

SANKALCHAND PATEL UNIVERSITY

FACULTY OF MEDICINE

DEGREE OF

**BACHELOR OF MEDICINE AND
BACHELOR OF SURGERY (M.B.B.S.)**

**COURSE OF STUDIES PRESCRIBED FOR
ANATOMY
PHASE I M.B.B.S**

**CURRICULUM/ SYLLABUS
(FROM ACADEMIC YEAR 2024-25 ONWARDS)**

Teaching Scheme for Faculty of Medicine

Semester/Year: First Year M.B.B.S.
Program Name: Bachelor of Medicine and Bachelor of Surgery
Effective from Academic Year: 2024-25
Program Code: MB01

Course Code	Course Name	Hrs/Week			UA			IA			Total	
		L	P	Total	Max	Min	Obt	Max	Min	Obt	Max	Min
2AN101	Anatomy-I	3	-	3	100	80		-	-	-	200	150
2AN102	Anatomy-II	3	-	3	100			-	-	-		
2AN103	Anatomy Practical	-	10	10	100			-	-	-		
2AN104	Anatomy IA Theory	-	-	-	-	-	-	100	40		200	100
2AN105	Anatomy IA Practical	-	-	-	-	-	-	100	40			

1- GENERAL ANATOMY

- Introduction Introduction to Anatomy & Terminology
- Bone & Cartilage
- Definition, Parts of a long bone, blood supply of long bone, various Classifications , types - structure, subtypes and examples, Epiphysis and its types, Cartilage - definition, types, examples
- Joints Classification, Fibrous joints, cartilaginous joints, Synovial joints – definition, Classification, structure and examples, applied anatomy
- Synovial joints - nerve supply, Hilton's law, Close packed and loose packed joints, range of movements,
- Muscle -Definition, Classification – functional and morphological, Origin, Insertion, Tendon, ligaments, Bursae.
- Skin & fascia -Structure and Functions of Skin, Superficial fascia, deep fascia, modifications of deep fascia
- Circulatory System -Types of circulation and its importance, classification of vessels (anatomical and physiological), Structure of blood vessels, Factors affecting venous return, anastomosis, end arteries, pulmonary and systemic circulation, define portal circulation with examples
- Nervous System -Classification – Central Nervous System(CNS), Peripheral nervous system (PNS) and autonomic nervous system (ANS), PNS – Cranial Nerves, Spinal Nerves, Typical Spinal Nerve, Myelination & Dermatomes, concept of muscle paralysis Classification of neurons, Nerve fibres & Glial cells,
- Bone -Enumerate special features of a sesamoid bone, ossification and its classification, Laws of ossification.
- Muscles -Spin, swing components of movements, types of levers, Explain Shunt and spurt muscles, Bursitis Kinesiology, Describe principles of sensory and motor innervation of muscles
- Skin & fascia -Describe different types of skin & dermatomes in body, Langer's lines, Flexure creases, Explain principles of skin incisions, Dermatoglyphics, Skin graft
- Circulatory System -Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses, Define atherosclerosis, thrombosis, infarction & aneurysm
- Lymphatic System -Lymphatic circulation, circulating lymphocytes, lymphoid tissue, functions, lymphoedema, tumours
- Nervous System -Describe various type of synapse, Describe differences between sympathetic and spinal ganglia

2- UPPER LIMB

- Bones -Clavicle, Scapula, Humerus, Radius, Ulna, Articulated hand, Supracondylar fracture, fracture neck humerus, Colles fracture, peculiarities of clavicle and pisiform
- Pectoral region, Mammary gland - location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy
- Muscle Attachments, Nerve Supply, actions of pectoralis major, minor
- Axilla, Scapular & shoulder region axilla - boundaries, contents, applied anatomy, Brachial plexus, Axillary artery, vein & lymph nodes, Muscle Attachments, Nerve Supply, actions of deltoid, serratus anterior, Winging of scapula, Trapezius, latissimus dorsi, rotator cuff,
- Arm, Cubital fossa -Muscle Attachments, Nerve Supply, actions of muscles of arm (esp.- biceps, triceps), Axillary nerve, Musculocutaneous nerve, brachial artery, fascial compartments of upper limb, cubital fossa - boundaries, contents, applied anatomy, Venepuncture of cubital veins
- Forearm, hand Muscle Attachments, Nerve Supply, actions of muscles of forearm - flexors & extensors (esp. brachioradialis, pronator teres), intrinsic muscles of palm (groups, esp. lumbricals, interossei)
- Nerves - , Radial Nerve, Median nerve, Ulnar nerve,
- Radial and ulnar arteries, superficial and deep palmar arches, Venous and lymphatic drainage of upper limb, retinacula, fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths, extensor expansion formation,
- Applied – , Tennis elbow, Wrist drop, claw hand, Dupuytren's contracture, carpal tunnel syndrome, Anatomical snuff box.
- Joints -shoulder girdle & shoulder joint, elbow joint, wrist joint, Superior and inferior radioulnar joints, 1st carpometacarpal joint. - type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy
- Bones -scaphoid fracture
- Applied -anatomical basis of clinical features of Injury to axillary nerve, infection of fascial spaces of palm, enlarged axillary lymph nodes
- Anastomoses -Arterial anastomosis around the scapula & elbow joint and mention the boundaries of triangle of auscultation
- Dermatomes -Dermatomes of upper limb
- Joints -Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint

3- LOWER LIMB

- Bones -Hip bone, Femur, Tibia, Fibula, Patella, articulated foot, (esp. talus and calcaneum) importance of ossification of lower end of femur & upper end of tibia, blood supply of head of femur
- Front & medial side of thigh -Muscles – Attachments, nerve supply and actions of muscles of front & medial side of thigh (esp. quadriceps femoris, sartorius, adductor longus, magnus)
- Nerves - Femoral nerve, Obturator nerve
- Vessels – Femoral artery
- Boundaries, contents, applied anatomy of - femoral triangle with femoral sheath & adductor canal
- Gluteal region, back of thigh- Muscles – Attachments, nerve supply and actions of muscles of Gluteal region (Glutei), back of thigh with anatomical basis of sciatic nerve injury during gluteal intramuscular injections and Trendelenburg sign
- Nerves – Sciatic nerve
- Vessels - crurial and trochanteric anastomosis, popliteal artery
- Boundaries, contents, applied anatomy of - popliteal fossa
- Anterolateral compartment of leg & dorsum of foot
- Muscles – Attachments, nerve supply and actions of Anterolateral compartment of leg (esp. tibialis anterior)
- Nerve - common peroneal nerve with anatomical basis of foot drop,
- Vessels - anterior tibial and dorsalis pedis artery
- Back of Leg & Sole -Muscles – Attachments, nerve supply and actions of muscles of Back of Leg (esp. triceps surae with concept of Peripheral heart, tibialis posterior) & Sole, layers (names of muscles)
- Nerve - tibial nerve, vessels - posterior tibial, and medial and lateral plantar nerves and vessels
- Fascia lata, Retinacula & Dermatomes of lower limb
- Venous drainage of lower limb with applied anatomy (esp. anatomical basis of varicose veins and deep vein thrombosis) Lymphatic drainage
- Joints -Hip joint, knee joint, tibiofibular, ankle joint - type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy (esp. Trendelenburg sign,)
- Arches of foot - formation, functions, maintaining factors and applied anatomy
- Various bones in the articulated foot with individual muscle attachment

- Applied -Anatomical basis of Psoas abscess & Femoral hernia, complications of fracture neck of femur, dislocation of hip joint and surgical hip replacement, knee joint injuries, Osteoarthritis, rupture of calcaneal tendon, Flat foot & Club foot, Metatarsalgia & Plantar fasciitis, enlarged inguinal lymph nodes
- Joints -Subtalar and transverse tarsal joints - type, articular surfaces, ligaments, movements, muscles involved, nerve supply and applied anatomy

4- THORAX

- Thoracic cage -Bones – Ribs, sternum, Thoracic vertebrae
- Joints of Thorax - type, articular surfaces & movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints
- Thoracic cage – Inlet, cavity, outlet intercostal spaces - types, boundaries, contents with vessels, nerves with its clinical importance, mechanism of respiration - types, movements, muscles, applied anatomy
- Heart & Pericardium
- Pericardium - subdivisions, sinuses, blood supply, nerve supply and applied aspect
- Heart - features, blood supply, fibrous skeleton, conducting system, applied anatomy
- Mediastinum– Divisions, boundaries and contents
- Oesophagus - features, relations, blood supply, nerve supply,lymphatic drainage and applied anatomy
- Thoracic duct - extent, relations, tributaries, applied anatomy
- Superior vena cava, azygos venous system - origin, course, relations, tributaries, termination and applied anatomy
- Aorta - extent, branches, relations and applied anatomy
- Thoracic sympathetic chain
- Lungs & Trachea
- Pleura - extent, recesses, blood supply, lymphatic drainage, nerve supply, applied anatomy
- Lung - features, relations, Bronchopulmonary segments, blood supply, lymphatic drainage, nerve supply, applied anatomy
- Phrenic nerve - formation & distribution
- Thoracic cage -Features of 2nd, 11th and 12th ribs, 1st, 11th and 12th thoracic vertebrae
- Origin, course, relations and branches of 1) atypical intercostal nerve 2) superior intercostal artery, subcostal artery Costochondral and interchondral joints
- Mediastinum Splanchnic nerves

- Lungs & Trachea -Extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea

5- HEAD & NECK

- Osteology -skull – parts, bones, Normas-verticalis, occipitalis, Frontalis, lateralis, basalis, interior of skull, Mandible, Cervical vertebrae, fetal skull
- Scalp layers, blood supply, nerve supply and surgical importance
- Face & parotid region -Muscles of facial expression with nerve supply
- Facial vessels - course, branches with applied aspect
- Nerve supply of face - sensory, motor - with course and distribution, applied anatomy of VII nerve lymphatic drainage of HFN - cervical lymph nodes with applied anatomy
- Parotid gland - features, relations, nerve supply, duct and surgical importance
- Anterior & posterior triangles of neck – Boundaries, subdivisions, contents, applied aspect, Midline structure of neck
- Muscle Attachments, Nerve Supply, actions of Sternocleidomastoid, digastric, omohyoid, stylohyoid, mylohyoid
- Deep cervical fascia - parts, extent, attachments, modifications, spaces, applied anatomy
- Thyroid gland - location, parts, borders, surfaces, relations, blood supply and applied anatomy
- Vessels - origin, course, relations, branches/ tributaries and termination of Carotid arteries, subclavian artery, internal, external jugular, brachiocephalic veins
- Nerves - course and distribution of IX, X, XI & XII nerves, cervical sympathetic chain
- Cranial cavity, dural folds - attachments and contents, dural venous sinuses - classification, location, communications, tributaries and applied of sagittal, cavernous sinuses
- Orbit -Extraocular - Muscles Attachments, Nerve Supply, actions, applied anatomy Vessels - origin, branches/ tributaries and termination of ophthalmic vessels
- Nerves - course and distribution of III,IV,VI nerves & ciliary ganglion - roots, branches
- Pituitary gland - location, parts, relations, blood supply and applied anatomy
- Lacrimal apparatus
- Temporal, Infratemporal & submandibular regions
- Temporal and infratemporal fossae - extent, boundaries and contents
- Muscles of mastication - Attachments, Nerve Supply, actions, applied anatomy
- Temporo-mandibular joint - type, articular surfaces, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy

- Nerves - course and distribution, applied anatomy of V3 nerve with otic, submandibular & Pterygopalatine ganglia - roots, branches, applied anatomy
- Temporal, Infratemporal & submandibular regions
- Vessels - origin, branches/ tributaries and termination and applied anatomy of maxillary artery, pterygoid venous plexus
- Morphology, relations, nerve supply & applied anatomy of submandibular salivary gland
- Mouth, Pharynx & Palate -Parts, morphology, relations, blood supply and applied anatomy of - pharynx, palatine tonsil, palate
- Tongue - morphology, muscles, nerve & blood supply, lymphatic drainage, applied anatomy
- Nose & Larynx -nasal septum, lateral wall of nose - features, blood supply, nerve supply and applied anatomy
- Paranasal sinuses - number, features, relations, blood supply, nerve supply and applied anatomy
- Larynx - external & internal features, muscles, nerve supply, blood supply, lymphatic drainage, applied anatomy
- Ear & Eye -External ear - parts, blood supply and nerve supply ,Middle ear and auditory tube - boundaries, contents, relations and functional anatomy ,Parts and layers of eyeball
- Back Boundaries and contents of Suboccipital triangle
- Joints -Craniovertebral joints - type, articular surfaces, ligaments, movements, muscles involved and applied anatomy
- Bones concept of membrane bones, 7th cervical vertebra
- Applied aspects -Anatomical basis of - Frey's syndrome, wry neck, Horner's syndrome, TMJ dislocation, submandibular stones, cervical rib with compression signs, effect of pituitary tumours on visual pathway, tonsillitis, tonsillectomy, adenoids, peri-tonsillar abscess, significance of Killian's dehiscence, sinusitis & maxillary sinus tumours, laryngitis, recurrent laryngeal nerve injury, hypoglossal nerve palsy, otitis externa and otitis media, myringotomy, cataract, glaucoma & central retinal artery occlusion, Thyroid swellings & their significance,
- Muscles -omohyoid, scalenus anterior & medius, levator scapulae, intraocular muscles, semispinalis capitis and splenius capitis - attachments, nerve supply and actions
- Fascial spaces of neck, boundaries and clinical significance of pyriform fossa ,features of internal ear

6- ABDOMEN AND PELVIS

- Bones -lumbar vertebrae, sacrum - features, articulations & attachments
- Pelvis: Types of pelvis, inlet, cavity, outlet of pelvis and pelvimetry and sex differences
- Anterior & Posterior abdominal wall -Anterior abdominal wall – planes,quadrants, regions, Layers, Muscles, nerve & blood supply, applied aspect
- Rectus sheath and inguinal canal - site, boundaries, contents, applied aspect
- Posterior abdominal wall: muscles, fascia, nerves - lumbar plexus
- Male external genitalia- Testis - coverings, structure, blood & nerve supply, lymphatic drainage & applied anatomy, Epididymis, Spermatic cord, scrotum, Penis - parts, components, blood supply and lymphatic drainage
- Abdominal cavity -Peritoneum – Greater sac, lesser sac, Epiploic foramen, peritoneal folds, pouches, recesses and applied anatomy
- Viscera - Position, features, relations, blood & nerve supply, lymphatic drainage and applied aspects - Stomach, Duodenum, Small and large intestine, Appendix, Liver, Pancreas, spleen, kidney, suprarenal glands, ureter extrahepatic biliary apparatus
- Uterus - Position, parts, features, relations, blood & nerve supply, lymphatic drainage and applied aspects
- Vessels - formation, course, relations and Branches/ tributaries and applied aspects of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric, Common iliac artery & Portal vein, Inferior vena cava & Renal vein,
- Thoracoabdominal diaphragm - attachments, openings, nerve supply, actions and applied anatomy
- Pelvic wall and viscera -Pelvic diaphragm - layers, attachments, openings, nerve supply, actions and applied anatomy
- Viscera - Position, features, relations, blood & nerve supply, lymphatic drainage and applied aspects - urinary bladder, Rectum and anal canal, vas deference, prostate, urethra, ovary, Uterus, fallopian tubes, vagina
- Vessels - formation, course, relations and Branches and applied aspects of internal iliac arteries
- Nerves - Lumbosacral plexus
- Perineal pouches, ischioanal fossa - site, boundaries, contents, applied aspect
- Perineum -Urogenital diaphragm - layers, attachments, openings, actions and applied anatomy with Perineal body
- Vertebral column curvatures,Intervertebral joints - type, articular ends, ligaments and movements, applied aspect

- Contents of the vertebral canal, Cross-section at the level of T8, T10 and L1 Midsagittal section of male and female pelvis
- Bones -anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida
- Clinical importance of sacralization of lumbar vertebra, Lumbarization of 1st sacral vertebra, types of bony pelvis & Coccyx
- Abdominal wall -Common Abdominal incisions nerve plexuses of posterior abdominal wall
- Back -Major subgroups of back muscles, nerve supply and action
- Applied aspects - Abdomen
- Anatomical basis - Psoas abscess, Varicocoele, Phimosis & Circumcision, Ascites & Peritonitis, Subphrenic abscess, Splenic notch, Accessory spleens, Kehr's sign, Different types of vagotomy, Liver biopsy (site of needle puncture), Referred pain in cholecystitis, Obstructive jaundice, Calot's triangle, Referred pain around umbilicus, Radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach,
- Applied aspects - Pelvis
- Anatomical basis of - suprapubic cystostomy, Automatic bladder, Urinary obstruction in benign prostatic hypertrophy, benign prostatic hypertrophy & prostatic cancer, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation
- Applied aspects - Perineum
- Anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure and structures palpable during vaginal & rectal examination
- Diaphragm abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia

7- NEURO ANATOMY

- Meninges & CSF
- Meninges - layers, extent, Spaces, modifications and applied anatomy
- CSF - circulation & applied anatomy
- Spinal cord Features, Cross section - mid-cervical & mid- thoracic level, tracts, Blood supply & clinical anatomy,
- Brain stem -
- Medulla oblongata, Pons, Midbrain - Features, Blood Supply, cranial nerve nuclei & syndromes Sections of Medulla oblongata, Pons, Midbrain - sensory & pyramidal

decussation, olivary levels, upper & lower levels of pons, Superior & inferior collicular levels

- Cranial nerve nuclei with its functional components
- Cerebellum -Features, Classification, connections - Superior, middle and inferior cerebellar peduncles, deep cerebellar nuclei, , functions, Blood supply and clinical anatomy
- Cerebrum -Features, sulci and gyri, functional areas & applied anatomy
- White matter – Classification, & corpus callosum, internal capsule –parts, blood supply & applied anatomy
- Blood Supply of Brain, Blood brain barrier, Circle of Willis, applied aspects
- Diencephalon - Parts, relations, Gross connections, major nuclei - Thalamus, hypothalamus, epi, meta & subthalamus, applied aspects
- Basal ganglia - parts, connections, applied aspects
- Limbic system - parts, connections, applied aspects
- Ventricular System -Overview ventricular system and its communication, CSF circulation,
- Lateral & 3rd, 4th ventricle - parts, boundaries, features & applied anatomy
- ANS Autonomic nervous system - Parts, connections, functions, applied aspect
- Anatomical basis of - syringomyelia, Effects of medial & lateral medullary syndrome, cerebellar dysfunction, Effects of Benedikt's and Weber's syndrome, congenital hydrocephalus

8- HISTOLOGY

- Intro to lab techniques, Microscope, cell Microscopy and Types of microscopes and lab techniques for H & E staining
- Cell: Organelles and cytoskeleton, Cell
- Epithelium Features, classification, functions, cell surface modification, cell junctions, applied aspect
- Connective tissue -Types - features with examples and functions, cells, matrix and clinical importance.
- Cartilage Cells, matrix, classification, each type - structure, example, function, applied aspect
- Bone Cells, matrix, classification, Each type - structure, function, applied aspect
- Muscle Classification, Each type - structure, ultrastructure, function, applied anatomy
- Nervous tissue Peripheral nerve - structure, coverings, functions
- Ganglia - types, cells, distribution

- Blood vessels Layers, classification, Each type - structure, ultrastructure, function, applied anatomy
- Glands
- General glands - definition, classification with structure, function and examples
- Lymphoid tissue cells, classification, lymph node, Thymus , spleen,MALT- palatine tonsil - structure, function
- Skin Types - features with examples and functions, Cells, appendages
- Basic tissues Ultrastructure of epithelium, connective tissue, muscular tissue, nervous tissue
- Respiratory Histology -Epiglottis, Trachea, lung - structure, function
- Salivary glands - serous, mucous, mixed - structure, function and examples
- Tongue - structure, function, taste buds
- Retina, Cornea - structure, function, cells
- Endocrine system - Pituitary, Thyroid, parathyroid & suprarenal glands - structure, function, cells
- GIT - structure, function, glands & cells - Oesophagus, Stomach-fundus, pylorus, small Intestine – Duodenum, Jejunum, ileum, Large intestine, appendix, Accessory glands- Liver, pancreas, gall bladder
- Urinary system - structure, function, cells - Kidney, ureter, urinary bladder
- Male reproductive system - structure, function, cells - Testis, Epididymis, Vas deferens, prostate, penis
- Female reproductive system-Ovary, Fallopian tube, uterus, mammary gland, Cervix, Placenta & Umbilical cord
- CNS Histology- Cerebrum, Cerebellum & spinal cord
- Histology with Structure, function - olfactory epithelium, eyelid, lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland
- Structure, function - Cardiooesophageal junction, Corpus luteum
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9- EMBRYOLOGY

- Gametogenesis and fertilization
- Stages of human life, terms- phylogeny, ontogeny, trimester, viability
- Cell division – mitosis & meiosis.
- Stages & Changes - Spermatogenesis, Oogenesis with ovarian cycle
- Menstrual cycle - Stages & Changes
- Fertilization - Process, barriers, effects, applied aspects anatomical principles of contraception

- 1st week of development -Zygote, cleavage, morula, blastocyst
- 2nd week of development -Implantation - Type, Process, decidual reaction, applied aspects,Bilaminar embryonic disc, embryoblast,amniotic cavity, yolk sac, Trophoblast , extra-embryonic mesoderm, chorion ,anatomical principles of abortion, pregnancy test
- 3rd & 4th week of development -Primitive streak, Gastrulation,Trilaminar embryonic disc, , notochord, development of neural tube, Neural crest cells, vasculogenesis.
- Folding of embryo – craniocaudal and lateral Intraembryonic mesoderm & coelom ,3 germ layers and derivatives
- Foetal membrane -Formation, functions & fate of chorion, amnion, allantois, umbilical cord.
- Placenta - Formation, functions, hormones, foetomaternal circulation, placental barrier and applied aspects ,Embryological basis of twinning
- Prenatal Diagnosis -Various methods ,Indications, process and disadvantages of amniocentesis & chorion villous biopsy
- Teratogenic influences; fertility and sterility, surrogate motherhood, social significance of “sex-ratio”.
- Embryological basis of congenital malformations,nucleus pulposus, sacrococcygeal teratomas, neural tube defects
- Diagnosis of pregnancy in first trimester and role of teratogens, alpha fetoprotein, Embryological basis of estimation of fetal age.
- Various types of umbilical cord attachments
- Respiratory system - Development of lungs & Pleura
- Cardiovascular system - Development of heart - heart tube, 4 chambers, Septa and applied aspects - like ASD, VSD, Fallot’s tetralogy, Foetal & neonatal circulation
- Development and congenital anomalies of Pharyngeal apparatus
- Development and congenital anomalies of tongue, thyroid, face, palate, pituitary development and congenital anomalies of eye
- Development and congenital anomalies of GIT – Foregut, midgut, hindgut derivatives
- Development and congenital anomalies of Diaphragm
- Development and congenital anomalies of Kidney, ureter, bladder
- Development and congenital anomalies of male and female reproductive system
- Development of neural tube, spinal cord, medulla oblongata, pons, midbrain, cerebral hemisphere & cerebellum
- Development of upper limb, lower limb
- Development of breast
- Development of aortic arch arteries, SVC, IVC and coronary sinus
- Describe the development of anterior abdominal wall

- Describe various types of open neural tube defects with its embryological basis

10- GENETICS

- Introduction, Mendel's Laws ,Chromosomes
- Chromosome - structure & classification, Karyotyping - process & application , Barr body, Lyon's hypothesis
- Structural and numerical chromosomal aberrations
- Patterns of Inheritance
- Various modes of inheritance with examples, Pedigree charts, multifactorial inheritance
- Genetic Counseling
- Genetic basis of: polymorphism and mutation
- Genetic basis & clinical features of Down's syndrome,Klinefelter syndrome,Turner syndrome,Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia, Prader Willi syndrome, Edward syndrome & Patau syndrome
- Cell lines Mosaicism and chimerism with example

11- RADIOLOGY

- Introduction Various imaging techniques with Principles of plain radiographs and CT scan, Ultrasonography, MRI
- Bones and joints seen in AP and lateral view radiographs of shoulder, elbow, wrist joints & hand
- Bones and joints seen in AP and lateral view radiographs of hip, knee, ankle joints and foot
- Thorax Structures seen in a plain x-ray chest (PA view)
- Plain x-ray skull -AP and lateral view of Head neck
- Plain x-ray cervical spine-AP and lateral view
- Plain x- ray of paranasal sinuses
- Structures seen in a plain x-ray abdomen
- Structures seen in contrast radiographs of Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography & Hysterosalpingography
- Anatomical route used for & structures seen in carotid angiogram and vertebral angiogram
- Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen

12- SURFACE ANATOMY

- **Upper limb** -Important bony landmarks : Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end, Inferior angle of the scapula
- Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis
- Movements of - Shoulder, elbow, radio-ulnar, wrist, 1st carpometacarpal joints
- Palpation of radial, brachial arteries, ulnar nerve
- Surface projection of: Cephalic and basilic vein
- **Lower limb** -Important bony landmarks of : Vertebral levels of highest point of iliac crest, anterior & posterior superior iliac spines, iliac tubercle, pubic tubercle, Mid inguinal point, 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
- Palpation of femoral, popliteal, posterior & anterior tibial, dorsalis pedis arteries and common peroneal nerve
- Movements of - Hip, knee, ankle
- Surface projection of: femoral nerve, Saphenous opening, Sciatic, tibial, common peroneal & deep peroneal nerve, Great and small saphenous veins
- **Head Neck**- Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels
- Movements of atlantooccipital joint & atlantoaxial joint
- Testing of muscles of facial expression, extraocular muscles, muscles of mastication,
- Palpation of carotid arteries, facial artery, superficial temporal artery
- Surface projection of Thyroid gland, Parotid gland and duct, Pterion,
- Surface projection of Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & accessory nerve
- **Thorax**-Surface marking of lines of pleural reflection, lung borders and fissures, trachea, Surface marking of heart borders, apex beat & surface projection of valves of heart
- **Abdomen** -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

13- BIOETHICS

- Demonstrate respect and follow the correct procedure when handling cadavers and other biologic tissue

TOPICS FOR ANATOMY PAPER-I

1. Upper limb
2. Head & Neck
3. Neuroanatomy
4. General Anatomy
5. Family welfare
6. General Embryology
7. General Histology
8. Genetics
9. AETCOM 1.5-Cadaver as first teacher
10. Systemic Embryology related to upper limb, head & neck and neuroanatomy
11. Systemic Histology related to upper limb, head & neck and neuroanatomy

TOPICS FOR ANATOMY PAPER-II

1. Lower limb
2. Perineum
3. Thorax
4. Abdomen
5. Pelvis
6. Systemic Embryology related to lower limb, thorax, abdomen and Pelvis & Perineum
7. Systemic Histology related to lower limb, thorax, abdomen and Pelvis & Perineum
8. AETCOM-1.4- Foundations of communications

Seat No.: _____

PR No. _____

SANKALCHAND PATEL UNIVERSITY

MBBS – 1st YEAR – EXAMINATION –2025

Subject Code: 2AN101

Date: /00/2025

Subject Name: Anatomy Paper – I

Time: 3 Hrs. Total Marks: 100

Instructions:

1. Use separate answer book for each section.
2. Attempt all questions.
3. Do not write anything on blank portion of the question paper. If written, then such act will be considered as an attempt to resort to unfair means.
4. Draw diagrams wherever necessary.
5. Figures to the right indicate marks.
6. Use Blue/Black Ball point pen only.
7. Distribution of syllabus topics in Question Paper-I and Paper-II is a mere guideline meant to cover entire syllabus. Questions on topics from Paper-I may overlap with Paper-II and vice versa. Students cannot claim that the Question is out of syllabus.

SECTION – A

Q.1	Answer the following Structured long questions. (Any 1 out of 2)		1×10=10
	A		
	B		
Q.2	Answer the following short questions. (Any 6 out of 7) (One Question on AETCOM 1.5 is Compulsory)		6×5=30
	A		
	B		
	C		
	D		
	E		
	F		
	G		

Q.3	Answer the following short questions in one or two sentences. (Any 5 out of 6)		5×2=10
	A		
	B		
	C		
	D		
	E		
	F		

SECTION – B

Q.4	Answer the following Case based long questions. (Any 1 out of 2)		1×10=10
	A		
	B		
Q.5	Answer the following short questions. (Any 6 out of 7)		6×5=30
	A		
	B		
	C		
	D		
	E		
	F		
	G		

Q.6	Answer following MCQ's Multiple Choice Questions (Total 10 MCQs of one mark each) Write the question number and appropriate single option in the given separate answer sheet. Students will not be allotted marks if he/she overwrites, strikes or puts white ink on the answer once written.					10×1=10
	1					
		A		B		
		C		D		
	2					
		A		B		
		C		D		
	3					
		A		B		
		C		D		
	4					
		A		B		
		C		D		
	5					
		A		B		
		C		D		
	6					
		A		B		
		C		D		

	7					
		A		B		
		C		D		
	8					
		A		B		
		C		D		
	9					
		A		B		
		C		D		
	10					
		A		B		
		C		D		

TOPICS FOR ANATOMY PAPER-I

- Upper limb
- Head & Neck
- Neuroanatomy
- General Anatomy
- Family welfare
- General Embryology
- General Histology
- Genetics
- AETCOM 1.5-Cadaver as first teacher
- Systemic Embryology related to upper limb, head & neck and neuroanatomy
- Systemic Histology related to upper limb, head & neck and neuroanatomy

Seat No.: _____

PR No. _____

SANKALCHAND PATEL UNIVERSITY

MBBS – 1st YEAR – EXAMINATION –2025

Subject Code: 2AN102

Date: /00/2025

Subject Name: Anatomy Paper – II

Time: 3 Hrs. Total Marks: 100

Instructions:

8. Use separate answer book for each section.
9. Attempt all questions.
10. Do not write anything on blank portion of the question paper. If written, then such act will be considered as an attempt to resort to unfair means.
11. Draw diagrams wherever necessary.
12. Figures to the right indicate marks.
13. Use Blue/Black Ball point pen only.
14. Distribution of syllabus topics in Question Paper-I and Paper-II is a mere guideline meant to cover entire syllabus. Questions on topics from Paper-I may overlap with Paper-II and vice versa. Students cannot claim that the Question is out of syllabus.

SECTION – A

Q.1	Answer the following Structured long questions. (Any 1 out of 2)		1×10=10
	A		
	B		
Q.2	Answer the following short questions. (Any 6 out of 7) (One Question on AETCOM 1.4 is Compulsory)		6×5=30
	A		
	B		
	C		
	D		
	E		
	F		
	G		

Q.3	Answer the following short questions in one or two sentences. (Any 5 out of 6)		5×2=10
	A		
	B		
	C		
	D		
	E		
	F		

SECTION – B

Q.4	Answer the following Case based long questions. (Any 1 out of 2)		1×10=10
	A		
	B		
Q.5	Answer the following short questions. (Any 6 out of 7)		6×5=30
	A		
	B		
	C		
	D		
	E		
	F		
	G		

Q.6	Answer following MCQ's Multiple Choice Questions (Total 10 MCQs of one mark each) Write the question number and appropriate single option in the given separate answer sheet. Students will not be allotted marks if he/she overwrites, strikes or puts white ink on the answer once written.					10×1=10
	1					
		A		B		
		C		D		
	2					
		A		B		
		C		D		
	3					
		A		B		
		C		D		
	4					
		A		B		
		C		D		
	5					
		A		B		
		C		D		
	6					
		A		B		
		C		D		

	7					
		A		B		
		C		D		
	8					
		A		B		
		C		D		
	9					
		A		B		
		C		D		
	10					
		A		B		
		C		D		

TOPICS FOR ANATOMY PAPER-II

- Lower limb
- Perineum
- Thorax
- Abdomen
- Pelvis
- Systemic Embryology related to lower limb, thorax ,abdomen and Pelvis & Perineum
- Systemic Histology related to lower limb, thorax ,abdomen and Pelvis & Perineum
- AETCOM-1.4- Foundations of communications

Structure for Practical Examination in Anatomy
Sankalchand Patel University
Phase 1 MBBS

No.	Section	Marks
1.	HISTOLOGY (Two slides discussion & Viva)	20
2	SOFT PARTS Discussion(Paper I- Upper limb, Neuroanatomy, Head & Neck)	15
3	SOFT PARTS Discussion (Paper II-Lower limb,Thorax, Abdomen, Pelvis &Perineum	15
4	HARD PARTS(Osteology)	20
5	VIVA VOCE a) Embryology (5) b) Surface Marking (5) c) Radiology (5) d) Clinical Anatomy (5)	20
6	OSPE/SPOTTING	10

Annexure 5**Distribution of Subject Wise Teaching Hours for Phase -1 MBBS**

Subject	Large group teaching	SGT/ Practical/ Tutorials/ Seminars	SDL	Total
Foundation Course				80
Anatomy	180	430	10	620
Physiology	130	305	10	445
Biochemistry *	82	157	10	249
Early Clinical Exposure (ECE)**	-	27	-	27
Community Medicine	20	20	-	40
Family adoption Program (FAP)	-	24	-	24
(AETCOM)***	-	26	-	26
Sports and extra-curricular activities	-	-	-	10
Total	412	989	30	1521

SGT: Small group teaching SDL: Self-directed learning

*Including Molecular Biology

**Minimum ECE hours. These hours are to be divided equally by anatomy, physiology & biochemistry.

***AETCOM module is a longitudinal programme.