

Anatomy Objectives

Foundation and Limbs

Concept	Objectives
Introduction to Anatomy & dissections	<p>Students should be able to understand,</p> <ul style="list-style-type: none"> • The importance of studying human anatomy • That the study of the structure of the body is facilitated by dividing it in to subsections • Anatomical nomenclature • Describe the importance of cadaveric dissections in learning anatomy • Take care of the cadaver during dissections • Carry out pre-dissection activities such as studying the bones and surface anatomy in order to facilitate the dissection and revelation of structures and their arrangement • Apply proper method of dissection, engaging in group studies, using the cadaver, text books, atlases, skeleton, and radiographs in learning the structure of the body • Identify the tissues encountered in dissection of the human body and their arrangement
Multicellular organism, cell structure and microscopic appearance	<ul style="list-style-type: none"> • Understand the levels of organization of the multicellular organism from cells, tissues, organs and systems and their integration in to the human being • Understand the terms “totipotent” and “pluripotent “ • Understand that the functional unit of the multicellular organism is the tissue • State the basic systems of the body and their functions • Describe the basic structure of the prokaryotic and eukaryotic cell • Be able to describe the electron microscopic appearance of a normal eukaryotic cell • Be able to understand that there are different types and size of cells (squamous, cuboidal, columnar) <ul style="list-style-type: none"> • Explain the cell- structural adaptations to function
Microscopy	<ul style="list-style-type: none"> • Identify the parts of the light microscope • Handle the light microscope and state its uses • Calculate the magnification • Name the other microscopes and their uses (phase contrast, fluorescent, scanning, transmission electron microscopes)
Cell division and cell cycle	<ul style="list-style-type: none"> • Describe mitosis and meiosis (giving examples) stating their importance • Be able to state the phases of the cell cycle
Epithelia and glandular tissue	<ul style="list-style-type: none"> • State the basic tissue types of the body, their distribution and arrangement • Identify the different types of epithelial tissue, glandular tissue and connective tissue giving examples • Describe the light microscopic appearance • Describe how the structure of epithelial, glandular and • Connective tissues adapted to perform the functions • Describe the structure of the skin
Connective tissue	
Introduction to Nervous system Nerve supply of the body wall and limbs	<ul style="list-style-type: none"> • Describe the general arrangement of nervous system and nervous tissue • Describe the arrangement of a spinal nerve, dermatomes and myotomes, body wall nerve supply, neurovascular plane, nerve supply of the limb –limb plexus • Describe the segmental supply of the body wall, arrangement of a typical spinal nerve • Explain the segmental innervations of skin and muscles
Structure of bone and cartilage	<ul style="list-style-type: none"> • Classify bones and cartilages • Describe the parts of a long bone • Describe the microscopic structure of bone and cartilage and how they are adapted to perform their function.
Ossification	

	<ul style="list-style-type: none"> • Explain the structural and functional differences between the different types of cartilage • Explain the processes of ossification giving examples and the time of appearance of ossification centres
Muscle Structure of muscle, tendon, ligament and synovium Form, mechanics and coordinated activity of muscle	<ul style="list-style-type: none"> • Describe the microscopic structure of the skeletal muscle, heart muscle and smooth muscle including the distribution of cellular organelles in each and their function. • Describe the ultra-structural components of a skeletal muscle cell (sarcoplasmic reticulum, t-tubules, terminal cisternae and actin and myosin filaments) • Describe microscopic structure of tendon, ligament and synovium and its functional relevance • Describe the different macroscopic types of tendons and arrangement of raphes • Describe arrangement of synovial sheaths, membranes and bursae • Describe the form and mechanics of muscle (fiber disposition, pennation and mechanics of contraction) • Explain the coordinated activity of muscles and how they produce movement (prime movers, antagonists, synergist and fixators)
Early embryogenesis	<ul style="list-style-type: none"> • Describe oogenesis, the ovarian cycle, spermatogenesis and spermiogenesis, the male and female germ cells, fertilization and factors affecting fertilization, implantation and factors affecting implantation, the process from fertilized ovum to germ layer formation. • State the basic tissues derived from the germ layers, formation of the neural tube, neural crest cells and their derivatives • Basic concepts of congenital abnormalities and twinning
Introduction	<ul style="list-style-type: none"> • Understand the importance of protein molecules in • Cellular functions and maintaining the structure • State how genetic material store information of the amino • Acid sequence of a polypeptide • State how the information is transferred to the next • Generation • Describe arrangement of genetic material in prokaryotic • And eukaryotic cells • Be able to state the importance of studying genetics and a • Brief history • Be able to describe polymorphism, polymorphic gene and • Housekeeping genes etc.
Chromosomes	<ul style="list-style-type: none"> • Describe the basic structure and classification of chromosomes • Understand what is meant by ploidy , diploid, haploid, aneuploidy, trisomy, monosomy • Describe alleles, heterozygous, homozygous, dominant, recessive etc. • Describe the normal karyotype and karyotyping procedure • Describe chromosomal abnormalities and their consequences (structural & numerical)
Inheritance	<ul style="list-style-type: none"> • Explain what is meant by a Pedigree • Identify the symbols used in a Pedigree • Construct a Pedigree • Analyse and interpret a Pedigree • Describe the term Mendelian Inheritance using examples • Describe the term polygenic inheritance using examples
Human evolution	Describe the evolution of man
Radiology	Introduction to imaging

Introduction to limbs and their movements	Student should be able to; <ul style="list-style-type: none"> • Explain the evolutionary changes that have taken place when quadruped became a biped • Explain how the general plan of the upper limb is built for prehension and lower limb is built for support and propulsion • Describe the general arrangement of the human skeleton (axial/appendicular skeleton and their component parts) and its functions
Classification of joints and joint movements	<ul style="list-style-type: none"> • Describe the classification of joints • Describe the structure of synovial joints and explain how it is adapted to perform movements • Describe the classification of synovial joints and explain how the shape of the joint surface decides the degree of movement • Explain the basic concepts of biomechanics of the limbs
Development of the limbs	<ul style="list-style-type: none"> • Describe the development of the limbs • Explain the concept of dermatomes and myotomes and their functional significance • State the genes that control the limb bud development • State the common congenital defects of limb development and Explain their embryological basis
Osteology Surface anatomy Superficial veins and cutaneous innervations of the upper limb	<ul style="list-style-type: none"> • Identify the bones that form the pectoral girdle and the upper limb • Name their parts and general features • Describe how the basic organization of the upper limb skeleton correlates to its function • Demonstrate the surface projections, bony landmarks, muscles and other soft tissues of the pectoral girdle and the upper limb • Locate the dermatomes of the upper limb • Identify the superficial veins of the upper limb • Describe the venous drainage of the upper limb • Identify the cutaneous nerves that innervate the skin of the upper limb
Pectoral and scapular regions Axilla and brachial plexus	<ul style="list-style-type: none"> • Describe the general layout of the regions • Describe the compartments, attachments, actions and nerve supply of the muscles of the regions • Describe the nerves and blood vessels of the region- scapular anastomosis • Describe the boundaries and contents of the axilla and its continuity to neck and upper limb • Describe the brachial plexus and its relations in the axilla
Arm and cubital fossa	<ul style="list-style-type: none"> • Describe the general layout of the regions • Describe the muscle compartments, attachments and actions • Describe the nerves and blood vessels of the region • Describe the extent and contents of the cubital fossa
Forearm and hand	<ul style="list-style-type: none"> • Describe the muscle groups/ compartments, attachments and actions • Describe the nerves and blood vessels of the region • Describe the arrangement of the structure of the hand, palmar spaces and fibrous flexor sheaths and explain their clinical importance
Joints of the upper limb and their movements	<ul style="list-style-type: none"> • Describe the structure, movements and stabilizing factors of the shoulder, elbow and wrist joints. • Describe the movements of the small joints of the hand. • State the spinal segments for each joint movement. • Describe/recall the anatomical basis of shoulder dislocation, elbow dislocation, distal radial fracture and lunate dislocation, rotator cuff and supraspinatus tendinitis

Arterial supply of upper limb	<ul style="list-style-type: none"> • Recall the arterial supply of the upper limb • Describe the clinical significance of the collateral supply (arterial) of the upper limb • Describe the anatomical basis of common clinical conditions affecting the arteries of the upper limb
Overview and clinical correlations of the upper limb	<ul style="list-style-type: none"> • Describe the structural arrangement of the upper limb in relation to its functions • Describe the interrelationship of the components of the upper limb in producing movement • Solve clinical problems using Anatomy knowledge • Explain the anatomical basis of common clinical conditions in arm and cubital fossa region (e.g., fractures- distal radial fracture, scaphoid fracture, neurovascular injuries- nerve compressions and spread of infection in fascial compartments, tennis elbow, and golf elbow ect.) • Explain the anatomical basis of clinical conditions of the forearm and hand region (e.g. fractures of the humerus and related neurovascular injuries, supracondylar fracture etc.) • Describe the radiological features including the cross-sectional anatomy of the region • Explain the anatomical basis of common clinical conditions (e.g. clavicular and scapular fractures, pulsatile and winged scapula etc.) • Explain the anatomical basis for brachial plexus injuries and related clinical anatomy of the region
Osteology and surface anatomy of the lower limb	<ul style="list-style-type: none"> • Identify the bones that form the pelvic girdle and the lower limb • Name their parts and general features • Describe how the basic organization of the lower limb skeleton correlates to its function • Demonstrate the surface projections, bony landmarks, muscles and other soft tissues of the pelvic girdle and the lower limb
Superficial veins and cutaneous innervations of the lower limb	<ul style="list-style-type: none"> • Identify the superficial veins of the lower limb • Describe the venous drainage of the lower limb • Describe the cutaneous innervations of the lower limb and locate the dermatomes of the lower limb
Gluteal region, thigh and popliteal fossa	<ul style="list-style-type: none"> • Describe the general layout of the region • Describe the attachments, action, innervation and blood supply of the muscles of the region • Describe the attachments, action, innervation and blood supply of the muscles of the front medial and posterior aspect of the thigh • Describe the boundaries of the femoral triangle and its contents • Describe the boundaries and contents of the popliteal region
Leg and foot	<ul style="list-style-type: none"> • Describe the general layout of the region • Describe the attachments, actions and innervation of the muscles of the leg and foot • Describe the nerves and blood vessels of the region • Describe the ligaments of the ankle • Describe the structure of the arches of the foot and explain the factors which stabilize them
Joints of the lower limb and their movements	<ul style="list-style-type: none"> • Describe the structure movements and stabilizing factors of the hip, knee and ankle joint. • Describe the joints and the movements of the foot • State the spinal segments for joint movements.

	<ul style="list-style-type: none"> Describe the anatomical basis of common clinical conditions (femoral neck fracture and its complications, hip dislocation, cruciate ligament injury, coxavera and coxavalga)
Gait	<ul style="list-style-type: none"> Describe the weight bearing function of the lower limb including foot arches and weight distribution in the foot Describe the walking cycle and adaptations of the lower limb to walking, running and landing Describe the anatomical basis for common gait abnormalities
Overview and clinical correlations of the lower limb	<ul style="list-style-type: none"> Describe the structural arrangement of lower limb in relation to its functions Describe the interrelationship of the components of the lower limb in producing movements Compare and contrast the upper and lower limbs in relation to structure and function Solve clinical problems using Anatomy knowledge Describe the general layout of the region Explain the anatomical basis of safe intramuscular injection to buttocks, and superior gluteal nerve injury/waddling gait/positive Trendelenburg test Explain the anatomical basis of clinical conditions and procedures performed in the thigh and popliteal region (e.g. femoral puncture/catheterization, femoral hernia, sapheno-femoral/ perforator incompetence, spread of psoas abscess, popliteal pulse, Baker's cyst) Explain the anatomical basis of clinical conditions (compartment syndrome, fibular neck fracture and clinical manifestations, ankle sprain, plantar fasciitis, deep vein thrombosis, fracture of neck of talus, fracture metatarsal)
Arterial supply, venous drainage and lymphatic drainage of the limbs	<ul style="list-style-type: none"> Recall the arterial supply of the upper and lower limb Describe the clinical significance of the collateral supply (arterial) of the limbs Describe the anatomical basis of common clinical conditions affecting the arteries of the limbs Describe the venous drainage of the limbs Describe the factors which help venous drainage of the lower limb Describe the anatomical basis of common clinical conditions affecting the venous system of the limbs e.g. varicose veins of the lower limb Describe the lymphatic drainage of the limbs Describe the anatomical basis of common clinical conditions affecting the lymphatic system of the limbs e.g. lymphadenopathy, lymphoedema
Nerve injuries of limbs	<ul style="list-style-type: none"> Describe the origin course and distribution of the nerves of the upper and lower limb Describe and demonstrate steps/points in neurological examination of limbs and peripheral nerves (spinal segments of muscles, groups of muscles, tendon reflexes and dermatome map dermatome areas of key peripheral nerves) Describe the common clinical correlations of nerve injuries of upper and lower limbs
Radiology of limbs	<ul style="list-style-type: none"> Describe the radiological features of the limbs Recall the cross sectional anatomy of the limbs
Overview of upper limb and lower limb	Be able to identify the structures of the limbs and answer clinically related questions

Thorax and Abdomen Module

CONCEPT	OBJECTIVES
1. Osteology and surface marking of thorax and abdomen	<p>Student should be able to:</p> <ul style="list-style-type: none"> • identify and orientate the bones that form the thoracic cage • state the boundaries of the thoracic inlet and outlet • state and demonstrate the bony landmarks of the thorax • count the ribs and intercostal spaces. • demonstrate the surface markings of the heart, pericardium, lungs and the pleura. • identify and orientate the lumbar vertebrae and bones forming the pelvis. • state the boundaries of the pelvic inlet and outlet. • define the greater and lesser pelvic cavities • identify important muscle attachments on the bones studied
<p>1. General arrangement of thorax and abdomen</p> <p>2. Anterior thoracic wall</p> <p>3. Anterior abdominal wall and Inguinal canal</p>	<ul style="list-style-type: none"> • describe the arrangement of the muscles of the chest wall • describe the arrangement of structures in the intercostal space • describe the movement of the chest wall during respiration and state its mechanism • describe the blood supply, nerve supply and lymphatic drainage of the chest wall and intercostal spaces • draw and label the dermatomes of the chest wall • describe the arrangement of muscles of the anterior abdominal wall • describe the formation of the rectus sheath • describe the formation of the inguinal canal and its boundaries • state the contents of the inguinal canal • describe the coverings of the spermatic cord • describe the formation of hernia • explain the embryological descent of testes in relation to adult anatomy • describe development of anterior body wall • describe dermatomes of chest and abdominal walls
4. Mediastinum and mediastinal viscera	<ul style="list-style-type: none"> • describe the boundaries of the mediastinum and its divisions • describe the structures in the different divisions of the mediastinum and state their relations • describe the arrangement of the pericardium • state the nerve supply of the pericardium • state the functions of the pericardium • state the clinical correlations of the pericardium • describe the position of the heart and the great vessels in the mediastinum • describe the internal and external appearance and structure of the heart its chambers and valves • describe the blood supply of the heart. • identify the cardiac silhouette and the parts of the heart and great vessels that contribute to the outline of it • describe the conducting system of the heart • describe the arrangement of the great vessels • describe the relations of the heart and the great vessels

	<ul style="list-style-type: none"> • describe the microscopic structure of heart and blood vessels and correlate the structure function relationship • describe the anatomy of lymphoid organs and • lympho-reticular system • describe the clinical correlations of the heart and great vessels
5. Development of the heart and blood vessels	<ul style="list-style-type: none"> • describe the development of the heart • and blood vessels • describe the foetal circulation • describe the circulatory changes that occur at birth • describe the congenital anomalies of the heart and blood vessels
6. Lungs and pleurae	<ul style="list-style-type: none"> • describe the anatomy of the pleura and pleural cavities • surface mark the pleura and lungs • state and describe the common clinical problems of the thoracic cavity (pleural effusion, pneumothorax, haemothorax) • describe the anatomical basis of the pleural tap and surgical approaches to the thorax • identify the lungs and parts of the airways • describe the bronchial tree and bronchopulmonary segments • describe and identify the microscopic structures of the lungs and bronchial tree • correlate the structure of lungs and airways with its function • describe the blood supply, nerve supply and lymphatic drainage of lungs and airways • identify lungs and airways in relation to other structures in the thoracic cavity • describe the surface projections of the apex of the lungs and the fissures of the lungs
7. Development of the respiratory tract	development of the respiratory system and associated developmental abnormalities
8. Cross Sectional anatomy of thorax	<ul style="list-style-type: none"> • understand the importance of cross sectional anatomy • identify structures in cross sections of the thorax • identify the above structures in a cross sectional radiographs
9. Diaphragm	<ul style="list-style-type: none"> • describe the component parts of the diaphragm and state its functions • describe the nerve supply and blood supply of the diaphragm • state and identify structures passing through the diaphragm including the vertebral levels • use the knowledge of anatomy in examining the respiratory system
	<ul style="list-style-type: none"> • state and describe the common clinical problems of the thoracic cavity • describe the clinical correlations of diaphragm related to respiration • describe the development of the diaphragm including its congenital abnormalities
10. General arrangement of gastrointestinal system	<ul style="list-style-type: none"> • state the main functions of the gastrointestinal system. • outline the general structure of gastrointestinal system to perform the functions • describe the general pattern and microscopic anatomy of the alimentary canal
11. Oral cavity	<ul style="list-style-type: none"> • describe the boundaries of the oral cavity.

	<ul style="list-style-type: none"> • state how the structures in the oral cavity are adapted to perform the functions (teeth, tongue, salivary glands etc) • outline the macroscopic and microscopic features of the structures in the oral cavity including the salivary glands • state and identify the muscles forming the floor of the mouth • name and identify the types of teeth in the deciduous and permanent dentition • state the development and eruption times of teeth and its relevance in aging
12. Surface anatomy of abdomen	<ul style="list-style-type: none"> • State how the abdomen is divided into nine regions and four quadrants • State the surface projections of abdominal structures. • Outline the procedure of clinical examination of the abdomen.
13. Abdominal cavity and its compartmentalization	<ul style="list-style-type: none"> • describe the general arrangements of viscera in the abdominal cavity • understand the arrangement of the peritoneum and its relationship with the abdominal organs • describe the peritoneal reflexions • localise the viscera within the abdominal cavity and learn their gross landmarks and features
14. Abdominal viscera	<ul style="list-style-type: none"> • describe the gross anatomy of abdominal viscera (oesophagus, stomach, duodenum, jejunum, ileum, colon, rectum and anal canal, liver and biliary system, pancreas, spleen,) • describe the lymph drainage and nerve supply • describe the microscopic anatomy of abdominal viscera. (oesophagus, stomach, duodenum, jejunum, ileum, colon, rectum and anal canal, liver and biliary system, pancreas) • list the functions of abdominal viscera. • explain the basis of structure function relationship
15. Development of the gastro-intestinal system	<ul style="list-style-type: none"> • describe the development of the gastro-intestinal system and its anomalies
16. Posterior abdominal wall	<ul style="list-style-type: none"> • describe the arrangement of muscles and fascia in the posterior abdominal wall • describe regional anatomy of the posterior abdominal wall

Genitourinary system, Pelvis and Perineum

CONCEPT	OBJECTIVE
6. Structure of the kidneys and the urinary tract	<ul style="list-style-type: none"> • List the organs of the urinary system • Describe the gross structure of the kidneys, ureters and bladder • Describe the histological appearance of the kidney and the urinary tract • Describe the blood supply and the lymphatic drainage of the kidney • Describe the nerve supply of the kidney • Describe how the urinary system is adapted to perform its function
7. Development of the genitourinary tract and developmental anomalies	<ul style="list-style-type: none"> • Describe the development of the urinary tract • Describe the development of the male and female genital tracts • Explain the developmental basis of common congenital anomalies of the urinary tract • Explain the developmental basis of common congenital anomalies of male and female reproduction tract • Describe the genetic basis of disorders of sexual development
8. Clinical correlation	<ul style="list-style-type: none"> • Discuss the clinical correlation of the urinary system
9. Introduction to sexual reproduction	<ul style="list-style-type: none"> • Recall the stages of meiosis • Compare and contrast meiosis and mitosis • Describe the advantages and disadvantages of sexual reproduction • Describe the difference between sex and gender orientation • Appreciate that sexual reproduction leads to genetic diversity which enables the survival and evolution of a species • Understand that this process could transmit genetically mediated diseases/tendency to disease, to the offspring
10. Structure of male and female genital tracts and breast	<ul style="list-style-type: none"> • Describe the gross structure of the male and female genital tracts • Describe the light microscopic appearance of the male and female genital tracts • Describe the gross structure and the light microscopic appearance of the breast • Discuss the clinical correlation of the breast
11. Imaging of male and female genitourinary tracts	<ul style="list-style-type: none"> • List the different imaging modalities used to assess the male and female reproductive tracts • Identify the normal imaging anatomy of the male and female reproductive tracts in different imaging modalities
12. Regional anatomy of pelvic region	<ul style="list-style-type: none"> • Name and identify the blood vessels and nerves that pass from the posterior abdominal wall into the pelvis • Describe the anatomy of the internal iliac artery • Describe the pelvic diaphragm and pelvic walls • Compare the organs in the female pelvis with those in the male pelvis

	<ul style="list-style-type: none"> • Describe arrangements of the peritoneum and the clinical significance of the peritoneal fossae in male and females • Describe the lymphatic drainage of the structures in this region • Discuss the clinical correlation of the pelvic organs
13. Perineum	<ul style="list-style-type: none"> • Describe the general layout of the male and female perineum • Describe the urogenital diaphragm • Describe the arrangement of superficial and deep perineal pouches • Identify the muscles of the male and female perineum and their nerve supply • Identify the blood vessels and nerves supplying the structures of the perineum • Describe the anatomical basis of pudendal block, and epidural anaesthesia • Identify other regions into which the superficial fascial layers of the perineum are continued • Describe the blood supply and lymphatic drainage of the perineum • Discuss the clinical correlation of the perineum

Neuroanatomy, Head and Neck

CONCEPT	OBJECTIVES
1. Introduction to Nervous system and Head & Neck region	<p>Student should be able to</p> <ul style="list-style-type: none"> • List the major divisions of the Nervous System (NS); the Central (CNS) and Peripheral (PNS) nervous systems • Describe that the CNS is composed of grey matter containing nerve cell bodies and the white matter containing axons. Also briefly describe how grey and white matter are distributed or arranged to form the complex structure of brain and spinal cord • Describe the arrangement of PNS that consists of spinal and cranial nerves and ganglia • Describe the overall arrangement of structures in the head and neck region
2. Structure and function of nervous tissue	<ul style="list-style-type: none"> • List components of the nerve tissue • Distinguish between neurons and neuroglial cells and state the types and functions of neurons and neuroglia • Describe the general structure of a neuron and explain the functions of its parts • Classify neurons on the basis of their structure and function • Distinguish between myelinated and non-myelinated nerve fibers • Name the types of sensory receptors and state their functions • Describe a ganglion • Describe the motor end plate

3. Osteology of head and the vertebral column	<ul style="list-style-type: none"> • Identify, orientate and articulate the bones of the skull, cervical vertebrae and hyoid bone including the joints • Identify the different regions of the vertebral column and relate them to the regions of the spinal cord • Describe the structure and the function of the intervertebral disc • Identify the skull bones and the mandible including the structures passing through the foramina • Identify important anatomical landmarks • Identify the cranial fossae • Describe the changes that occur in the skull and the mandible with growth • Describe and identify the bones that contribute to form the neck and thoracic inlet
4. Development of Pharyngeal arches, face and palate	<ul style="list-style-type: none"> • Describe the development of pharyngeal arches • Describe the development of the face including the abnormalities
5. Arrangement of fasciae and contents of the neck	<ul style="list-style-type: none"> • Describe the osteology, surface marking and structure of the neck • Describe the arrangement of fasciae, soft tissue and spaces in the neck • Describe the boundaries, contents, relations and muscles of the triangles of the neck • Describe the anatomy of neck viscera: <ul style="list-style-type: none"> ▪ Salivary glands ▪ Thyroid and parathyroid ▪ Trachea ▪ Esophagus. ▪ Great vessels and their branches ▪ Cervical sympathetic trunk
6. Root of the neck	<ul style="list-style-type: none"> • Describe the boundaries and the muscles of the root of the neck • Describe the relations of the structures in the root of the neck
7. Clinical correlations of the neck	<ul style="list-style-type: none"> • Discuss the clinical correlations of the neck that includes fascia, soft tissues and viscera
8. Face and Scalp	<ul style="list-style-type: none"> • Identify and describe the surface anatomy of the face, parts of the eye, external nose and external ear • Describe the arrangement of the tissues in the scalp and its clinical importance • Describe the muscles of expression and muscles of mastication • State the blood supply and the lymphatic drainage of the face and scalp • Describe the attachments, actions and nerve supply of the muscles of the face • Describe the structure, blood supply, lymphatic drainage and the nerve supply of the scalp
	<ul style="list-style-type: none"> • Identify the anatomical land marks and define the boundaries of the temporal fossa

9. Temporal fossa, parotid region, infra temporal region and pterygopalatine fossa	<ul style="list-style-type: none"> • Describe the arrangement of structures in the temporal fossa • Identify the anatomical landmarks and define the parotid region • Describe the anatomy explain the clinical correlation of parotid gland and parotid bed • Identify the bony land marks and define the boundaries of the infra temporal fossa • Describe the contents and their relations including the muscles, maxillary artery, mandibular nerve, otic ganglion, carotid sheath and its contents and the cranial nerves related to carotid sheath and styloid apparatus • Define the boundaries of the Pterygopalatine fossa • Describe the contents and their relations (including the maxillary nerve and pterygopalatine ganglion)
10. Orbit & Eye	<ul style="list-style-type: none"> • Describe the arrangement of bones of the orbit • Describe the structure, movements blood supply and nerve supply of the eye lids • Describe the lacrimal apparatus • Describe the attachments and nerve supply of the muscles of the orbit and the movements of the eye • Describe the course and relations of nerves and blood vessels of the orbit • Describe the component parts of the eye • Describe the microscopic and macroscopic structure of the eye • Describe the development of the eye • Identify the component parts of the visual pathway <ul style="list-style-type: none"> • Discuss the clinical anatomy of the eye and the orbit
11. Pharynx & Larynx	<ul style="list-style-type: none"> • Describe the structure of the pharynx including the arrangement of the muscles, fascia and relations of the pharynx • Describe the blood supply lymph drainage and nerve supply of the pharynx • Describe the muscles involved in swallowing • Describe the anatomy of the larynx including muscles, nerve supply and their actions • Explain how the structure is adapted to perform the functions of the larynx
12. Nose and paranasal sinuses	<ul style="list-style-type: none"> • Describe the parts of the nose, their structure, relations blood supply and lymph drainage and nerve supply • Describe the bony boundaries of paranasal sinuses • Describe the structure, relations and the locations of para nasal sinuses and their blood supply lymphatic drainage and nerve supply • Discuss the clinical importance of Para nasal sinuses and their relations
13. Oral cavity, soft palate and hard palate	<ul style="list-style-type: none"> • Describe the structure of soft palate and the hard palate • Describe the nerve supply of the palate • Describe the development of the palate, nose and para nasal sinuses • Define the extent and describe the parts of the oral cavity • Describe the anatomy of the tongue and its movements • Describe the anatomy of the submandibular and sublingual glands

	<ul style="list-style-type: none"> • Discuss the clinical correlation of the oral cavity
14. Clinical Anatomy of oro-maxillary region	<ul style="list-style-type: none"> • Clinical anatomy/correlation of oral/maxillary/facial region
15. Ear	<ul style="list-style-type: none"> • Describe the component parts of the ear • Describe the microscopic and macroscopic structure of the ear • Describe the development of the ear • Describe the course of the facial nerve and the relations in the ear <p>Discuss the clinical anatomy of the ear</p>
16. Lymph nodes and lymph drainage of head and neck region	<ul style="list-style-type: none"> • Describe the arrangement of lymph nodes and lymph drainage of the head and neck including the clinical correlations
17. Joints of head and neck region	<ul style="list-style-type: none"> • Describe the structure, movements, muscles involved and nerve supply of the TM joint and joints of the cervical spine
18. Dermatomes of the head and neck	<ul style="list-style-type: none"> • Identify the dermatomes of the head and neck region • Describe the sensory supply of the head and neck region
19. Structure of the brain, brain stem and the cerebellum	<ul style="list-style-type: none"> • Describe the development of the brain and relate it to the adult brain • Describe the coverings of the brain, their blood supply, dural venous sinuses, choroid plexuses and CSF circulation • Identify and list the major parts of the brain and describe their locations and surface topography • Describe the arrangement of gray & white matter in the brain; surface and deep gray matter (i.e., Diencephalic structures, corpus striatum basal ganglia etc.), white matter fiber bundles and their distribution • Describe the functional areas of the brain • Describe the microscopic structure of the cerebral cortex • Describe and identify the ventricular system of the brain and their relations and revise the CSF circulation • Describe the external & internal morphology of the brain stem • Explain briefly the structure & function of the cerebellum and its major connections <ul style="list-style-type: none"> • Identify major structures in cross sections of the brain

20. Cranial Nerves	<ul style="list-style-type: none"> • Name the cranial nerves • Describe the location of cranial nerve nuclei in the brain stem • Describe the distribution of the cranial nerves • List the functional components of cranial nerves indicating the structures supplied by them • Explain the anatomical basis of cranial nerve lesions
21. Spinal cord and Peripheral nerves	<ul style="list-style-type: none"> • State the extent of the spinal cord in a neonate and an adult • State the relationship between vertebral segments and spinal segments • Describe the structure of the spinal cord • Define the nerve plexus and locate the major plexuses of the spinal nerves
22. Nerve tracts	<ul style="list-style-type: none"> • Describe the arrangement of main ascending and descending nerve tracts of the spinal cord • Describe with reasons the clinical presentation of spinal cord lesions • Localize the spinal cord lesions
23. Blood supply of the brain and spinal cord & intra cranial hemorrhages	<ul style="list-style-type: none"> • Name the major arteries and their important branches that supply the brain and spinal cord • Describe the venous drainage of the brain and spinal cord • List the types of intra cranial hemorrhages (ICH) • Explain the anatomical basis of ICH and their consequences
24. Appearance of the brain and spinal cord on imaging	<ul style="list-style-type: none"> • List the structures that could be identified in the brain, spinal cord, CSF pathway, and the vasculature by radiological imaging.
25. Overview of neuroanatomy and the head & neck region	<ul style="list-style-type: none"> • Be able to identify the structures of the nervous system, head & neck region and answer clinically related questions