, rectus sheath, extent, boundaries, contents of Inguinal canal including Hesselbach's triangle.	√		
	Posterior abdominal wall Thoracolumbar fascia, lumbar plexus	√		
	Male external genitalia	√		
	Abdominal cavity, boundaries and recesses of Lesser & Greater sac, peritoneal folds & pouches,major viscera of abdomen,	√		
	Formation, course relations and tributaries of Portal vein, Inferior vena cava & Renal vein, origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery,	√		
	Sites of portosystemic anastomosis,	√		
	Anatomic basis of hematemesis& caput medusae in portal hypertension	√		
	Attachments, openings, nerve supply & action of the thoracoabdominal diaphragm	√		
	AN 44.7 Common Abdominal incisions		√	

	AN 45.3 Major subgroups of back muscles, nerve supply and action		√	
	AN 46.4anatomical basis of Varicococele		√	
	AN 46.5 Phimosis & Circumcision		√	
	AN 47.3 Anatomical basis of Ascites & Peritonitis		√	
	AN 47.4 Anatomical basis of Subphrenic abscess		√	
	AN 47.6 Anatomical basis of Splenic notch, Accessory spleens, Kehr's sign, Different types of vagotomy, Liver biopsy (site of needle puncture),Referred pain in cholecystitis, Obstructive jaundice, Referred pain around umbilicus, Radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach		√	
	AN 47.7 Clinical importance of Calot's triangle **AN 47.12** important nerve plexuses of posterior abdominal wall		√ √	
	AN 47.14 Abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia **AN 45.3** Major subgroups of back muscles, nerve supply and action		√	
9.	**PELVIC WALL AND VISCERA**			
	AN 48.1-AN 48.4 Muscles of Pelvic diaphragm, male & female pelvic viscera, internal iliac artery, sacral plexus	√		
	AN 48.5 Anatomical basis of suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation,		√	
	AN 48.6 Neurological basis of Automatic bladder,		√	
	AN 48.7 Lobes involved in benign prostatic hypertrophy & prostatic cancer, structures palpable during vaginal & rectal examination		√	
10.	**PERINEUM**			
	AN 49.1-AN 49.4 Superficial & deep perineal pouch, Perineal body, Perineal membrane in male & female, content & applied anatomy of Ischiorectal fossa,	√		
	AN 49.5 Anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure		√	

11.	**VERTEBRAL COLUMN**			
	AN 50.1 –AN 50.3 Curvatures of the vertebral column, type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis, lumbar puncture			
	AN 50.4 Anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida		√	
12.	**SECTIONAL ANATOMY**	√		
	AN 51.1 Cross-section at the level of T8, T10 and L1 (transpyloric plane)			
	AN 51.2 Midsagittal section of male and female pelvis	√		
13.	**SYSTEMIC HISTOLOGY & EMBRYOLOGY**			**24hrs**
	AN 52.1 Microanatomical features of Gastro-intestinal system: Oesophagus, Fundus of stomach, Pylorus of stomach, Duodenum, Jejunum, Ileum, Large intestine, Appendix, Liver, Gall bladder, Pancreas & Suprarenal gland	√		
	AN52.2 Microanatomical features of: Urinary system: Kidney, Ureter & Urinary bladder Male Reproductive System: Testis, Epididymis,Vas deferens, Prostate & penis,Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta & Umbilical cord,	√		
	AN 52.5 Development and congenital anomalies of Diaphragm	√		
	AN 52.6 Congenital anomalies of: Foregut, Midgut & Hindgut	√		
	AN 52.7 Development of Urinary system	√		
	AN 52.8 Development of male & female reproductive system	√		
	AN 52.3 Microanatomical features of Cardiooesophageal junction, Corpus luteum		√	
	AN 52.4 Development of anterior abdominal wall		√	
	OSTEOLOGY OF ABDOMEN AND PELVIS			
	AN53.1 Bones of abdomen and pelvis,attachments of muscle groups	√		
	AN53.2 Bony pelvis & show boundaries of pelvic inlet, pelvic cavity, pelvic outlet	√		

	AN53.3 True pelvis and false pelvis and demonstrate sex determination in male & female bony pelvis	√		
	AN53.4 Clinical importance of bones of abdominopelvic region (sacralization of lumbar vertebra, Lumbarization of 1st sacral vertebra, types of bony pelvis & Coccyx)		√	
	RADIODIAGNOSIS(AN54.1-AN54.3) Features of plain X ray abdomen,special radiographs of abdominopelvic region (contrast X ray ,Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography & Hysterosalpingography)	√		
	AN54.3 Role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen		√	
	SURFACE MARKING **AN 55.1 –AN 55.2** Surface marking of; Regions and planes of abdomen, Superficial inguinal ring, Deep inguinal ring ,	√		
	McBurney's point, Renal Angle & Murphy's point, surface projections of: Stomach, Liver, Fundus of gall bladder, Spleen, Duodenum, Pancreas, Ileocaecal junction, Kidneys & Root of mesentery	√		
14	**NEUROANATOMY** **MENINGES & CSF**			**10hrs**
	AN56.1 Various layers of meninges with its extent & Modifications	√		
	AN 56.2 Circulation of CSF with its applied anatomy	√		
	SPINAL CORD			
	AN 57.1 External features of spinal cord	√		
	AN 57.2 Extent of spinal cord in child & adult with its clinical implication	√		
	AN 57.3 Transverse section of spinal cord at mid-cervical & midthoracic level	√		
	AN 57.4 Ascending & descending tracts at mid thoracic level of spinal cord	√		
	AN 57.5 Anatomical basis of syringomyelia		√	
	MEDULLA OBLONGATA			
	AN 58.1 External features of medulla oblongata	√		
	AN 58.2 Transverse section of medulla oblongata at the level of 1)pyramidal decussation, 2) sensory decussation 3) ION	√ √		
	AN 58.3 Nerve nuclei in medulla oblongata with their functional group	√		

	AN 58.4 Anatomical basis & effects of medial & lateral medullary syndrome		√	
	PONS			
	AN 59.1 External features of pons	√		
	AN 59.2 Transverse section of pons at the upper and lower level	√		
	AN 59.3 Cranial nerve nuclei in pons with their functional group	√		
	CEREBELLUM **AN 60.1** External & internal features of cerebellum	√		
	AN 60.2 Connections of cerebellar cortex and intracerebellar nuclei	√		
	AN 60.3 Anatomical basis of cerebellar dysfunction	√		
	MIDBRAIN **AN 61.1** External & internal features of midbrain	√		
	AN 61.2 Internal features of midbrain at the level of superior & inferior colliculus	√		
	AN 61.3 Anatomical basis & effects of Benedict's and Weber's syndrome		√	
	CRANIAL NERVE NUCLEI & CEREBRAL HEMISPHERES **AN 62.1** Cranial nerve nuclei with its functional component	√		
	AN 62.2 Sulci, gyri, poles, & functional areas of cerebral hemisphere	√		
	AN 62.3 White matter of cerebrum	√		
	AN 62.4 Parts & major connections of basal ganglia & limbic lobe	√		
	AN 62.5 Boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	√		
	AN 62.6 Branches & major areas of distribution of circle of Willis	√		
	VENTRICULAR SYSTEM **AN 63.1** Parts, boundaries & features of IIIrd, IVth & lateral ventricle	√		
	AN 63.2 Anatomical basis of congenital hydrocephalus		√	

	HISTOLOGY & EMBRYOLOGY **AN 64.1** Microscopic features of Spinal cord, Cerebellum & Cerebrum	√		
	AN 64.2 Development of neural tube, spinal cord, medulla oblongata,	√		
	AN 64.3 Pons, midbrain, cerebral hemisphere & cerebellum	√		
	AN 64.4 Types of open neural tube defects with its embryological basis		√	
15	**GENETICS CHROMOSOMES** **AN 73.1** Structure of chromosomes with classification	√		**8hrs**
	AN 73.2 Technique of karyotyping with its applications	√		
	AN 73.3 Lyon's hypothesis	√		
	PATTERNS OF INHERITANCE **AN 74.1** Various modes of inheritance with examples	√		
	AN 74.2 Various types of inheritance & give examples of diseases of each mode of inheritance	√		
	AN 74.3 Multifactorial inheritance with examples	√		
	AN 74.4 Genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia		√	
	PRINCIPLE OF GENETICS, CHROMOSOMAL ABERRATIONS & CLINICAL GENETICS **AN 75.1** Structural and numerical chromosomal aberrations	√		
	AN 75.4 Genetic basis of variation: polymorphism and mutation	√		
	AN 75.5 Principles of genetic counselling	√		
	AN 75.2 Mosaics and chimeras with example		√	
	AN 75.3 Genetic basis & clinical features of Prader Willi syndrome, Edward syndrome & Patau syndrome		√	
	PRENATAL DIAGNOSIS **AN 81.1** Methods of prenatal diagnosis	√		
	AN 81.2 indications, process and disadvantages of amniocentesis	√		
	AN81.3 Indications, process and disadvantages of chorion villus biopsy	√		

16.	**ETHICS IN ANATOMY** **AN 82.1** Respect and correct procedure when handling cadavers and other biologic tissue	√		
	Embalming techniques		√	
	Biohazards of formaldehyde		√	

2. PRACTICALS **390 Hours**

GROSS ANATOMY : **310 Hours**

Upper Limb **:** Pectoral, scapular and shoulder region, arm, forearm 38 Hours

Prosected : Joints, Palm and dorsum of hand.

Thorax **:** Chest wall, mediastinum, lungs, and heart. Cross sectional T-3, T-4 and T-5 Levels. 32 Hours

Abdomen : Anterior abdominal wall and inguinal region. Viscera and posterior abdominal wall- Cross sections at L-l, L-2 and L-4 levels. 72 Hours

Pelvis **:** Pelvic viscera, blood vessels and nerves – saggital section of male and female. 16 Hours

Prosection : Perineum including ischio- rectal fossa

Lower Limb **:** Gluteal region, front, medial and back of thigh, popliteal fossa, leg and dorsum of foot. 32 Hours

Prosection Parts : Sole of the foot and joints.

Head & Neck : Scalp, Superficial and deep dissection of face and neck. Submandibular region, Temporal and infratemporal fossa, cranial cavity, naso and oropharyngeal regions, Ear, larynx and pharynx. Cross sections at C-4 and C-6 levels. Sagittal Section of Head & Neck. 96 Hours
Prosection : Orbit, eyeball,

Nervous System

Sections of brain and. Gross structure of brain and spinal cord and study of gross sections as mentioned earlier. 20 Hours

Prosection : Specimens of sections of the brain and major functional areas.

Demonstrations

* Brain and spinal cord
* Cross- sectional anatomy
* Radiological anatomy
* Ultrasound, CT and MRI

HISTOLOGY FOR CERTIFIABLE SKILLS

80 Hours

(A) General Histology **20 Hours**

1. Microscope
2. Cell
3. Simple Epithelium
4. Compound Epithelium 4 Hours
5. Connective Tissue. 2 Hours
6. Muscular tissue 2 Hours
7. Nerve tissue - TS & LS of peripheral nerve, optic nerve, sensory & sympathetic ganglia. 2 Hours
8. Epithelial glands (serous, mucous and mixed salivary glands) 2 Hours
9. Circulatory system (large size artery, medium size artery, large size vein,) 2 Hours
10. Lymphatic System (lymph node, thymus, tonsil and spleen) 2 Hours
11. Skin & its appendages 2 Hours
12. Placenta & umbilical cord 2 Hours

(B) Systemic Histology **60 Hours**

1. Respiratory system - trachea and lung. 6 Hours
2. Digestive system - Lip, tongue, oesophagus, stomach, small and large intestine, Liver, Gall bladder and Pancreas. 14 Hours
3. Urinary System - kidney, ureter, urinary bladder and urethra 6 Hours
4. Reproductive System - female - ovary, ovarian tube and uterus 6 Hours

5. Reproductive System - male - testis, epididymis, vas deferens and prostate gland. 6 Hours

6. Hypophysis cerebri, thyroid and suprarenal. 6 Hours

7. Eye (Cornea and Retina) 4 Hours

8. Neuro histology – Cerebrum, cerebellum, Spinal Cord 6 Hours

DOAP TOPICS

Sl. No.	DOAP TOPICS
1.	Anatomical position, various planes, relation, Comparison, laterality & movement in our body
2.	Parts of a long bone
3.	Various bones in articulated hand, specify the parts of Metacarpals and phalanges and enumerate the peculiarities of pisiform
4.	Scaphoid fracture and explain the anatomical basis of avascular Necrosis
5.	Boundaries and contents of axilla
6.	Attachment of Serratus anterior with its action
7.	Shoulder joint for– type, articular surfaces, Capsule, synovial membrane, ligaments, relations, movements, muscles Involved, blood supply, nerve supply and applied anatomy
8.	Different types of skin & dermatomes in body
9.	Superficial fascia along with fat distribution in body
10.	Modifications of deep fascia with its functions
11.	Identify the given bone, its side, important features & keep it in anatomical Position
12.	Joints formed by the given bone
13.	Peculiarities of clavicle
14.	Important muscle attachment on the given bone
15.	Different types of skin & dermatomes in body
16.	Structure & function of skin with its appendages
17.	Superficial fascia along with fat distribution in body
18.	Modifications of deep fascia with its functions
19.	Identify the given bone, its side, important features & keep it in Anatomical Position
20.	Joints formed by the given bone
21.	Peculiarities of clavicle
22.	Important muscle attachment on the given bone
23.	Various bones in articulated hand, specify the parts of Metacarpals and phalanges and enumerate the peculiarities of pisiform
24.	Scaphoid fracture and explain the anatomical basis of avascular Necrosis
25.	Boundaries and contents of axilla
26.	The origin, extent, course, parts, Relations and branches of axillary artery & tributaries of vein
27.	The position, attachment, nerve

	Supply and actions of trapezius and Latissimus dorsi
28.	The deltoid and rotator cuff muscles
29.	Attachment of Serratus anterior with its action
30.	Shoulder joint for– type, articular surfaces, Capsule, synovial membrane, ligaments, relations, movements, muscles Involved, blood supply, nerve supply and applied anatomy
31.	Muscle groups of upper arm with emphasis on Biceps and triceps brachii
32.	Origin, course, relations, branches (or tributaries), Termination of important nerves and vessels in arm
33.	Boundaries and contents of cubital fossa
34.	Important muscle groups of ventral forearm With attachments, nerve supply and actions
35.	Origin, course, relations, branches (or tributaries), Termination of important nerves and vessels of forearm
36.	Flexor retinaculum with its attachments
37.	Small muscles of hand. Also describe movements of Thumb and muscles involved
38.	Movements of thumb and muscles involved
39.	Course and branches of important blood vessels and Nerves in hand
40.	Fibrous flexor sheaths, ulnar bursa, radial bursa and Digital synovial sheaths
41.	Important muscle groups of dorsal Forearm with attachments, nerve supply and actions
42.	Origin, course, relations, branches (or tributaries), Termination of important nerves and vessels of back of forearm
43.	Surface projection of: Cephalic and basilic vein, palpation of brachial artery, radial artery, Testing of muscles: trapezius, pectoralis major, serratus anterior, Latissimus dorsi, deltoid, biceps brachii, brachioradialis
44.	The given bone, its side, important features & keep it in Anatomical Position
45.	Joints formed by the given bones
46.	Various bones in the articulated foot with individual Muscle attachment
47.	Origin, course, relations, branches (or Tributaries), termination of important nerves and vessels of anterior thigh
48.	Muscles with their attachment, nerve Supply and actions
49.	Boundaries, floor, roof and contents of Femoral Triangle
50.	Anatomical basis of psoas abscess & femoral hernia
51.	Adductor canal with its content
52.	Origin, course, relations, branches (or Tributaries), termination of important nerves and vessels of gluteal region
53.	Anatomical basis of sciatic nerve injury during gluteal intramuscular injections

54.	The anatomical basis of Trendelenburg sign
55.	The hamstrings group of muscles with their attachment, nerve supply and actions
56.	The origin, course, relations, branches (or tributaries), termination of important nerves and vessels on the back of thigh
57.	The boundaries, roof, floor, contents and relations of popliteal fossa
58.	Boundaries, floor, roof and contents of Femoral Triangle
59.	Anatomical basis of psoas abscess & Femoral hernia
60.	Adductor canal with its content
61.	Origin, course, relations, branches (or tributaries), termination of important nerves and vessels of gluteal region
62.	Anatomical basis of sciatic nerve injury during gluteal intramuscular injections
63.	Anatomical basis of trendelenburg sign
64.	The hamstrings group of muscles with their attachment, nerve supply and actions
65.	The origin, course, relations, branches (or tributaries), termination of important nerves and vessels on the back of thigh
66.	The boundaries, roof, floor, contents and relations of popliteal fossa
67.	The type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint
68.	Major muscles of anterior compartment of leg with their attachment, nerve supply and actions
69.	Origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior Compartment of leg
70.	The anatomical basis of foot drop
71.	The type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood And nerve supply, bursae around the knee joint
72.	The major muscles of back of leg with their attachment, nerve supply and actions
73.	The origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of leg
74.	The type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood And nerve supply of tibiofibular and ankle joint
75.	The subtalar and transverse tarsal joints
76.	Fascia lata, venous drainage, lymphatic drainage, retinacula & dermatomes of lower limb
77.	The bones and joints of lower limb seen in anteroposterior and lateral view radiographs of various regions of lower limb
78.	Important bony landmarks of lower limb: -vertebral Levels of highest point of iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle, -tibial tuberosity, head of fibula, -medial and lateral malleoli, condyles of femur and tibia, Sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular bone
79.	Palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment
80.	Palpation of vessels (femoral, popliteal, dorsalis

	pedis, post tibial), mid inguinal point, surface projection of: femoral nerve, Saphenous opening, sciatic, tibial, common peroneal & deep peroneal Nerve, great and small saphenous veins
81.	The salient features of sternum, typical rib, 1st rib and Typical thoracic vertebra
82.	The features of 2nd, 11th and 12th ribs, 1st, 11th and 12th Thoracic vertebrae
83.	The boundaries of thoracic inlet, cavity and outlet
84.	Extent, attachments, direction of fibres, nerve Supply and actions of intercostal muscles
85.	Origin, course, relations and branches of a typical Intercostal nerve
86.	Type, articular surfaces & movements of Manubriosternal, costovertebral, costotransverse and xiphisternal joints
87.	Mechanics and types of respiration
88.	Subdivisions, sinuses in pericardium, blood supply And nerve supply of pericardium
89.	And internal features of each chamber of Heart
90.	Origin, course and branches of coronary arteries
91.	He formation, course, tributaries and termination of coronary sinus
92.	The external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of oesophagus
93.	The extent, relations tributaries of thoracic duct and enumerate its applied anatomy
94.	Origin, course, relations, tributaries and Termination of superior venacava, azygos, hemiazygos and accessory hemiazygos veins
95.	The location and extent of thoracic sympathetic chain
96.	Side, external features and relations of structures which form root Of lung & bronchial tree and their clinical correlate
97.	Structures seen on a plain x-ray chest (PA view)
98.	Barium swallow
99.	Anatomical position of skull, identify and locate individual Skull bones in skull
100.	The features of norma frontalis, verticalis, occipitalis, lateralis and Basalis
101.	Cranial cavity, its subdivisions, foramina and structures passing Through them
102.	Morphological features of mandible
103.	Features of typical and atypical cervical vertebrae (atlas and axis)
104.	The features of the 7th cervical vertebra
105.	Muscles of facial expression and their nerve Supply
106.	Origin /formation, course, branches /tributaries of Facial vessels

107.	Branches of facial nerve with distribution
108.	Superficial muscles of face, their nerve supply and actions
109.	The parts, borders, surfaces, contents, relations And nerve supply of parotid gland with course of its duct and surgical Importance
110.	Attachments, nerve supply, relations and actions Of sternocleidomastoid
111.	The cranial fossae & identify related structures
112.	Major foramina with structures passing through them
113.	Dural folds & dural venous sinuses
114.	Extra ocular muscles of eyeball
115.	Nerves and vessels in the orbit
116.	Boundaries and contents of muscular, carotid, Digastric and submental triangles
117.	Extent, boundaries and contents of temporal and Infratemporal fossae
118.	Attachments, direction of fibres, nerve supply and Actions of muscles of mastication
119.	Articulating surface, type & movements of Temporomandibular joint
120.	The morphology, relations and nerve supply of Submandibular salivary gland & submandibular ganglion
121.	Location, parts, borders, surfaces, relations & Blood supply of thyroid gland
122.	The origin, parts, course & branches of Subclavian artery
123.	Origin, course, relations, tributaries and Termination of internal jugular & brachiocephalic veins
124.	Extent, drainage & applied anatomy of cervical Lymph nodes
125.	The extent, formation, relation & branches of Cervical sympathetic chain
126.	Features of nasal septum, lateral wall of nose, Their blood supply and nerve supply
127.	The morphology, identify structure of the wall, nerve supply, Blood supply and actions of intrinsic and extrinsic muscles of the larynx
128.	The morphology, nerve supply, embryological Basis of nerve supply, blood supply, lymphatic drainage and actions of Extrinsic and intrinsic muscles of tongue
129.	He parts, blood supply and nerve supply of external Ear
130.	The boundaries, contents, relations and Functional anatomy of middle ear and auditory tube
131.	Parts and layers of eyeball
132.	The contents of the vertebral canal

133.	The boundaries and contents of sub occipital Triangle
134.	The movements With muscles producing the movements of atlantooccipital joint & atlantoaxial joint
135.	The planes (transpyloric, transtubercular,subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen
136.	The fascia, nerves & blood vessels of anterior Abdominal wall
137.	Extent, boundaries, contents of inguinal canal including Hesselbach's triangle.
138.	Attachments of muscles of anterior abdominal wall
139.	Lumbar plexus for its root value, formation & branches
140.	Coverings, internal structure, side determination, Blood supply, nerve supply, lymphatic drainage & descent of testis with its Applied anatomy
141.	Boundaries and recesses of lesser & greater sac
142.	Various peritoneal folds & pouches with its explanation
143.	Major viscera of abdomen under following Headings (anatomical position, external and internal features, important Peritoneal and other relations, blood supply, nerve supply, lymphatic Drainage and applied aspects
144.	The formation, course relations and tributaries of portal Vein, inferior vena cava & renal vein
145.	The origin, course, important relations and branches of Abdominal aorta, coeliac trunk, superior mesenteric, inferior mesenteric & Common iliac artery
146.	The attachments, openings, nerve supply & action of the thoracoabdominal diaphragm
147.	The muscles of pelvic diaphragm
148.	The (position, features, important peritoneal and Other relations, blood supply, nerve supply, lymphatic drainage and clinical Aspects of) important male & female pelvic viscera
149.	The origin, course, important relations and Branches of internal iliac artery
150.	The superficial & deep perineal pouch (boundaries and contents)
151.	Perineal body
152.	Perineal membrane in male & female
153.	Boundaries, content & applied anatomy of Ischiorectal fossa
154.	He type, articular ends, ligaments and Movements of intervertebral joints, sacroiliac joints & pubic symphysis
155.	The cross-section at the level of t8, t10 and l1 (transpyloric plane)
156.	The midsagittal section of male and female pelvis
157.	Bone in the anatomical position, describe the salient

	Features, articulations & demonstrate the attachments of muscle groups
158.	The anatomical position of bony pelvis & show boundaries of Pelvic inlet, pelvic cavity, pelvic outlet
159.	True pelvis and false pelvis and demonstrate sex determination in Male & female bony pelvis
160.	Clinical importance of bones of abdominopelvic Region (sacralization of lumbar vertebra, lumbarization of 1st sacral Vertebra, types of bony pelvis & coccyx)
161.	Features of plain x ray abdomen
162.	The special radiographs of abdominopelvic region (contrast x ray barium swallow, barium meal, barium enema, Cholecystography, intravenous pyelography & hysterosalpingography
163.	The surface marking of regions and planes of abdomen, Superficial inguinal ring, deep inguinal ring , Mcburney's point, renal Angle & murphy's point
164.	The surface projections of: stomach, liver, fundus of gall Bladder, spleen, duodenum, pancreas, ileocaecal junction, kidneys & Root of mesentery
165.	Various layers of meninges with its extent & Modifications
166.	External features of spinal cord
167.	External features of medulla oblongata
168.	External features of pons
169.	External & internal features of cerebellum
170.	External & internal features of midbrain
171.	Surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere
172.	Formation, branches & major areas of distribution of Circle of Willis
173.	Parts, boundaries & features of IIIrd, IVth & lateral Ventricle

EARLY CLINICAL EXPOSURE:

CLINICAL VISITS: 12 HOURS
BASIC SCIENCE CORRELATIONS: 18

	TOPIC	SETTING
1.	PLANES OF THE BODY	CLASSROOM
2.	VENAE PUNCTURE	CLASSROOM/SKILL LAB
3.	PLEUROCENTESIS	CLASSROOM/SKILL LAB
4.	CORONARY ANGIOGRAPHY	CLASSROOM/HOSPITAL
5.	BELL'S PALSY, STRABISMUS	CLASSROOM/HOSPITAL
6.	EXAMINATION OF THYROID SWELLING SURGICAL ANATOMY OF THYROID GLAND	CLASSROOM/HOSPITAL
7.	EXAMINATION OF THYROID SWELLING	CLASSROOM/HOSPITAL
8.	INGUINAL HERNIA	CLASSROOM/HOSPITAL
9.	CATHETERISATION	CLASSROOM/SKILL LAB
10.	EPISIOTOMY	CLASSROOM/SKILL LAB
11.	VARICOSE VEINS	CLASSROOM/HOSPITAL

LOG BOOK:

Logbook helps the student in maintaining a record of all the sessions conducted during the Foundation Course, Reflections on Early Clinical Exposure, Periodic assessment tests, Self-directed learning

AITO topics
Anemia
Jaundice
Diabetes
Thyroid Diseases
Nutrition
Febrile Illness
Tuberculosis
Malaria
Diarrhoea
Ischemic Heart Disease
Polycystic Ovarian Syndrome

AETCOM:

1. **Module 1.1: cadaver as a teacher**

Competencies addressed:

The student should be able to:	Level
1. Enumerate and incorporate the values of cadaveric oath.	KH
2. Exercise respect to the cadavers	KH
3. Understand the role of learner in following instructions in handling cadavers/cadaveric parts.	KH

SELF DIRECTED LEARNING:

Sl. No.	Topic	Setting
1.	Joints	Department
2.	Extensor Retinaculum	Department
3.	Heart – External Features & Interior	Department
4.	Lungs	Department
5.	Rectus Sheath	Department
6.	Triangles of Neck	Department
7.	Lymphatic drainage of head, face and neck	Department
8.	Dural venous sinuses	Department
9.	Knee Joint	Department
10.	Arches of foot	Department

SCHEME OF EXAMINATION

Students must secure at least 50% marks of the total marks (combined in theory & practical) assigned for Internal assessment to be declared successful at the final university examination of that subject.

Scheme for calculation of Internal Assessment marks:

Theory (maximum marks)	**Marks**
Theory written paper	30*
Formative Assessment(Quiz, PCT, Seminars, Preparation of Charts & Models, Weekly tests, MCQ's, Pre- test & Post-test etc.)	10
Total	40

Practicals	**Marks**
Practical & viva	30**
Logbook + record	05
Professionalism	05
	40

Please note:
*Prior to submission to the University, the marks for each of the three internal examination theory assessments must be calculated out of 30 marks, regardless of the maximum marks.

***Only the final marks out of 40 needs to be submitted to the University, separately for Theory and practical for each internal assessment .

Theory : 40 Marks

Minimum of three internal assessments (IA) will be conducted at the end of each block with other departments for 100 marks. Average of the best of the three IA marks is taken into consideration for calculating the final internal assessment marks.

Marks obtained by continuous Assessment tests like Quiz, PCT,Seminars,Preparation of Charts & Models,Weekly tests,MCQ's,Pre test & Post test etc. will be considered for theory internal marks

Type of Questions	Number of questions	Marks for each question	Total
MCQ's	20	1	20
Long Essay	Case based-1 Normal-1	10	20
Short Essay	6	5	30
Short Answer	10	3	30
Total marks			**100**

Note:

- **The third internal examination is the preliminary examination that will be conducted as per the University Examination Pattern.**
- **Internal assessment will include questions from foundation course, Early Clinical exoposure,AITo,AETCOM**
- **20% of the Internal assessment will be by MCQ's**

Practical/Viva : 40 Marks

Three practical assessments in the form and OSPE will be conducted along with the theory Internal Assessments. Average of best of three will be taken. Record maintenance & logbook assessed will be added to practicals. Professionalism and ethics while handling cadavers will be a separate assessment & marks is added to the practicals.

Certifiable skills: will be evaluated as per checklist & certificate of accomplishment is awarded which is mandatory to take-up university exam.

University examination

A. Theory : 200 Marks

There shall be two theory papers of 100 marks each and duration of each paper will be of 3 hours. The pattern of questions would be of three types.

Note:

Type of Questions	Number of questions	Marks for each question	Total
Long Essay	2	10	20
Short Essay	10	5	50
Short Answer	10	3	30
Total marks			**100**

Distribution of chapters for paper I and II with weightage of marks in Anatomy for University Examination

PAPER – I	
Topics	Marks
Head and Neck	30
Brain, Spinal cord	10
Upper limb	20
Thorax including diaphragm	20
General Anatomy	
General Embryology	20
General Histology	
Total	100

PAPER – II	
Topics	Marks
Abdomen	30
Pelvis & Perineum	20
Lower limb	20
Systemic Histology - 10	
Genetics - 10	30
Systemic Embryology - 10	
Total	100

*The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.

B. Practical: 80 Marks

Marks (Gross Anatomy + Histology)

Gross Anatomy: 50

a. Spotters: Identification of structures in given specimen, each carrying two marks. Five specimens to be kept, one of which shall be a cross section

10 marks

b. Discussion on two given dissected specimens, each carrying **30 Marks**
Structures above diaphragm and diaphragm - 15marks
Structures below diaphragm - 15 marks

c. Surface Anatomy **10 marks**

a + b + c = 50 marks

Histology- 30 marks

a. Identification of 9 slides and interpretation of one chart on genetics, each carrying one mark **10 marks**

b. Discussion on two given slides 10x2 **20 marks**

a + b = 30 marks

C. Viva-Voce Examination: 20 Marks

The viva-voce examination shall carry 20 marks and will be conducted by four examiners individually. The distribution of topics and marks for each examiner will be as under:

OSTEOLOGY AND SOFT PARTS IN THE REGIONS OF HEAD AND NECK, BRAIN AND SPINAL CORD, THORAX INCLUDING DIAPHRAGM AND UPPER LIMB	5 MARKS
OSTEOLOGY AND SOFT PARTS IN THE REGION OF ABDOMEN, PELVIS AND LOWER LIMB	5 MARKS
RADIOLOGICAL ANATOMY	5 MARKS
EMBRYOLOGY	5 MARKS

SCHEME OF MARKS DISTRIBUTION

Total Marks	**380**
University Examination : **Theory** Paper – I Paper – II	 100 100
University Examination : **Practical** **Vivavoce** **Internal Assessment**	 80 20 40
Internal Assessment **Theory** **Practical/viva**	 40 40

Criteria for passing university examination

- The student must **secure at least 40% marks in each of the two theory papers** with **minimum 50% of marks in aggregate** (both papers together) to pass.
- The marks obtained in the viva examination will be added to the practical marks.
- The student **must secure a minimum of 50% of marks in aggregate in the viva and practical examination** (both combined) to pass.
- Students must secure atleast 50% marks of the total marks (combined in theory & practical) assigned for Internal assessment to be declared successful at the final university examination of that subject.

Note: There shall be **one main examination** in an academic year and **a supplementary** to be held **not later than 90 days** after the declaration of the results of the main examination.

RECOMMENED TEXT BOOKS AND REFERENCE BOOKS

SI. No.	Name of the book	Author	Publisher
1.	Cunningham's Manual of Practical Anatomy Vols. I, II & III	G J Romanes	Oxford Medical publications
2.	Essentials of Human anatomy, Part I, II, & "I	Datta A.K	Current Books International
3.	Clinical Anatomy by Regions	R.S.Snell	Lippincott Williams & Wilkins
4.	Grant's Atlas of Anatomy	Agur AMR,& Dalley A. F.	Lippincot Williams & Wilkins
5.	Last's Regional and Applied Anatomy	RJ Last	Elsevier
6.	Human Anatomy Vols. I, II & III	BD chaurasia	CBS Publishers
7.	Atlas of Anatomy	Patrick W. Tank & Thomas R. Gest	Lippincot Williams & Wilkins
8.	Text book of Histology	Inderbir Singh	Jaypee Brothers
9.	Difiore's Atlas of Histology	Eroschenko	Lippincot Williams & Wilkins
10.	Langman's Medical Embryology	Sadler T.W	Elsevier Churchill Livingstone
11.	Human Embryology	Inderbir Singh	Jaypee Brothers
12.	Human NeuroAnatomy	Inderbir Singh	Jaypee Brothers
13.	Essentials of Anatomy: Neuroanatomy	Datta A.K	Current Books International

14.	Elements of Medical Genetics; student notes	Emery (Alan H) and Muller (Robert F),	ELBS
15.	Surface & Radiological Anatomy	Halim A	CBS Publishers

Recommended Books (Latest Editions)

SI.No	Name of the book	Author	Publisher
1.	GRAY'S Anatomy for students	Gray	Elsevier Churchill Livingstone
2.	Text book of anatomy with colour Atlas, Vol. I, H, I"	Inderbir Singh	Jaypee Brothers
3.	Clinically oriented Anatomy	Moore K. L.	Lippincot Williams & Wilkins
4.	A Text book of Human Histology	Garg, K. And Bahl.l	CBS Publishers

Reference Books:

1.	Gray's Anatomy	Gray	Elsevier Churchill Livingstone
2.	Human Embryology	Datta A. K.	Current Books International
3.	Netter's Atlas of Human Anatomy	Netters	ICON Learning Systems
4.	Essentials of Human Genetics	Bhatnagar & Kothari	Kothari Medical Publishers
5.	Development Anatomy	By Moore & Persaud.	
6.	Histology; text and atlas, ed 3.	Ross (Michael.JD) et, al.,	Williams and Wilkins,
7.	Basic Histology (Text & Atlas) 10^{th} Edition 2003	By Luis C.Junqueira Carneiro	Appleton and Lange
8.	Wheater's Functional Histology 4^{th} Edition 2000	Edited by B,Young and J.Heath	Churchill Livingstone
9.	Human Embryology 3^{rd} Edition 2001	William J. Larsen	Churchill Livingstone
10.	Thompson & Thompson Genetics in Medicine 6^{th} Edition 2001 Revised reprint March 2004	Nussbaum, Mclnnes & Willard	W.B.Saunders & Co, Philadelphia, London
11.	Essential Medical Genetics 5^{th} Edition 1997	J.M.Connor	M.A. Frguson Smith Blackwell Scientific Publication

12.	Human Neuroanatomy 9th Edition 1996	Andre Parent, Malcolm B Carpenter	Williams and Wilkins
13.	Clinical Neuroanatomy for Medical students 5th Edition 2001	By Richard S.Snell	Lippincott, William & Wilkins
14.	Clinical Neuroanatomy and related Neuroscience 4th Edition 2002	By MJT Fitgerald	WB Saunders and Co.
15.	Text Book of Anatomy	Hollinshead	Harper & Row Publishers