# OBJECTIVES FOR ANATOMY COMPETENCIES

# HUMAN ANATOMY - CBME

| Number | OBJECTIVES FOR THE RESPECTIVE COMPETENCY (At the end of the session the student should be able to) | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods | Number required to certify P | Vertical Integration | Horizontal Integration |
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| 1.TOPIC == ANATOMICAL TERMINOLOGY- | | | | | | | | | |
| AN1.1,a | At the end of the session the student should be able to Define normal anatomical position, various planes, relation, comparison, laterality & movement in our body | k | k | Y | LECTURE | VIVA | | | |
| b | At the end of the session the student should be able to EXPLAIN different movements in a cadaveric parts and their relation to each other. | K | kh | Y | DOAP | VIVA | | | |
| AN1.2 | At the end of the session the student should be able to Describe composition of bone and bone marrow | K | K | Y | LECTURE | WRITTEN | | | |
| 2.Topic: General features of bones & Joints | | | | | | | | | |
| AN2.1 | At the end of the session the student should be able to Define parts of long bone | K | KH | Y | SMALL GROUP | VIVA | | | |
| | At the end of the session the student should be able to Explain Blood supply and nerve supply of a long bone | K | K | Y | SMALL GROUP | VIVA | | | |
| AN2.2 | At the end of the session the student should be able to Enumerate laws of ossification | K | K | Y | LECTURE | VIVA | | | |
| AN2.3 | At the end of the session the student should be able to Enumerate special features of a sesamoid bone | K | K | Y | LECTURE | VIVA | | | |
| AN2.4 | At the end of the session the student should be able to Describe various types of cartilage with its structure & distribution in body. | K | K | Y | LECTURE | WRITTEN | | | |
| AN2.5 | At the end of the session the student should be able to Classify various joints according to structure and range of movement . | K | KH | Y | LECTURE | WRITTEN | | | |
| | At the end of the session the student should be able to Differentiate synovial and cartilagenous joints | K | KH | Y | SMALL GROUP | VIVA | | | |

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| | At the end of the session the student should be able to Give examples for each varity of joint | k | k | y | SMALL GROUP | VIVA | | | |
| AN2.6 | At the end of the session the student should be able to Explain the concept of nerve supply of joints & Hilton's law | K | K | | SMALL GROUP | VIVA | | | |
| 3.Topic: General features of Muscle | | | | | | | | | |
| AN3.1 | At the end of the session the student should be able to Classify muscle tissue according to structure & action | K | K | Y | LECTURE | WRITTEN | | | |
| AN3.2 | At the end of the session the student should be able to Enumerate parts of skeletal muscle and differentiate between tendon and aponeurosis | K | K | Y | PRACTICLE | VIVA | | | |
| AN3.3 | At the end of the session the student should be able to Explain Shunt and spurt muscle | K | K | Y | LECTURE | VIVA | | | |
| 4 .Topic: General features of skin and fascia | | | | | | | | | |
| AN4.1 | a.At the end of the session the student should be able to Differentiate between thick skin and thin skin | K | K | Y | SMALL GROUP | VIVA | | | |
| | b.At the end of the session the student should be able to List out the layers of dermis and epidermis | K | K | Y | LECTURE | VIVA | | | |
| AN4.2 | At the end of the session the student should be able to Describe structure & function of skin with its appendages | K | K | Y | PRACTICAL | WRITTEN | | | |
| AN4.3 | At the end of the session the student should be able to Describe superficial fascia along with fat distribution in body | K | KH | Y | DOAP | VIVA | | | |
| AN4.4 | At the end of the session the student should be able to Describe modifications of deep fascia with its functions | K | KH | Y | DOAP | VIVA | | | |
| AN4.5 | At the end of the session the student should be able to Explain principles of skin incision | K | KH | N | SMALL GROUP | VIVA | | | |
| 5.Topic: General features of the cardiovascular system | | | | | | | | | |
| AN5.1 | At the end of the session the student should be able to Differentiate between blood vascular and lymphatic system | K | K | Y | LECTURE | WRITTEN | | | |
| AN5.2 | At the end of the session the student should be able to Differentiate between pulmonary and systemic circulation | K | K | Y | LECTURE | WRITTEN | | | |

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| AN5.3 | At the end of the session the student should be able to List general differences between arteries &veins | K | K | Y | SMALL GROUP | VIVA | | | |
| AN5.4 | a.At the end of the session the student should be able to Describe the structure of elastic artery,muscular artery and arteriole | k | k | Y | LECTURE | VIVA | | | |
| | b.At the end of the session the student should be able to Know the examples of elastic artery,muscular artery , | k | k | Y | LECTURE | VIVA | | | |
| AN5.5 | a.At the end of the session the student should be able to Define portal system,explain the formation of it ,explain the functional significanceof it. | K | k | Y | LECTURE | WRITTEN | | | |
| | b.At the end of the session the student should be able to Enumerate all the organs in the body having portal system | | | | | | | | |
| AN5.6 | a.At the end of the session the student should be able to Define anastamoses,list various types of anastomoses | K | KH | Y | SHORT GROUP | DOAP | | | |
| | b.At the end of the session the student should be able to Differentiate between collateral circulation and anastomoses | | | | | | | | |
| | c.At the end of the session the student should be able to Define end artery with clinical impetus and list some example of end arteries. | | | | | | | | |
| AN5.7 | At the end of the session the student should be able to Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses | K | K | Y | LECTURE | WRITTEN | | | PHYSIOLOGY |
| AN5.8 | At the end of the session the student should be able to Define thrombosis, infarction & aneurysm | K | KH | N | LECTURE | WRITTEN | | PATHOLOGY | |
| 6.Topic: General Features of lymphatic system | | | | | | | | | |
| AN6.1 | At the end of the session the student should be able to List the components and functions of the lymphatic system | K | K | Y | LECTURE | VIVA | | | |
| AN6.2 | At the end of the session the student should be able to Describe structure of lymph capillaries & mechanism of lymph circulation | K | K | Y | LECTURE | WRITTEN | | | |
| AN6.3 | At the end of the session the student should be able to Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system | K | KH | N | LECTURE | VIVA | | GENERAL SURGERY | |

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| 7.Topic: Introduction to the nervous system | | | | | | | | | |
| AN7.1 | At the end of the session the student should be able to Describe general plan of nervous system with components of central, peripheral & autonomic nervous systems | K | K | Y | LECTURE | WRITTEN | | | |
| AN7.2 | At the end of the session the student should be able to List components of nervous tissue and their functions | k | K | Y | LECTURE | WRITTEN | | | |
| AN7.3 | At the end of the session the student should be able to List the parts of a neuron and classify them based on number of neurites, size & function. | K | K | Y | LECTURE | VIVA | | | |
| AN7.4 | At the end of the session the student should be able to Describe structure of a typical spinal nerve | K | K | Y | LECTURE | WRITTEN | | | |
| AN7.5 | At the end of the session the student should be able to Describe principles of sensory and motor innervation of muscles | K | K | Y | LECTURE | VIVA | | | PHYSIOLOGY |
| AN.7.6 | At the end of the session the student should be able to Explain concept of loss of innervation of a muscle with its applied anatomy | K | K | Y | LECTURE | VIVA | | | |
| AN.7.7 | At the end of the session the student should be able to Explain structure of synapse ,classify various type of synapse with examples | K | K | Y | LECTURE | OSPE | | | PHYSIOLOGY |
| AN7.8 | At the end of the session the student should be able to Differentiate between sympathetic and spinal ganglia | K | KH | N | SMALL GROUP | WRITTEN | | | |
| 8.Topic: Features of individual bones (Upper Limb) | | | | | | | | | |
| AN8.1 | 1.At the end of the session the student should be able to IDENTIFY ALL THE INDIVIDUAL UPPER LIMB BONES | K,S | SH | Y | DOAP | OSPE | | | |
| | 2.At the end of the session the student should be able to IDENTIFY THE SIDE OF UPPERLIMB BONES | KS | SH | Y | DOAP | OSPE | | | |
| | 3.At the end of the session the student should be able to KNOW THE ANATOMIAL POSITION OF UPPER LIMB BONES | K,S | SH | Y | DOAP | OSPE | | | |
| | 4.At the end of the session the student should be able to DESCRIBE IMPORTANT FEATURES AND MUSCLE ATTACHMENTS OF SCAPULA. | K,S | SH | Y | DOAP | OSPE | | | |
| | 5.At the end of the session the student should be able to DESCRIBE IMPORTANT FEATURES AND MUSCLE ATTACHMENTS OF HUMERUS | K,S | SH | Y | DOAP | OSPE | | | |

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| | 6.At the end of the session the student should be able to DESCRIBE IMPORTANT FEATURES AND MUSCLE ATTACHMENTS OF RADIUS BONE | K,S | SH | Y | DOAP | OSPE | | | |
| | 7.At the end of the session the student should be able to DESCRIBE IMPORTANT FEATURES AND MUSCLE ATTACHMENTS OF ULNA BONE | K,S | SH | Y | DOAP | OSPE | | | |
| AN8.2 | At the end of the session the student should be able to Identify the bone & describe a.number ,b.types of joints,c.ligaments supporting,d.movements of the joint,e.most commonly dislocated joints of the bone. | K | SH | Y | DOAP | VIVA | | | |
| AN8.3 | a.At the end of the session the student should be able to Enumerate peculiarities of clavicle,b.most common site of fracture of clavicle,c. Most common mode ofinjury. | K | K | Y | SMALL GROUP | WRITTEN | | | |
| AN8.4 | At the end of the session the student should be able to Demonstrate important muscle attachment on the given bone | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN8.5 | At the end of the session the student should be able to a.Identify various bones in articulated hand, b.Differentiate between metacarpels and phalanges,c. peculiarities of 1st metacarpel ,d.joints formed by metacarpels and phalenges and e.enumerate the peculiarities of pisiform | K | KH | Y | PRACTICLE,SMALL GROUP | VIVA | | | |
| AN8.6 | At the end of the session the student should be able to a.Identify schaphoid bone,b.Determine the side of scaphoid bone,c.Identify the most common site of scaphoid fracture,d.Explain the blood supply of scaphoid,e.Anatomical basis of avascular necrosis. | K | KH | N | LECTURE | VIVA | | ORTHOPAEDICS | |
| 9.Topic: Pectoral region | | | | | | | | | |
| AN9.1 | At the end of the session the student should be able to Identify pectoralis major and pectoralis minor.Define attachment, nerve supply & action of pectoralis major and pectoralis minor. | K | KH,SH | Y | PRACTICAL | VIVA | | | |
| AN9.2 | 1.At the end of the session the student should be able to 1.Define the location ,extent, deep relations ,structure,microanatomy of the breast | k | KH | Y | PRACTICAL | VIVA | | | |

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| | 2. At the end of the session the student should be able to EXPLAIN - Applied anatomy,Age changes,Blood supply,Lymphatic drainage of breast | K | KH | Y | LECTURE | WRITTEN | | | |
| AN9.3 | At the end of the session the student should be able to 1.EXPLAIN Stages of development of breast ,2.congenital anamolies related to development of breast. | K | KH | Y | LECTURE | WRITTEN | | | |
| 10.Topic: Axilla, Shoulder and Scapular region | | | | | | | | | |
| AN10.1 | At the end of the session the student should be able to Identify & describe boundaries and contents of axilla | K,S | SH | Y | PRACTICAL,DOAP | VIVA | | | |
| AN10.2 | At the end of the session the student should be able to Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of vein | K,S | SH | Y | DOAP | VIVA | | | |
| AN.10.3 | At the end of the session the student should be able to Describe a.formation,b.course,c.relations, of Roots ,Trunks,Cords,Branches of brachial plexus. | K,S | SH | Y | LECTURE -followed by - DOAP | VIVA | | | |
| AN10.4 | 1.At the end of the session the student should be able to Classify the anatomical groups of axillary lymph nodes,their location and specify their areas of drainage | K | KH | Y | SMALL GROUP | WRITTEN | | | |
| | 2.At the end of the session the student should be able to examination of axillary lymph nodes. | K,S | SH | Y | DOAP | VIVA | | | |
| AN.10.5 | At the end of the session the student should be able to Define 1.prefixed and2. post fixed brachial plexus, 3. Applied anatomy of post fixed and prefixed brachial plexus. | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN.10.6 | At the end of the session the student should be able to Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN10.7 | At the end of the session the student should be able to Explain anatomical basis of enlarged axillary lymph nodes | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN10.8 | At the end of the session the student should be able to Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi | K,S | SH | Y | DOAP | VIVA | | | |
| AN.10.9 | At the end of the session the student should be able to Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation | K,S | SH | Y | DOAP | VIVA | | | |

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| AN10.10 | At the end of the session the student should be able to Demonstrate,1.origin,2.insertion.3.nerve supply and ,4.Action of deltoid and rotator cuff muscles | K,S | SH | Y | DOAP | VIVA | | | |
| AN10.11 | At the end of the session the student should be able to Demonstrate,1.origin,2.insertion.3.nerve supply and ,4.Action of Serratus anterior muscle. 5. explain winging of scapula. | K,S | SH | Y | DOAP | WRITTEN | | | |
| AN10.12 | At the end of the session the student should be able to Describe and demonstrate shoulder joint for– 1.type, articular surfaces, capsule, .synovial membrane, 2.ligaments, 3.relations,4. movements, muscles involved, 5.blood supply, nerve supply and 6.applied anatomy. | K,S | SH | Y | LECTURE,DOAP | WRITTEN | | ORTHOPAEDICS | |
| AN10.13 | At the end of the session the student should be able to Explain anatomical basis of Injury to axillary nerve during intramuscular injections | K,S | SH | Y | DOAP | VIVA | | | |
| 11.Topic: Arm & Cubital fossa | | | | | | | | | |
| AN11.1 | 1.At the end of the session the student should be able to Define origin,insertion,nervesupply and action of muscles of anterior compartment of arm | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Define origin,insertion,nervesupply and action of muscles of posterior compartment of arm | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN11.2 | 1.At the end of the session the student should be able to Describe the Origin ,course ,relations ,branches of musclocutaneous nerveand radial nerve in arm | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe the Origin,course,relations,branches of ulnar and median nerves in arm | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Origin,course,relations,branches of brachial artery in arm | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN11.3 | At the end of the session the student should be able to Describe the anatomical basis of Venepuncture of cubital veins | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN11.4 | At the end of the session the student should be able to Describe the anatomical basis of Saturday night paralysis | K | KH | Y | PRACTICLE | WRITTEN | | Orthopaedics | |

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| AN11.5 | At the end of the session the student should be able to Identify & describe boundaries and contents of cubital fossa from medial to lateral | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN11.6 | 1.At the end of the session the student should be able to Explain Elbow joint under 1.Type of joint,2.Bones forming,3.Articulating surfaces,4.capsule,synovial membrane and ligaments,5.Range of the movements and muscles responsible for movement,6.Applied antomy. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe the anastomosis around the elbow join | K | KH | Y | SMALL GROUP | VIVA | | | |
| 12.Topic: Forearm & hand | | | | | | | | | |
| AN12.1 | At the end of the session the student should be able to Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.2 | 1.At the end of the session the student should be able to Describe the Origin,course,relations,branches of radial ,ulnar and median nerves in forearm | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe the Origin,course,relations,branches of ulnar and radial arteries in forearm | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.3 | At the end of the session the student should be able to Identify & describe flexor retinaculum with its attachments | K | KH | Y | SMALL GROUP | WRITTEN | | | |
| AN12.4 | At the end of the session the student should be able to 1.Describe structure of carpel tunnel.2 .Enumerate the structures passing through and above the carpel tunnel, 3.Relations of various structures in the carpel tunnel. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 4. At the end of the session the student should be able to Define the common eitiology,and symptoms of carpel tunnel syndrome. | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN12.5 | At the end of the session the student should be able to Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.6 | At the end of the session the student should be able to 1.Enumerate joints responsible for movements of thumb,2.Explain origin ,insertion ,nerve supply and action of muscles responsible for movement of thumb | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |

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| AN12.7 | 1.At the end of the session the student should be able to Describe position ,relations ,formation and branches of superficial palmar arch | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe position ,relations ,formation and branches of Deep palmar arch | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Describe the course ,relations , branches and distribution of ulnar,median and radial nerves in hand | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.8 | At the end of the session the student should be able to Define partial and complete claw hand and nerve lesions responsible for claw hand | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN12.9 | At the end of the session the student should be able to Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths | K | KH | Y | LECTURE | WRITTEN | | | |
| AN12.10 | At the end of the session the student should be able to Describe 1.position,2.boundaries ,3. communications ,4.Incisions of drainage of fascial spaces of hand | K,S | SH | N | LECTURE | WRITTEN | | | |
| AN12.11 | At the end of the session the student should be able to Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions | K,S | SH | Y | PRACTICAL | SKILL ASSESSMENT | | | |
| AN12.12 | At the end of the session the student should be able to Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.13 | At the end of the session the student should be able to 1.Define wrist drop,2. muscles paralysed during wrist drop,3.site of the lesion and nerve responsible for wrist drop | K | KH | Y | LECTURE | WRITTEN | | | |
| AN12.14 | 1.At the end of the session the student should be able to Know the number of compartments under extensor retinaculum | K,S | SH | Y | PRACTICLE | WRITTEN | | | |
| | 2.At the end of the session the student should be able to Enumerate the structures passing through each compartment | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Define their relation with lister's tubercle | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN12.15 | At the end of the session the student should be able to Define the position and attachments of extensor expansion. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| 13.Topic: General Features, Joints, radiographs & surface marking | | | | | | | | | |

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| AN13.1 | 1.At the end of the session the student should be able to Define attachments of intermuscular septa in arm and explain the structures piercing them | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session the student should be able to Explain interosseous membrane in forearm and gaps in that ,list out the structures passing through them | K | KH | Y | | | | | |
| | 3.At the end of the session the student should be able to Describe venous drainage of upper limb. | K | KH | Y | | | | | |
| | 4.At the end of the session the student should be able to Explain lymphatic drainage of upper limb. | K | KH | Y | | | | | |
| AN13.2 | At the end of the session the student should be able to Describe dermatomes of upper limb | K | KH | Y | LECTURE | WRITTEN | | | |
| AN13.3 | 1.At the end of the session the student should be able to Explain radioulnar joints under 1.Type of joint,2.Articulating surfaces,3.Capsule ,synovial membrane ,ligaments 4.Relations,5.Movements , and muscles responsible. | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Explain WRIST joint under 1.Type of joint,2.Articulating surfaces,3.Capsule ,synovial membrane ,ligaments 4.Relations,5.Movements , and muscles responsible. | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 3. At the end of the session the student should be able to Explain FIRST CARPOMETACARPAL joint under 1.Type of joint,2.Articulating surfaces,3.Capsule ,synovial membrane ,ligaments 4. Relations,5.Movements , and muscles responsible. | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN13.4 | At the end of the session the student should be able to Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal join | K | KH | Y | LECTURE | WRITTEN | | | |
| AN13.5 | At the end of the session the student should be able to Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand | K,S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN13.6 | At the end of the session the student should be able to Identify & demonstrate important bony landmarks of upper limb: Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end, Inferior angle of the scapula | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN13.7 | 1.At the end of the session the student should be able to Identify & demonstrate surface projection of: Cephalic and basilic vein, | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |

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| | 2.At the end of the session the student should be able to Know Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to know Palpation of Brachial artery, Radial artery, | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN13.8 | At the end of the session the student should be able to Describe the development of upperlimb | K | KH | Y | LECTURE | WRITTEN | | | |
| 14.Topic: Features of individual bones (Lower Limb) | | | | | | | | | |
| AN14.1 | 1.At the end of the session the student should be able to IDENTIFY ALL THE INDIVIDUAL LOWER LIMB BONES | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Determine the side of lower limb bones | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to hold all the lower limb bones in anatomical position | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 4.At the end of the session the student should be able to Describe Important features and attachments of hip bone | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 5.At the end of the session the student should be able to Describe Important features and attachments of Femur and Patella | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 6.At the end of the session the student should be able to Describe Important features and attachments of Tibia | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 7.At the end of the session the student should be able to Describe Important features and attachments of Fibula | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN14.2 | 1.At the end of the session the student should be able to Identify and describe joints formed by hip bone | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Identify and describe joints formed by Femur and Patella | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Identify and describe joints formed by Tibia | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 4.At the end of the session the student should be able to Identify and describe joints formed by Fibula | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN14.3 | At the end of the session the student should be able to Describe the importance of ossification of lower end of femur & upper end of tibia | K | KH | Y | LECTURE | WRITTEN | | Forensic Medicine | |

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| AN14.4 | At the end of the session the student should be able to Identify and name various bones in the articulated foot with individual muscle attachment | K,S | SH | Y | DOAP | PRACTICAL | | | |
| 15.Topic: Front & Medial side of thigh | | | | | | | | | |
| AN15.1 | 1.At the end of the session the student should be able to Describe and demonstrate origin, course, relations, branches , termination of Femoral nerve | K,S | SH | Y | PRACTICAL | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe and demonstrate origin, course, relations, branches ((tributaries) and, termination of Femoral Vessels | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Describe and demonstrate origin, course, relations, branches , termination of Obturator nerve | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN15.2 | 1.At the end of the session the student should be able to Describe ,origin ,insertion, nerve supply ,action of quadriceps femoris muscle. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session the student should be able to Describe origin ,insertion ,nerve supply, action of adductor muscles of thigh | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| AN15.3 | At the end of the session the student should be able to Describe and demonstrate boundaries, floor, roof and contents of femoral triangle | K,S | SH | Y | LECTURE,DOAP | SKILL ASSESSMENT, WRITTEN | | | |
| AN15.4 | At the end of the session the student should be able to Explain anatomical basis of Psoas abscess & Femoral hernia | K | KH | Y | LECTURE | WRITTEN | | GENERAL SURGERY | |
| AN15.4 | At the end of the session the student should be able to Describe and demonstrate adductor canal with its content | K,S | SH | Y | LECTURE,DOAP | SKILL ASSESSMENT, WRITTEN | | | |
| 16.Topic: Gluteal region & back of thigh | | | | | | | | | |
| AN16.1 | 1.At the end of the session the student should be able to Describe and demonstrate origin, course, relations, branches , termination of SCIATIN NERVE. | K,S | SH | Y | DOAP | SKILL ASSESSMENT. | | | |
| | 2.At the end of the session the student should be able to Describe the origin ,course,relation and distribution of superior and inferior gluteal vesseels and nerves. | K,S | SH | Y | DOAP | SKILL ASSESSMENT. | | | |
| AN16.2 | 1.At the end of the session the student should be able to Explain the origin ,inaertion nerve supply and action of gluteus maximus muscle. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |

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| | 2.At the end of the session the student should be able to Identify structures umder cover of Gluteus maximus from lateral to medial side. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 3.At the end of the session the student should be able to Locate the suface anatomy of sciatic nerve and how to avoid injury to it during intra muscular injection. | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | GENERAL SURGERY | |
| AN16.3 | At the end of the session the student should be able to Explain the anatomical basis of Trendelenburg sign | K | KH | Y | SMALL GROUP | WRITTEN | | | |
| AN16.4 | 1.At the end of the session the student should be able to Define and locate hamstrings, describe the charecteristics of these muscles. | K,S | SH | Y | SMALL GROUP | VIVA | | | |
| | 2.At the end of the session the student should be able to Differentiate between true and false hamstrings. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 3.At the end of the session the student should be able to Desribe the origin insertion ,nerve supply ,and action of hamsrtings | K | SH | Y | SMALL GROUP | VIVA | | | |
| AN16.5 | At the end of the session the student should be able to Describe and demonstrate the origin, course, relations, branches , termination of important nerves and vessels on the back of thigh | K,S | SH | Y | SMALL GROUP | VIVA | | | |
| AN16.6 | At the end of the session the student should be able to Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa | K,S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 17 .Topic: Hip Joint | | | | | | | | |
| AN17.1 | 1.At the end of the session the student should be able to Explain hip joint under 1.Type of joint,its capsule,ligaments, and synovial membrane. | | | | | | | | |
| | 2.At the end of the session the student should be able to Explain relations Of hip joint. | | | | | | | | |
| | 3.At the end of the session the student should be able to Explain Movements , and muscles responsible for those movements in hip joint. | | | | | | | | |
| | 4. At the end of the session the student should be able to Identify and locate different bursa around hip joint. | | | | | | | | |
| | 5.At the end of the session the student should be able to Describe nerve supply and blood supply of hip joint. | K,S | SH | Y | DOAP | SKILL ASSESSMENT. | | | |
| AN17.2 | At the end of the session the student should be able to Describe anatomical basis of complications of fracture neck of femur | K | KH | N | SMALL GROUP | VIVA | | ORTHOPAEDICS | |

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| AN17.3 | At the end of the session the student should be able to Describe dislocation of hip joint and surgical hip replacement | K | KH | N | SMALL GROUP | VIVA | | ORTHOPAEDICS | |

# HUMAN ANATOMY - CBME

| Number | COMPETENCY<br>The student should be able to | SLO | Domain<br>K/S/A/C | Level<br>K/KH/SHP | Core<br>(Y/N) | Teaching-Learning Methods | Assessment Methods | Number required to certify P | Vertical Integration | Horizontal Integration |
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| Topic: Knee joint, Anterior compartment of leg & dorsum of foot | | Number of competencies: (7) | | | | Number of procedures for certification: (NIL) | | | | |
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| AN18.1 | Describe and demonstrate major muscles of anterior compartment of leg with their attachment, nerve supply and actions | 1. Enumerate the muscles of the Anterior compartment of Leg<br>2. Describe in detail the Origin , Insertion , Nerve supply and actions of muscles of the Anterior compartment of leg | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN18.2 | Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior compartment of leg | 1. Describe in detail the course and branches of Anterior Tibial artery | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN18.3 | Explain the anatomical basis of foot drop | 1. Describe in detail about the formation , course , relations and divisions of the Sciatic nerve<br>2.Enumerate reasons for occurrence of Foot drop | K | KH | Y | Lecture, DOAP session | Written/ Viva voce | | | |
| AN18.4 | Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint | 1. Describe the Knee joint - Type<br>2. Describe the supports of the Knee joint - Capsule / Ligaments / Menisci<br>3. Describe the cruciate ligaments of Knee joint<br>4. Describe the bursae of knee joint - Housemaid's knee and Clergyman's knee<br>5. Describe the anastomosis around the Knee joint | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN18.5 | Explain the anatomical basis of locking and unlocking of the knee joint | 1. Explain Locking and Unlocking of the Knee joint | K | KH | Y | Small group teaching | Written/ Viva voce | | | |
| AN18.6 | Describe knee joint injuries with its applied anatomy | 1. Explain the features of Osteoarthritis<br>2. Describe the bursae of knee joint and its clinical importance<br>3. Describe meniscal injuries - Bucket handle tear | K | KH | N | Lecture | Written/ Viva voce | | Orthopaedics | |

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| AN18.7 | Explain anatomical basis of Osteoarthritis | 1. Enumerate the factors causing Osteoarthritis<br>2. List some preventive measures to avoid Osteoarthritis | K | KH | N | Lecture | Written/ Viva voce | | Orthopaedics | |
| Topic: Back of Leg & Sole | | Number of competencies: (7) | | | | Number of procedures for certification: (NIL) | | | | |
| AN19.1 | Describe and demonstrate the major muscles of back of leg with their attachment, nerve supply and actions | 1. Enumerate muscles of the Back of Leg<br>2. Describe Origin , Insertion , Nerve supply and Actions of the muscles of Back of Leg<br>3. Explain the anatomical basis of Peripheral heart<br>4. Explain the anatomical basis of Calf pump | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN19.2 | Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of leg | 1. Describe in detail the Origin , Course , Relations , Branches and termination of the Peroneal artery<br>2. Describe in detail the Origin , Course , Relations and Branches of the Posterior Tibial artery<br>3. Describe in detail about Tibial nerve in the Back of Leg | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN19.3 | Explain the concept of " Peripheral heart" | 1. Explain the anatomical basis of Peripheral heart<br>2. Describe about the Origin , Insertion , Nerve supply and actions of the Soleus muscle<br>3. Enumerate the Perforators of the Back of Leg | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN19.4 | Explain the anatomical basis of rupture of calcaneal tendon | 1. Describe the Origin and Insertion of Gastronemius muscle<br>2. Enumerate factors causing rupture of Calcaneal tendon and how to prevent it<br>3. Describe the formation and insertion of the Tendocalcaneus | K | KH | N | Lecture | Written/ Viva voce | | Orthopaedics | |
| AN19.5 | Describe factors maintaining importance arches of the foot with its importance | 1. Enumerate the arches of foot<br>2. Describe the factors maintaining arches of Foot | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN19.6 | Explain the anatomical basis of Flat foot & Club foot | 1. Describe about Flat foot and its effects<br>2. Describe about Club foot and its associated conditions<br>3. Enumerate deformities of the foot | K | KH | N | Lecture | Written/ Viva voce | | Orthopaedics | |
| AN19.7 | Explain the anatomical basis of Metatarsalgia & Plantar fasciitis | 1. Describe Metatarsalgia and how it affects the Lateral and Medial plantar nerves in foot<br>2. Describe the parts ,attachment and functions of the Plantar aponeurosis<br>3. Enumerate the vessels and nerves supplying sole of foot | K | KH | N | Lecture | Written/ Viva voce | | Orthopaedics | |
| Topic: General Features, Joints, radiographs & surface marking | | Number of competencies: (10) | | | | Number of procedures for certification: (NIL) | | | | |

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| AN20.1 | Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint | 1. Describe the Type , Articular surfaces , Capsule , Synovial membrane , Ligaments , Relations , Movements and muscles involved ,Blood supply , Nerve supply of the Ankle joint<br>2. Describe the Type , Articular surfaces , Capsule , Synovial membrane , Ligaments , Relations , Movements and muscles involved ,Blood supply , Nerve supply of the Tibiofibular joint<br>3. Explain the anatomical basis of Eversion and Inversion | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN20.2 | Describe the subtalar and transverse tarsal joints | 1. Describe the Type , Capsule , Ligaments and movements of the Subtalar joints<br>2. Describe the Type , Capsule , Ligaments and movements of the Transverse Tarsal joints | K | KH | N | Lecture, DOAP session | Written/ Viva voce | | | |
| AN20.3 | Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb | 1. Describe the Attachments and extension of the Fascia lata<br>2. Describe the Course , Tributaries and Termination of the Great Saphenous vein<br>3. Describe the Attachemnts and extensions of the Extensor retinacula<br>4. Describe the dermatomal distribution of the Lower limb | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN20.4 | Explain anatomical basis of enlarged inguinal lymph nodes | 1. Enumerate the Inguinal Lymph nodes<br>2. Explain the Surgical and Clinical importance of Inguinal lymph nodes | K | KH | N | Lecture | Written/ Viva voce | | GENERAL SURGERY | |
| AN20.5 | Explain anatomical basis of varicose veins and deep vein thrombosis | 1. Describe the formation of Varicose veins and its complications<br>2. Describe about Trendelenberg's test and its importance<br>3. Enumerate factors causing Deep vein thrombosis and its complications | K | KH | Y | Lecture | Written/ Viva voce | | GENERAL SURGERY | |
| AN20.6 | Identify the bones and joints of lower limb seen in anteroposterior and lateral view radiographs of various regions of lower limb | 1. Enumerate bones of the Lower limb<br>2. Identify bony landmarks , epiphyseal junction in bones on viewing radiographs<br>3. Identify abnormalities like fracture or dislocation on viewing the radiographs | K/S | SH | Y | Lecture, Small group discussion, DOAP session | Viva voce/ skill assessment | | | |

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| AN20.7 | Identify & demonstrate 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 | 1. Identify and demonstrate bony landmarks of<br>a. Highest point of Iliac crest<br>b.Posterior superior Iliac spine<br>c. Iliac tubercle<br>d. Pubic tubercle<br>e. Ischial tuberosity<br>f. Adductor tubercle<br>g. Tibial tuberosity<br>h. Head of Fibula<br>i. Medial and Lateral malleloli<br>j. Condyles of Femur and Tibia<br>k. Sustentaculum tali<br>l. Tuberosity of 5th Metatarsal<br>m. Tuberosity of Navicular | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Viva voce/ skill assessment | | | |
| AN20.8 | Identify & demonstrate palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment | 1. Identify and demonstrate the location of Femoral and Popliteal artery<br>2. Enumerate various check sites of Peripheral pulses<br>3. Explain the anatomical basis of Femoral artery for performing Cardiac catheterization , Embalming and Femoraltapping to obtain an Arterial Blood Gas ( ABG ) sample | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Viva voce/ skill assessment | | | |
| AN20.9 | Identify & demonstrate 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 | 1. Describe the Origin , Course , relations and branches of the Femoral artery<br>2. Identify , palpate and demonstrate the Popliteal artery , Posterior Tibial artery and Dorsalis pedis artery<br>3. Identify and demonstrate the Mid-Inguinal pointand mention its clinical importance<br>4. Identify and demonstrate the branches of the Femoral nerve<br>5. Identify and demonstrate the Saphenous opening<br>6. Identify , palpate and demonstrate the Sciatic nerve, Tibial nerve , Common Peroneal nerve , Deep peroneal nerve<br>7. Identify and demonstrate the formation , course and termination of the Great and Small Saphenous veins | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Viva voce/ skill assessment | | GENERAL SURGERY | |
| AN20.10 | Describe basic concept of development of lower limb | 1. Describe in detail the development of the Lower lim | K | KH | N | Lecture | Viva voce | | | |
| Topic: Thoracic cage | | Number of competencies: (11) | | | | Number of procedures for certification: (NIL) | | | | |

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| AN21.1 | Identify and describe the salient features of sternum, typical rib, Ist rib and typical thoracic vertebra | 1. Describe parts of sternum<br>2. Describe the Bones forming ,Ligaments , Articular surfaces , Movements of the Sternoclavicular joint<br>3. Describe the procedure of Sternal Puncture<br>4. Enumerate parts of a typical rib<br>5. Describe parts of a typical vertebrae<br>6. Describe parts of a typical thoracic vertebra and demonstrate points of identification | K/S | SH | Y | Lecture, DOAP sessio | Viva voce/ skill assessment | | | |
| AN21.2 | Identify & describe the features of 2nd, 11th and 12th ribs, 1st, 11th and 12th thoracic vertebrae | 1. Describe the identifying features of the 2nd rib and Demonstrate them<br>2. Describe the clinical importance of sternal angle and the structures related to it<br>3. Classify ribs . Explain about floating ribs | K/S | SH | N | Lecture, DOAP session | Viva voce/ skill assessment | | | |
| AN21.3 | Describe & demonstrate the boundaries of<br>thoracic inlet, cavity and outlet | 1. Describe the boundaries of the Thoracic inlet<br>2. Explain the anatomicl basis of Thoracic Inlet syndrome<br>3. Describe the boundaries and contents of the Thoracic cavity<br>4. Describe the boundaries of the Thoracic Outlet | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN21.4 | Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles | 1. Describe in detail the Origin , Insertion , Nerve supply , Blood supply of the Intercostal muscles<br>2. Enumerate Accessory muscles of Respiration | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN21.5 | Describe & demonstrate origin, course, relations and branches of a typical intercostal nerve | 1. Describe the Origin , Course and Distribution of the Typical Intercostal nerve<br>2. Explain the anatomical basis of Intercostal Neuralgia | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN21.6 | Mention origin, course and branches/ tributaries of:<br>1) anterior & posterior intercostal vessels<br>2) internal thoracic vessels | 1. Describe origin , course and branches of Anterior and Posterior Intercostal vessels<br>2. Describe origin , course and branches of Internal thoracic ( Mammary ) vessels | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN21.7 | Mention the origin, course, relations and branches of<br>1) atypical intercostal nerve<br>2) superior intercostal artery, subcostal artery | 1. Describe origin , course , relations and branches of Atypical intercostal nerve<br>2. Describe origin , course , relations and branches of Superior Intercostal artery and Subcostal artery | K | KH | N | Lecture | Written | | | |

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| AN21.8 | Describe & demonstrate type, articular surfaces & movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints | 1. Describe in detail the articular surfaces and movements of Manubriosternal joint<br>2. Describe in detail the articular surfaces and movements of Costovertebral and Costotransverse joints<br>3. Describe in detail the articular surfaces and movements of Xiphisternal joints | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN21.9 | Describe & demonstrate mechanics and types of respiration | 1. Describe in detail the muscles of expiration and inspiration<br>2. Describe in detail the mechanism of respiration | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | Physiology |
| AN21.10 | Describe costochondral and interchondral joints | 1. Describe the type , articular surfaces and movemen | K | KH | N | Lecture | Written | | | |
| AN21.11 | Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum | 1. Describe the boundaries and contents of Superior Mediastinum<br>2. Enumerate parts of the Inferior Mediastinum<br>3. Describe boundaries and contents of Anterior Mediastinum<br>4. Describe boundaries and contents of Middle Mediastinum<br>5. Describe boundaries and contents of Posterior Mediastinum | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| Topic: Heart & Pericardium | | Number of competencies: (7) | | | | Number of procedures for certification: (NIL) | | | | |
| AN22.1 | Describe & demonstrate subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium | 1. Describe in detail the layers and contents of the Pericardium<br>2. Describe about the Sinuses of the Pericardium<br>3. Describe about the blood supply and nerve supply of the Pericardium | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN22.2 | Describe & demonstrate external and internal features of each chamber of heart | 1. Describe in detail about the external features of the heart<br>2. Describe in detail about the features of Right atrium of the Heart<br>3. Describe in detail about the features of the Right ventricle of Heart<br>4. Describe in detail about the valves of the Heart | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN22.3 | Describe & demonstrate origin, course and branches of coronary arteries | 1. Describe in detail about origin , course and branches of the Right Coronary artery<br>2. Describe in detail about origin , course and branches of the Left Coronary artery<br>3. Describe in detail about Coronary dominance | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN22.4 | Describe anatomical basis of ischaemic heart disease | 1. Describe Anatomical basis of Ischaemic heart disea | K | KH | Y | Practical, Lecture | Written/ Viva voce | | General Medicine | |
| AN22.5 | Describe & demonstrate the formation, course, tributaries and termination of coronary sinus | 1. Describe in detail about the formation and course of Coronary sinus<br>2. Enumerate the tributaries of the Coronary sinus<br>3. Describe the termination of the Coronary sinus | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN22.6 | Describe the fibrous skeleton of heart | 1. Describe the Fibrous skeleton of the Heart | K | KH | Y | Lecture | Written | | | |
| AN22.7 | Mention the parts, position and arterial supply of the conducting system of heart | 1. Enumerate the parts of the conducting system<br>2. Describe in detail the position of parts of the conducting system of heart<br>3. Describe the arterial supply to the conducting system of heart | K | KH | Y | Lecture | Written | | General Medicine | Physiology |
| Topic: Mediastinum | | Number of competencies: (7) | | | | | Number of procedures for certification: (NIL) | | | |
| AN23.1 | Describe & demonstrate the external appearance, relations, blood supply, nerve supply,lymphatic drainage and applied anatomy of oesophagus | 1. Describe the external features and relations of Oesophaus<br>2. Describe the blood supply and nerve supply of Oesophagus<br>3. Describe the lymphatic drainage of Oesophagus<br>4. Enumerate the anatomical basis of Barrets Oesophagus , Achalasia cardia and Oesophageal varices | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN23.2 | Describe & demonstrate the extent, relations tributaries of thoracic duct and enumerate its applied anatomy | 1. Describe in detail the formation and extent of the Thoracic duct<br>2. Describe in detail the relations of the thoracic duct<br>3. Enumerate the tributaries joining the Thoracic duct<br>4. Describe the applied and clinical significance of the Thoracic duct | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN23.3 | Describe & demonstrate origin, course, relations, tributaries and termination of superior venacava, azygos, hemiazygos and accessory hemiazygos veins | 1. Describe origin , course , relations , tributaries and termination of Superior vena cava<br>2. Describe origin , course , relations , tributaries and termination of Azygous vein<br>3. Describe origin , course , relations , tributaries and termination of Hemiazygous vein<br>4. Describe origin , course , relations , tributaries and termination of Accessory Hemiazygous vein | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN23.4 | Mention the extent, branches and relations of arch of aorta & descending thoracic aorta | 1. Describe the extent, relations and branches of Arch of Aorta<br>2. Describe the extent, relations and branches of Descending Thoracic Aorta | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN23.5 | Identify & Mention the location and extent of thoracic sympathetic chain | 1. Identify the location of Thoracic Sympathetic chain<br>2. Describe the extent of Thoracic sympathetic chain | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN23.6 | Describe the splanchnic nerves | 1. Describe the Splanchnic nerves | K | KH | N | Lecture | Written | | | |
| AN23.7 | Mention the extent, relations and applied anatomy of lymphatic duct | 1. Describe the extent and reltions of Right Lymphatic duct<br>2. Describe the applied anatomy of Right Lymphatic duct | K | KH | Y | Lecture | Written/ Viva voce | | | |
| Topic: Lungs & Trachea | | | Number of competencies: (6) | | | | Number of procedures for certification: (NIL) | | | |
| AN24.1 | Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy | 1. Describe the blood supply and lymphatic drainage of the Pleura<br>2. Describe the extent of Pleura and its reflections<br>3. Describe the Pleural recesses<br>4. Describe the applied and clinical significance of Pleuritis / Thoracocentesis / Pleurisy | K | KH | Y | Lecture, Practical | Written/ Viva voce | | General Medicine | |
| AN24.2 | Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate | 1. Enumerate and describe the structures with relations which form the root of Right lung<br>2. Enumerate and describe the structures with relations which form the root of Left lung<br>3. Enumerate parts of the Tracheobronchial tree<br>4. Desceribe the clinical correlation of the Root of Lung and Bronchial tree | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | General Medicine | |

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| AN24.3 | Describe a bronchopulmonary segment | 1. Define Bronchopulmonary segment<br>2. Enumerate the different bronchopulmonary segments seen in right lung<br>3. Enumerate the different bronchopulmonary segments seen in left lung | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN24.4 | Identify phrenic nerve & describe its formation & distribution | 1. Describe the formation and distribution of branches of Phrenic nerve | K/S | SH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN24.5 | Mention the blood supply, lymphatic drainage and nerve supply of lungs | 1. Describe the blood supply , nerve supply and lymphatic drainage of right lung<br>2. Describe the blood supply , nerve supply and lymphatic drainage of left lung | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN24.6 | Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea | 1. Describe the extent , length and relations of the Trachea<br>2. Describe the blood supply and nerve supply of the Trachea<br>3. Describe the lymphatic drainage of the Trachea | K | KH | N | Lecture | Written | | | |
| Topic: Thorax | | | Number of competencies: (9) | | | | Number of procedures for certification: (01) | | | |
| AN25.1 | Identify, draw and label a slide of trachea and lung | 1. Draw and label the histological structure of the Trachea<br>2. Draw and label the histological structure of the Lung<br>3. Identify and mention 2 points after seeing a slide of Trachea<br>4. Identify and mention 2 points after seeing a slide of Lung | K/S | SH | Y | Lecture, Practical | Written/ skill assessment | | | |
| AN25.2 | Describe development of pleura, lung & heart | 1. Describe development of Pleura<br>2. Describe development of Lung<br>3. Describe development of Heart<br>4. Describe development of Right Atrium of Heart<br>5. Describe development of Interatrial septum<br>6. Describe development of Interventricular septum | K | KH | Y | Lecture | Written | | | |
| AN25.3 | Describe fetal circulation and changes occurring at birth | 1. Describe in detail the fetal circulation<br>2. Enumerate the changes which occur in circulation at birth | K | KH | Y | Lecture | Written | | | |

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| AN25.4 | Describe embryological basis of:<br>1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula<br>B198 | 1. Describe the embryological basis of Atrial septal defect<br>2. Describe the embryological basis of Ventricular septal defect<br>3. Describe the embryological basis of Fallot's tetralogy<br>4. Describe the embryological basis of Tracheo-Oesophageal fistula | K | KH | Y | Lecture, | Written/ Viva voce | | Paediatrics | |
| AN25.5 | Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta | 1. Describe developmental basis of Transposition of great vessels<br>2. Describe developmental basis of Dextrocardia<br>3. Describe developmental basis of Patent ductus arteriosus<br>4. Describe developmental basis of Coarctation of Aorta | K | KH | Y | Lecture, | Written/ Viva voce | | Paediatrics | |
| AN25.6 | Mention development of aortic arch arteries, SVC, IVC and coronary sinus | 1. Describe development of Aortic arch arteries<br>2. Describe development of Superior vena cava<br>3. Describe development of Inferior vena cava<br>4. Describe development of Coronary sinus | K | KH | N | Lecture, | Written/ Viva voce | | | |
| AN25.7 | Identify structures seen on a plain x-ray chest (PA view) | 1. Identify and enumerate structures seen in a plain Chest x-ray | K/S | SH | Y | Practical, DOAP session | Written/ Viva voce | | Radiodiagnosis, General Medicine | |
| AN25.8 | Identify and describe in brief a barium swallow | 1. Identify and Enumerate the features on radiograph of Barium swallow | K/S | SH | N | Practical, DOAP session | Written/ Viva voce | | Radiodiagnosis | |
| AN25.9 | Demonstrate surface marking of lines of pleural reflection, lung borders and fissures, trachea, heart borders, apex beat & surface projection of valves of heart | 1. Demonstrate surface marking of lines of Pleural reflection<br>2. Demonstrate surface marking of lung borders and fissures<br>3. Demonstrate surface marking of heart borders | K/S | SH | Y | Practical | Viva voce/ skill assessment | | General Medicine | |
| Topic: Skull osteology | | Number of competencies: (7) | | | | | Number of procedures for certification: (NIL) | | | |
| AN26.1 | Demonstrate anatomical position of skull, Identify and locate individual skull bones in skull | 1. Enumerate parts of the human skull<br>2. Identify each bone and demonstrate their anatomical position | K/S | SH | Y | Lecture, DOAP sessio | Viva voce/ skill assessment | | | |
| AN26.2 | Describe the features of norma frontalis, verticalis, occipitalis, lateralis and basalis | 1. Describe features of Norma frontalis<br>2. Describe features of Norma verticalis<br>3. Describe features of Norma occipitalis<br>4. Describe features of Norma lateralis<br>5. Describe features of Norma basalis | K/S | SH | Y | Lecture, DOAP session | Viva voce/ skill assessment | | | |

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| AN26.3 | Describe cranial cavity, its subdivisions, foramina and structures passing through them | 1. Enumerate the various subdivisions of the cranial cavity<br>2. Enumerate the various foramina of the cranial cavity<br>3. Describe in detail the structures passing through various foramina | K/S | SH | Y | Lecture, DOAP sessio | Viva voce/ skill assessment | | | |
| AN26.4 | Describe morphological features of mandible | 1. Describe in detail the features of Mandible<br>2. Differentiate the features of Mandible based of age<br>3. Differentiate the features of Mandible based of sex | K/S | SH | Y | Lecture, DOAP session | Viva voce/ skill assessment | | | |
| AN26.5 | Describe features of typical and atypical cervical vertebrae (atlas and axis) | 1. Describe features of Typical cervical vertebrae<br>2. Describe features of Atlas<br>3. Describe features of Axis | K/S | SH | Y | Lecture, DOAP sessio | Viva voce/ skill assessment | | | |
| AN26.6 | Explain the concept of bones that ossify in membrane | 1. Enumerate types of Ossification<br>2. Describe in detail about Membranous ossification<br>3. Describe in detail about Endochondral ossification | K | KH | N | Lecture | Viva voce | | | |
| AN26.7 | Describe the features of the 7th cervical vertebra | 1. Describe the features of 7th cervical vertebrae<br>2. Identify the 7th cervical vertebrae and demonstrate its anatomical position | K/S | SH | N | DOAP session | Viva voce | | | |
| Topic: Scalp | | Number of competencies: (2) | | | | Number of procedures for certification: (NIL) | | | | |
| AN27.1 | Describe the layers of scalp, its blood supply, its nerve supply and surgical importance | 1. Enumerate the Layers of Scalp<br>2. Describe the blood supply and nerve supply of Scalp<br>3. Describe the applied and clinical significance of Scalp | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN27.2 | Describe emissary veins with its role in spread of infection from extracranial route to intracranial venous sinuses | 1. Enumerate the Emissary veins of Head and Neck<br>2. Describe in detail the spread of infection through emissary veins | K | KH | Y | Lecture | Written□ | | | |
| Topic: Face & parotid region | | Number of competencies: (10) | | | | Number of procedures for certification: (NIL) | | | | |
| AN28.1 | Describe & demonstrate muscles of facial expression and their nerve supply | 1. Describe the muscles of Facial expression<br>2. Describe the nerve supply of muscles of the Face | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN28.2 | Describe sensory innervation of face | 1. Enumerate the nerves innervating the face | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |

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| AN28.3 | Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels | 1. Describe in detail the origin , course , branches of the Facial artery<br>2. Describe in detail the formation and termination of the Facial vein | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN28.4 | Describe & demonstrate branches of facial nerve with distribution | 1. Enumerate the branches of Facial nerve in face<br>2. Describe the origin , course and distribution of branches of Facial nerve in face | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN28.5 | Describe cervical lymph nodes and lymphatic drainage of head, face and neck | 1. Enumerate the various lymph nodesin head and neck region<br>2. Describe in detail about lymph nodes and their drainage in head neck and face region | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN28.6 | Identify superficial muscles of face, their nerve supply and actions | 1. Describe in detail the superficial muscles of face with their nerve supply<br>2. Describe the actions of the superficial muscles of the face | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN28.7 | Explain the anatomical basis of facial nerve palsy | 1. Enumeratethe various causes for Facial nerve palsy and its anatomical basis | K | KH | Y | Lecture | Written | | | |
| AN28.8 | Explain surgical importance of deep facial vein | 1. Describe in detail the surgical importance of the Deep facial vein | K | KH | Y | Lecture | Written | | | |
| AN28.9 | Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance | 1. Describe parts , borders , surfaces of the Parotid gland<br>2. Describe contents and relations of the Parotid gland<br>3. Describe nerve supply of the Parotid gland<br>4. Describe formation , course and opening of Parotid gland<br>5. Describe applied and surgical anatomy of the Parotid gland | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | General Surgery | |
| AN28.10 | Explain the anatomical basis of Frey's syndrome | 1. Describe anatomical basis of Frey's syndrome | K | KH | N | Lecture | Written | | | |
| Topic: Posterior triangle of neck | | | Number of competencies: (4) | | | Number of procedures for certification: (NIL) | | | | |
| AN29.1 | Describe & demonstrate attachments, nerve supply, relations and actions of sternocleidomastoid | 1. Describe origin and insertion of Sternocleidomastoid<br>2. Describe Nerve supply and relations of Sternocleidomastoid<br>3. Describe actions and applied anatomy of Sternocleidomastoid | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN29.2 | Explain anatomical basis of Erb's & Klumpke's palsy | 1. Describe the anatomical basis of Erb's palsy<br>2. Describe the anatomical basis of Klumpke's paralysis | K | KH | Y | Lecture | Written | | | |
| AN29.3 | Explain anatomical basis of wry neck | 1. Describe Wry neck or Torticollis | K | KH | N | Lecture | Written | | | |
| AN29.4 | Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2)scalenus anterior, 3) scalenus medius & 4) levator scapulae | 1. Describe origin and insertion of Inferior belly of Omohyoid<br>2. Describe origin and insertion of Scalenus anterior<br>3. Describe origin and insertion of Scalenus medius<br>4. Describe origin and insertion of Levator scapulae | K/S | SH | N | Lecture, Practica | Written/ Viva voce | | | |
| Topic: Cranial cavity | | Number of competencies: (5) | | | | Number of procedures for certification: (NIL) | | | | |
| AN30.1 | Describe the cranial fossae & identify related structures | 1. Enumerate the various cranial fossa<br>2. Describe in detail the cranial fossa and their related structures | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN30.2 | Describe & identify major foramina with structures passing through them | 1. Enumerate the major foramina in the cranial fossa<br>2. Identify the major foramina and describe in detail the structures passing through them | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN30.3 | Describe & identify dural folds & dural venous sinuses | 1. Enumerate the folds of Duramater<br>2. Classify Dural venous sinuses and describe in detail about their relations<br>3. Describe in detail the cavernous sinus | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN30.4 | Describe clinical importance of dural venous sinuses | 1. Describe applied and clinical importance of Dural venous sinuses | K | KH | Y | Lecture | Written | | | |
| AN30.5 | Explain effect of pituitary tumours on visual pathway | 1. Enumerate parts of the visual pathway<br>2. Describe effect of Pituitary tumour on visual pathway | K | KH | N | Lecture | Written | | | |
| Topic: Orbit | | Number of competencies: (5) | | | | Number of procedures for certification: (NIL) | | | | |
| AN31.1 | Describe & identify extra ocular muscles of eyeball | 1. Enumerate the extraocular muscles<br>2. Describe in detail the origin and insertion of the Extraocular muscles<br>3. Describe in detail the nerve supply and actions of the extraocular muscles | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN31.2 | Describe & demonstrate nerves and vessels in the orbit | 1. Describe the nerves of the orbit in detail<br>2.Describe the vessels of the orbit in detail | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN31.3 | Describe anatomical basis of Horner's syndrome | 1. Describe the anatomical basis of Horner's syndrome | K | KH | N | Lecture | Written | | | |
| AN31.4 | Enumerate components of lacrimal apparatus | 1. Enumerate parts of Lacrimal apparatus | K | KH | Y | Lecture | Written | | | |
| AN31.5 | Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus | 1. Describe in detail about anatomical basis of Occulomotor palsy<br>2. Describe in detail about anatomical basis of Trochlear palsy<br>3. Describe in detail about anatomical basis of Abducens palsy<br>4. Describe Strabismus | K | KH | Y | Lecture | Written | | Opthalmology | |
| Topic: Anterior Triangle | | | Number of competencies: | | | | Number of procedures for certification: (NIL) | | | |
| AN32.1 | Describe boundaries and subdivisions of anterior triangle | 1. Describe the boundaries and contents of Anterior triangle<br>2. Enumerate the subdivisions of Anterior triangle | K | KH | Y | Practical, Lecture | Written/ Viva voce | | | |
| AN32.2 | Describe & demonstrate boundaries and contents of muscular, carotid, digastric and submental triangles | 1. Describe boundaries and contents of Muscular triangle<br>2. Describe boundaries and contents of Carotid triangle<br>3. Describe boundaries and contents of Digastric triangle<br>4. Describe boundaries and contents of Submental triangle | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| Topic: Temporal and Infratemporal regions | | | Number of competencies: (5) | | | | Number of procedures for certification: (NIL) | | | |
| AN33.1 | Describe & demonstrate extent, boundaries and contents of temporal and infratemporal fossae | 1. Describe Extent , Boundaries and contents of the Temporal fossa<br>2. Describe Extent , Boundaries and contents of the Infratemporal fossa | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN33.2 | Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication | 1. Describe origin , insertion and nerve supply and action of Masseter<br>2. Describe origin , insertion and nerve supply and action of Temporalis<br>3. Describe origin , insertion and nerve supply and action of Lateral Pterygoid<br>4. Describe origin , insertion and nerve supply and action of Medial Pterygoid | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN33.3 | Describe & demonstrate articulating surface, type & movements of temporomandibular joint | 1. Describe articular surfaces , type and movements of Temporomandibular joint | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN33.4 | Explain the clinical significance of pterygoid venous plexus | 1. Explain the clinical significance of Pterygoid venous plexus | K | KH | Y | Lecture | Written | | | |
| AN33.5 | Describe the features of dislocation of temporomandibular joint | 1. Describe features of dislocation of Temporomandibular joint | K | KH | N | Lecture | Written | | | |

# HUMAN ANATOMY - CBME

| Number | COMPETENCY<br>The student should be able to | SLO | Domain K/S/A/ C | elK/KH/ | Core (Y/N) | Teaching-Learning Methods | Assessment Methods | Number required to certify P | Vertical Integratio n | Horizontal Integration |
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| Topic: Submandibular region | | Number of competencies: (2) | | | | | Number of procedures for certification: (NIL) | | | |
| AN34.1 | Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion | 1. At the end of session, the phase I student should be able to describe & demonstrate the morphology and relations of submandibular salivary gland correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the nerve supply of submandibular salivary gland correctly<br>3. At the end of session, the phase I student should be able to describe the roots and branches of submandibular ganglion correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN34.2 | Describe the basis of formation of submandibular stones | At the end of session, the phase I student should be able to describe the basis of formation of submandibular stones correctly | K | KH | N | | | | | |
| Topic: Deep structures in the neck | | Number of competencies: (10) | | | | | Number of procedures for certification: (NIL) | | | |
| AN35.1 | Describe the parts, extent, attachments, modifications of deep cervical fascia | 1. At the end of session, the phase I student should be able to describe the parts, extent, attachments, modifications of deep cervical fascia correctly<br>2. At the end of session, the phase I student should be able to describe the applied aspects of deep cervical fascia correctly | K | KH | Y | Lecture | Written | | | |

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| AN35.2 | Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland | 1. At the end of session, the phase I student should be able to describe & demonstrate location, parts, borders, surfaces & relations of thyroid gland correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the blood supply of thyroid gland correctly<br>3. At the end of session, the phase I student should be able to describe the clinical significance of Thyroid gland correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | General Surgery | |
| AN35.3 | Demonstrate & describe the origin, parts, course & branches subclavian artery | 1. At the end of session, the phase I student should be able to demonstrate & describe the origin, parts, course & branches subclavian artery correctly<br>2. At the end of session, the phase I student should be able to describe subclavian steel syndrome correctly<br>3. Enumerate the causes of vertebral artery insufficiency correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN35.4 | Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins | 1. At the end of session, the phase I student should be able to describe & demonstrate origin, course, relations, tributaries and termination of internal jugular vein correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate origin, course, relations, tributaries and termination of brachiocephalic vein correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN35.5 | Describe and demonstrate extent, drainage & applied anatomy of cervical lymph nodes | 1. At the end of session, the phase I student should be able to describe and demonstrate extent, drainage & applied anatomy of cervical lymph nodes<br>2. At the end of session, the phase I student should be able to describe waldeyer's ring and add a note on applied aspects | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN35.6 | Describe and demonstrate the extent, formation, relation & branches of cervical sympathetic chain | 1. At the end of session, the phase I student should be able to describe and demonstrate the extent, formation, relation & branches of cervical sympathetic chain correctly<br>2. At the end of session, the phase I student should be able to describe ansa subclavia correctly<br>3. At the end of session, the phase I student should be able to describe stellate ganglion correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN35.7 | Describe the course and branches of IX, X, XI & XII nerve in the neck | 1. At the end of session, the phase I student should be able to describe the orgin,course, relations and branches, distribution and applied aspects of IX nerve in the neck correctly<br>2. At the end of session, the phase I student should be able to describe the orgin,course, relations and branches, distribution and applied aspects of X nerve in the neck correctly<br>3.At the end of session, the phase I student should be able to describe the orgin,course, relations and branches, distribution and applied aspects of XI nerve in the neck correctly<br>4. At the end of session, the phase I student should be able to describe the orgin,course, relations and branches, distribution and applied aspects of XII nerve in the neck correctly | K | KH | Y | Lecture | Written | | | |
| AN35.8 | Describe the anatomically relevant clinical features of Thyroid swellings | At the end of session, the phase I student should be able to describe the anatomically relevant clinical features of Thyroid swellings correctly | K | KH | N | Lecture | Written | | | |
| AN35.9 | Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib | At the end of session, the phase I student should be able todDescribe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib correctly | K | KH | N | Lecture | Written | | General Surgery | |

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| AN35.10 | Describe the fascial spaces of neck | 1. At the end of session, the phase I student should be able to describe the location, boundaries, contents and surgical importance of retropharyngeal space correctly<br>2. At the end of session, the phase I student should be able to describe thelocation, boundaries, contents and surgical importance of parapharyngeal space correctly<br>3. At the end of session, the phase I student should be able to describe the location, boundaries, contents and surgical importance of submandibular space correctly<br>4. Describe the location, boundaries, contents and surgical importance of suprasternal space of Burns correctly | K | KH | N | Lecture | Written | | | |
| Topic: Mouth, Pharynx & Palate | | Number of competencies: (5) | | | | | Number of procedures for certification: (NIL) | | | |
| AN36.1 | Describe the 1) morphology, relations, blood supply and applied anatomy<br>of palatine tonsil 2) composition of soft palate | 1. At the end of session, the phase I student should be able to describe the morphology, relations, blood supply and applied anatomy<br>of palatine tonsil correctly<br>2. At the end of session, the phase I student should be able to describe the composition and applied aspects of soft palate correctly | K | KH | Y | Lecture | Written | | | |
| AN36.2 | Describe the components and functions<br>of Waldeyer's lymphatic ring | At the end of session, the phase I student should be able to describe the components, functions and clinical sigificance<br>of Waldeyer's lymphatic ring correctly | K | KH | Y | Lecture | Written | | | |
| AN36.3 | Describe the boundaries and clinical significance of pyriform fossa | At the end of session, the phase I student should be able to describe the location,<br>boundaries and clinical<br>significance of<br>pyriform fossa correctly | K | KH | N | Lecture | Written | | | |

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| AN36.4 | Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess | 1.At the end of session, the phase I student should be able to describe the anatomical basis of peri-tonsillar abscess correctly<br>2.At the end of session, the phase I student should be able to describe the anatomical basis of tonsillitis and tonsillectomy correctly<br>3. At the end of session, the phase I student should be able to describe the anatomical basis of adenoids correctly | K | KH | N | Lecture | Written | | ENT | |
| AN36.5 | Describe the clinical significance of Killian's dehiscence | At the end of session, the phase I student should be able to describe the clinical significance of Killian's dehiscence correctly | K | KH | N | Lecture | Written | | | |
| Topic: Cavity of Nose | | | Number of competencies: (3) | | | | | Number of procedures for certification: (NIL) | | |
| AN37.1 | Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply | 1. At the end of session, the phase I student should be able to describe & demonstrate features of nasal septum, their blood supply, nerve supply, lymphatic drainage and clinical significance correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate features of lateral wall of nose, their blood supply, nerve supply, lymphatic drainage and clinical significance correctly<br>3. At the end of session, the phase I student should be able to describe Little's area and its applied aspects correctly<br>4. At the end of session, the phase I student should be able to describe the structures and openings present in the middle meatus correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN37.2 | Describe location and functional anatomy of paranasal sinuses | At the end of session, the phase I student should be able to describe location and functional anatomy of paranasal sinuses correctly | K | KH | Y | Lecture | Written | | ENT | |
| AN37.3 | Describe anatomical basis of sinusitis & maxillary sinus tumours | At the end of session, the phase I student should be able to describe anatomical basis of sinusitis & maxillary sinus tumours correctly | K | KH | N | Lecture | Written | | ENT | |
| Topic: Larynx | | Number of competencies: (3) | | | | | | Number of procedures for certification: (NIL) | | |
| AN38.1 | Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx | 1. At the end of session, the phase I student should be able to describe the cartilages of larynx correctly<br>2. At the end of session, the phase I student should be able to describe the orgin, insertion, nerve supply, actions and clinical significance of intrinsic muscles of the larynx and add a note on Semon's law correctly<br>3. At the end of session, the phase I student should be able to describe the subdivisions of laryngeal cavity correctly<br>4. At the end of session, the phase I student should be able to describe the intrinsic membranes of larynx correctly<br>5. At the end of session, the phase I student should be able to describe the folds of the larynx correctly<br>6. At the end of session, the phase I student should be able to describe the vocal cord paralysis correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN38.2 | Describe the anatomical aspects of laryngitis | At the end of session, the phase I student should be able to describe the anatomical aspects of laryngitis correctly | K | KH | N | Lecture | Written | | ENT | |
| AN38.3 | Describe anatomical basis of recurrent laryngeal nerve injury | At the end of session, the phase I student should be able to describe anatomical basis of recurrent laryngeal nerve injury correctly | K | KH | N | Lecture | Written | | | |

| Topic: Tongue | | Number of competencies: (2) | | | | | | | | Number of procedures for certification: (NIL) |
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| AN39.1 | Describe & demonstrate the morphology, nerve supply, embryological basis of nerve supply, blood supply, lymphatic drainage and actions of extrinsic and intrinsic muscles of tongue | 1. At the end of session, the phase I student should be able to describe & demonstrate the morphology of tongue correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the nerve supply of tongue correctly<br>3. At the end of session, the phase I student should be able to describe & demonstrate the embryological basis of nerve supply of tongue correctly<br>4. At the end of session, the phase I student should be able to describe & demonstrate the blood supply, lymphatic drainage of tongue correctly<br>5. At the end of session, the phase I student should be able to describe & demonstrate the actions of extrinsic and intrinsic muscles of tongue correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN39.2 | Explain the anatomical basis of hypoglossal nerve palsy | At the end of session, the phase I student should be able to explain the anatomical basis of hypoglossal nerve palsy correctly | K | KH | N | Lecture | Written | | | |
| Topic: Organs of hearing and equilibrium | | Number of competencies: (5) | | | | | | | | Number of procedures for certification: (NIL) |

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| AN40.1 | At the end of session, the phase I student should be able to describe & identify the parts, blood supply and nerve supply of external ear | 1. At the end of session, the phase I student should be able to describe & identify the parts of external ear correctly<br>2. At the end of session, the phase I student should be able to describe & identify the blood supply, nerve supply and lymphatic drainage of external ear correctly<br>3. At the end of session, the phase I student should be able to describe & identify the clinical significance of external ear correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN40.2 | Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube | 1. At the end of session, the phase I student should be able to describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear correctly<br>2.At the end of session, the phase I student should be able to describe & demonstrate the functional anatomy of auditory tube correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN40.3 | Describe the features of internal ear | At the end of session, the phase I student should be able to describe the features of internal ear correctly | K | KH | N | Lecture | Written | | | |
| AN40.4 | Explain anatomical basis of otitis externa and otitis media | 1. At the end of session, the phase I student should be able to explain anatomical basis of otitis externa correctly<br>2. At the end of session, the phase I student should be able to explain anatomical basis of otitis media correctly | K | KH | N | Lecture | Written | | ENT | |
| AN40.5 | Explain anatomical basis of myringotomy | At the end of session, the phase I student should be able to explain anatomical basis of myringotomy correctly | K | KH | N | Lecture | Written | | ENT | |
| Topic: Eyeball | | | Number of competencies: (3) | | | | | Number of procedures for certification: (NIL) | | |

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| AN41.1 | Describe & demonstrate parts and layers of eyeball | At the end of session, the phase I student should be able to describe & demonstrate parts and layers of eyeball correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN41.2 | Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion | 1. At the end of session, the phase I student should be able to describe the anatomical aspects of cataract correctly<br>2.At the end of session, the phase I student should be able to describe the anatomical aspects of glaucoma correctly<br>3. At the end of session, the phase I student should be able to describe the anatomical aspects of central retinal artery occlusion correctly | K | KH | N | Lecture | Written | | Ophthal mology | |
| AN41.3 | Describe the position, nerve supply and actions of intraocular muscles | At the end of session, the phase I student should be able to describe the orgin, insertion, nerve supply, actions and clinical significance of intraocular muscles | K | KH | N | Lecture | Written | | | |
| Topic: Back Region | | | Number of competencies: (3) | | | | | Number of procedures for certification: (NIL) | | |
| AN42.1 | Describe the contents of the vertebral canal | At the end of session, the phase I student should be able to describe the contents of the vertebral canal correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN42.2 | Describe & demonstrate the boundaries and contents of Suboccipital triangle | At the end of session, the phase I student should be able to describe & demonstrate the boundaries, contents and clinical significance of Suboccipital triangle correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN42.3 | Describe the position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis | At the end of session, the phase I student should be able to describe the position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis correctly | K | KH | N | Lecture | Written | | | |
| ppic: Head & neck Joints, Histology, Development, Radiography & Surface marking | | | | | Number of competencies: (9) | | | | Number of procedures for certification: (NI | |
| AN43.1 | Describe & demonstrate the movements with muscles producing the movements of atlantooccipital joint & atlantoaxial joint | 1. At the end of session, the phase I student should be able to describe & demonstrate the movements with muscles producing the movements of atlantooccipital joint correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the movements with muscles producing the movements of atlantoaxial joint correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN43.2 | Identify, describe and draw the microanatomy of pituitary gland, thyroid,<br>parathyroid gland, tongue, salivary glands, tonsil, epiglottis, cornea, retina | 1. At the end of session, the phase I student should be able to Identify, describe and draw the microanatomy of pituitary gland,<br>2. At the end of session, the phase I student should be able to Identify, describe and draw the microanatomy of thyroid,<br>parathyroid gland,<br>3. At the end of session, the phase I student should be able to Identify, describe and draw the microanatomy of tongue<br>4. At the end of session, the phase I student should be able to Identify, describe and draw the microanatomy of salivary glands<br>5. At the end of session, the phase I student should be able to Identify, describe and draw the microanatomy of tonsil<br>6. At the end of session, the phase I student should be able to identify, describe and draw the microanatomy of cornea and retina | K/S | SH | Y | Lecture, Practical | Written/ skill assessment | | | |
| AN43.3 | Identify, describe and draw microanatomy of olfactory epithelium, eyelid,<br>lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland | At the end of session, the phase I student should be able to Identify, describe and<br>draw microanatomy of optic nerve | K/S | SH | N | Lecture, Practical | Written/ skill assessment | | | |

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| AN43.4 | Describe the development and developmental basis of congenital anomalies of face, palate, tongue, branchial apparatus, pituitary gland, thyroid gland & eye | 1. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital anomalies of face<br>2. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital anomalies of palate<br>3. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital anomalies of tongue<br>4. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital anomalies of branchial apparatus<br>5. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital anomalies of pituitary gland<br>6. At the end of session, the phase I student should be able to describe the development and developmental basis of congenital | K | KH | Y | Lecture | Written/ Viva voce | | | |

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| AN43.5 | Demonstrate- 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 | 1. At the end of session, the phase I student should be able to demonstrate testing of muscles of facial expression<br>2.At the end of session, the phase I student should be able to demonstrate testing of extraocular muscles<br>3. At the end of session, the phase I student should be able to demonstrate testing of muscles of mastication<br>4. At the end of session, the phase I student should be able to demonstrate Palpation of carotid arteries, facial artery, superficial temporal artery, Location of internal and external jugular veins<br>5. Demonstrate the Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels | K/S | SH | Y | Practical | Viva voce/ skill assessment | | | |
| AN43.6 | Demonstrate surface projection of- Thyroid gland, Parotid gland and duct,<br>Pterion, Common carotid artery, Internal jugular vein, Subclavian vein,<br>External jugular vein, Facial artery in the face & accessory nerve | 1. At the end of session, the phase I student should be able to demonstrate surface projection of- Thyroid gland, Parotid gland and duct,<br>Pterion, Common carotid artery, Internal jugular vein, Subclavian vein,<br>External jugular vein, Facial artery in the face & accessory nerve | K/S | SH | N | Practical | Viva voce/ skill assessment | | | |

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| AN43.7 | Identify the 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 | 1. At the end of session, the phase I student should be able to Identify the anatomical structures in Plain x-ray skull, AP view and lateral view<br>2. At the end of session, the phase I student should be able to Identify the anatomical structures in Plain x-ray cervical spine-AP and lateral view<br>3. At the end of session, the phase I student should be able to Identify the anatomical structures in Plain x-ray of paranasal sinuses | K/S | SH | Y | Practical | Viva voce/ skill assessment | | Radiodiagnosis | |
| AN43.8 | Describe the anatomical route used for carotid angiogram and vertebral angiogram | At the end of session, the phase I student should be able to describe the anatomical route used for carotid angiogram and vertebral angiogram | K/S | SH | N | Practical | Viva voce/ skill assessment | | | |
| AN43.9 | Identify anatomical structures in carotid angiogram and vertebral angiogram | At the end of session, the phase I student should be able to Identify anatomical structures in carotid angiogram and vertebral angiogram | K/S | SH | N | Practical | Viva voce/ skill assessment | | Radiodiagnosis | |
| Topic: Anterior abdominal wall | | | Number of competencies: (7) | | | | | Number of procedures for certification: (NIL) | | |

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| AN44.1 | Describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen | 1. At the end of session, the phase I student should be able to describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen correctly1. At the end of session, the phase I student should be able to describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen correctly1. At the end of session, the phase I student should be able to describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN44.2 | Describe & identify the Fascia, nerves & blood vessels of anterior abdominal wall | At the end of session, the phase I student should be able to describe & identify the Fascia, nerves & blood vessels of anterior abdominal wall correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN44.3 | Describe the formation of rectus sheath and its contents | At the end of session, the phase I student should be able to describe the formation of rectus sheath and its contents correctly | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN44.4 | Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle. | At the end of session, the student should be able toDescribe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN44.5 | Explain the anatomical basis of inguinal hernia. | At the end of session, the student should be able toExplain the anatomical basis of inguinal hernia correctly | K | KH | Y | Lecture | Written/ Viva voce | | | |

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| AN44.6 | Describe & demonstrate attachments of muscles of anterior abdominal wall | At the end of session, the student should be able toDescribe & demonstrate attachments of muscles of anterior abdominal wall correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN44.7 | Enumerate common Abdominal incisions | At the end of session, the student should be able to Enumerate common Abdominal incisions correctly | K | KH | N | Lecture | Written/ Viva voce | | General Surgery | |
| opic: Posterior abdominal wall | | | | Number of competencies: (3) | | | | | Number of procedures for certification: (NIL | |
| AN45.1 | Describe Thoracolumbar fascia | At the end of session, the student should be able to describe Thoracolumbar fascia correctly | K | KH | Y | Lecture | Written | | | |
| AN45.2 | Describe & demonstrate Lumbar plexus for its root value, formation & branches | At the end of session, the phase I student should be able to describe & demonstrate Lumbar plexus for its root value, formation & branches emerging from the borders of psoas major muscle correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN45.3 | Mention the major subgroups of back muscles, nerve supply and action | At the end of session, the phase I student should be able to mention the major subgroups of back muscles, nerve supply and action correctly | K | KH | N | Lecture | Written | | | |
| Topic: Male external genitalia | | | | Number of competencies: (5) | | | | | Number of procedures for certification: (NIL) | |
| AN46.1 | Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy | 1. At the end of session, the phase I student should be able to describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage of testis with its applied anatomy correctly<br>2. At the end of session, the phase I student should be able to describe the decent of testis correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN46.2 | Describe parts of Epididymis | At the end of session, the phase I student should be able to describe parts of Epididymis correctly | K | KH | Y | Lecture, Practical | Written/ Viva voce | | | |

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| AN46.3 | Describe Penis under following headings: (parts, components, blood supply and lymphatic drainage) | At the end of session, the phase I student should be able to describe Penis under following headings: (parts, components, blood supply and lymphatic drainage)correctly | K | KH | Y | Lecture, Practical | Written/ Viva voce | | | |
| AN46.4 | Explain the anatomical basis of Varicocoele | At the end of session, the phase I student should be able to explain the anatomical basis of Varicocoele correctly | K | KH | N | Lecture | Written | | | |
| AN46.5 | Explain the anatomical basis of Phimosis & Circumcision | At the end of session, the phase I student should be able to explain the anatomical basis of Phimosis & Circumcision correctly | K | KH | N | Lecture | Written | | | |
| pic: Abdominal cavity | | Number of competencies: (14) | | | | | | Number of procedures for certification: (NI | | |
| AN47.1 | Describe & identify boundaries and recesses of Lesser & Greater sac | 1. At the end of session, the phase I student should be able to describe & identify boundaries and recesses of Lesser sac correctly<br>2. At the end of session, the phase I student should be able to describe & identify boundaries and recesses of Greater sac correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN47.2 | Name & identify various peritoneal folds & pouches with its explanation | At the end of session, the phase I student should be able to name & identify various peritoneal folds & pouches with its explanation correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN47.3 | Explain anatomical basis of Ascites & Peritonitis | At the end of session, the phase I student should be able to explain anatomical basis of Ascites & Peritonitis correctly | K | KH | N | Lecture | Written | | General Surgery | |
| AN47.4 | Explain anatomical basis of Subphrenic abscess | At the end of session, the phase I student should be able to explain anatomical basis of Subphrenic abscess correctly | K | KH | N | Lecture | Written | | | |

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| AN47.5 | At the end of session, the phase I student should be able to describe & demonstrate 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) | should be able to describe & demonstrate the stomach under following headings (anatomical position, external and internal features) correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate important peritoneal and other relations of the stomach correctly<br>3. At the end of session, the phase I student should be able to describe & demonstrate the blood supply of the stomach correctly<br>4. At the end of session, the phase I student should be able to describe & demonstrate the nerve supply of the stomach correctly<br>5. At the end of session, the phase I student should be able to describe & demonstrate the lymphatic drainage of the stomach correctly<br>6. At the end of session, the phase I student should be able to describe & demonstrate the applied aspects of the stomach correctly<br>7. At the end of session, the phase I student should be able to describe & demonstrate Duodenum under following headings (anatomical position, external and internal features, important | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN47.6 | Explain the 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 | 1. At the end of session, the phase I student should be able to explain the anatomical basis of Splenic notch, Accessory spleens, Kehr's sign correctly<br>2. At the end of session, the phase I student should be able to explain the anatomical basis of Different types of vagotomy correctly<br>3. At the end of session, the phase I student should be able to explain the anatomical basis of Liver biopsy (site of needle puncture)correctly<br>4. At the end of session, the phase I student should be able to explain the anatomical basis of Referred pain in cholecystitis, Obstructive jaundice, Referred pain around umbilicus, Radiating pain of kidney to groin correctly<br>5. At the end of session, the phase I student should be able to explain the anatomical basis of Lymphatic spread in carcinoma stomach correctly | K | KH | N | Lecture | Written | | General Surgery | |
| AN47.7 | Mention the clinical importance of Calot's triangle | At the end of session, the phase I student should be able to mention the clinical importance of Calot's triangle | K | KH | N | Lecture | Written | | | |
| AN47.8 | Describe & identify the formation, course relations and tributaries of Portal vein, Inferior vena cava & Renal vein | 1. At the end of session, the phase I student should be able todDescribe & identify the formation, course relations, tributaries of Portal vein correctly<br>2. At the end of session, the phase I student should be able to describe & identify the formation, course relations and tributaries of Inferior vena cava & Renal vein correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN47.9 | Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric &<br>Common iliac artery | 1. At the end of session, the phase I student should be able to describe & identify the origin, course, important relations and branches of Abdominal aorta correctly<br>2. At the end of session, the phase I student should be able to describe & identify the origin, course, important relations and branches of Coeliac trunk correctly<br>3. At the end of session, the phase I student should be able to describe & identify the origin, course, important relations and branches of Superior mesenteric and Inferior mesenteric arteries correctly<br>4. At the end of session, the phase I student should be able to describe & identify the origin, course, important relations and branches of Common iliac arteries correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN47.10 | Enumerate the sites of portosystemic anastomosis | At the end of session, the phase I student should be able to enumerate the sites of portosystemic anastomosis correctly | K | KH | Y | Lecture | Written | | | |
| AN47.11 | Explain the anatomic basis of hematemesis& caput medusae in portal<br>hypertension | At the end of session, the phase I student should be able to explain the anatomic basis of hematemesis& caput medusae in portal<br>hypertension correctly | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN47.12 | Describe important nerve plexuses of posterior abdominal wall | At the end of session, the phase I student should be able to describe important nerve plexuses of posterior abdominal wall correctly | K | KH | N | Lecture | Written | | | |

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| AN47.13 | Describe & demonstrate the attachments, openings, nerve supply & action of the thoracoabdominal diaphragm | At the end of session, the phase I student should be able to describe & demonstrate the attachments, openings, nerve supply & action of the thoracoabdominal diaphragm correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN47.14 | Describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia | At the end of session, the phase I student should be able to describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia correctly | K | KH | N | Lecture | Written | | | |
| Topic: Pelvic wall and viscera | | Number of competencies: (8) | | | | | | Number of procedures for certification: (NIL) | | |
| AN48.1 | Describe & identify the muscles of Pelvic diaphragm | At the end of session, the phase I student should be able to describe & identify the muscles of Pelvic diaphragm correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN48.2 | Describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera | student should be able to describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of Uterus correctly 2. At the end of session, the phase I student should be able to describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of fallopian tubes correctly 3. At the end of session, the phase I student should be able to describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of ovaries correctly 4. At the end of session, the phase I student should be able to describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of epididymis correctly 5. At the end of session, the phase I | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN48.3 | Describe & demonstrate the origin, course, important relations and branches of internal iliac artery | At the end of session, the phase I student should be able to describe & demonstrate the origin, course, important relations and branches of internal iliac artery correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN48.4 | Describe the branches of sacral plexus | student should be able to describe the branches | K | KH | Y | Lecture | Written | | | |

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| AN48.5 | Explain the anatomical basis of suprapubic cystostomy, Urinary obstruction<br>in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation | student should be able to explain the anatomical<br>basis of suprapubic cystostomy correctly<br>2. At the end of session, the phase I student should be able to explain the anatomical<br>basis of Urinary obstruction<br>in benign prostatic hypertrophy correctly<br>3. At the end of session, the phase I student should be able to explain the anatomical<br>basis of Prolapse of uterus correctly<br>4. At the end of session, the phase I student should be able to explain the anatomical<br>basis of Internal and external haemorrhoids correctly<br>5. At the end of session, the phase I student should be able to explain the anatomical<br>basis of Anal fistula correctly<br>6. At the end of session, the phase I student should be able to explain the anatomical<br>basis of Vasectomy correctly<br>7. At the end of session, the phase I student should be able to explain the anatomical | K | KH | N | Lecture | Written | | General Surgery | |
| AN48.6 | Describe the neurological basis of Automatic bladder | At the end of session, the phase I student should be able to describe the neurological basis of<br>Automatic bladder correctly | K | KH | N | Lecture | Written | | | |
| AN48.7 | Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer | At the end of session, the phase I student should be able to mention the lobes involved in benign prostatic hypertrophy & prostatic<br>cancer correctly | K | KH | N | Lecture | Written | | | |

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| AN48.8 | Mention the structures palpable during<br>vaginal & rectal examination | 1. At the end of session, the phase I student should be able to mention the structures palpable during<br>vaginal examination correctly<br>2.At the end of session, the phase I student should be able to mention the structures palpable during<br>rectal examination correctly | K | KH | N | Lecture | Written | | | |
| Topic: Perineum | | Number of competencies: (5) | | | | | Number of procedures for certification: (NIL) | | | |
| AN49.1 | Describe & demonstrate the superficial & deep perineal pouch (boundaries and contents) | 1. At the end of session, the phase I student should be able to describe & demonstrate the superficial perineal pouch<br>(boundaries and contents) correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the deep perineal pouch (boundaries and contents) correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN49.2 | Describe & identify Perineal body | At the end of session, the phase I student should be able to describe & identify<br>Perineal body and its clinical significance correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN49.3 | Describe & demonstrate Perineal membrane in male & female | 1. At the end of session, the phase I student should be able to describe & demonstrate Perineal<br>membrane in male & female correctly<br>2. At the end of session, the phase I student should be able to describe the structures piercing the Perineal membrane correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN49.4 | Describe & demonstrate boundaries, content & applied anatomy of Ischiorectal fossa | At the end of session, the phase I student should be able to describe & demonstrate location, boundaries, content & applied anatomy of Ischiorectal fossa correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN49.5 | Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure | 1. At the end of session, the phase I student should be able to explain the anatomical basis of Perineal tear correctly<br>2. At the end of session, the phase I student should be able to explain the anatomical basis of Episiotomy correctly<br>3. At the end of session, the phase I student should be able to explain the anatomical basis of Perianal abscess correctly<br>4. At the end of session, the phase I student should be able to explain the anatomical basis of Anal fissure correctly | K | KH | N | Lecture | Written | | Obstetrics & Gynaecology | |
| opic: Vertebral column | | Number of competencies: (4) | | | | | | | Number of procedures for certification: (NIL) | |
| AN50.1 | Describe the curvatures of the vertebral column | At the end of session, the phase I student should be able to describe the curvatures of the vertebral column and add a note on clinical significance | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN50.2 | Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis | 1. At the end of session, the phase I student should be able to describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints correctly<br>2. At the end of session, the phase I student should be able to describe & demonstrate the type, articular ends, ligaments and movements of Sacroiliac joints correctly<br>3. At the end of session, the phase I student should be able todDescribe & demonstrate the type, articular ends, ligaments and movements of Pubic symphysis correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |

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| AN50.3 | Describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture) | At the end of session, the phase I student should be able to describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture) and clinical significance correctly | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN50.4 | Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida | 1. At the end of session, the phase I student should be able to explain the anatomical basis of Scoliosis and Lordosis correctly<br>2. At the end of session, the phase I student should be able to explain the anatomical basis of Prolapsed disc correctly<br>3. At the end of session, the phase I student should be able to explain the anatomical basis of Spondylolisthesis correctly<br>4. At the end of session, the phase I student should be able to explain the anatomical basis of Spina bifida correctly | K | KH | N | Lecture | Written | | | |
| Topic: Sectional Anatomy | | | Number of competencies: (2) | | | | | | Number of procedures for certification: (NIL) | |
| AN51.1 | Describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane) | At the end of session, the phase I student should be able to describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane) correctly | K/S | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| AN51.2 | Describe & identify the midsagittal section of male and female pelvis | At the end of session, the phase I student should be able to describe & identify the midsagittal section of male and female pelvis correctly | K | SH | Y | Practical, Lecture, Small group discussion, DOAP session | Written/ Viva voce/ skill assessment | | | |
| Topic: Histology & Embryology | | | Number of competencies: (8) | | | | | | Number of procedures for certification: (NIL) | |

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| AN52.1 | Describe & identify the 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 | student should be able to describe & identify the microanatomical features of Oesophagus correctly<br>2. At the end of session, the phase I student should be able to describe & identify the microanatomical features of Fundus and Pylorus of stomach correctly<br>3. At the end of session, the phase I student should be able to describe & identify the microanatomical features of Small intestine correctly<br>4. At the end of session, the phase I student should be able to describe & identify the microanatomical features of Large intestine correctly<br>5. At the end of session, the phase I student should be able to describe & identify the microanatomical features of Appendix correctly<br>6. At the end of session, the phase I student should be able to describe & identify the microanatomical features of Liver correctly<br>7. At the end of session, the phase I student should be able to describe & identify the microanatomical features of | K/S | SH | Y | Lecture, Practical | Written/ skill assessment | | | |

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| AN52.2 | Describe & identify the microanatomical features of:<br>Urinary system: Kidney, Ureter & Urinary bladder<br>Male Reproductive System: Testis, Epididymis,Vas deferens, Prostate & penis<br>Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta<br>& Umbilical cord | student should be able to describe & identify<br>the microanatomical<br>features of Kidney correctly<br>2. At the end of session, the phase I student should be able to describe & identify<br>the microanatomical<br>features Ureter correctly<br>3. At the end of session, the phase I student should be able to describe & identify<br>the microanatomical<br>features Urinary bladder correctly<br>4. At the end of session, the phase I student should be able to describe & identify<br>the microanatomical<br>features Testis<br>5. At the end of session, the phase I student should be able to describe & identify<br>the microanatomical<br>features Epididymis<br>6. At the end of session, the phase I student should be able to describe & identify<br>the microanatomical | K/S | SH | Y | Lecture, Practical | Written/ skill assessment | | | |
| AN52.3 | Describe & identify the microanatomical features of Cardiooesophageal<br>junction, Corpus luteum | At the end of session, the phase I student should be able to describe & identify the microanatomical features of Cardiooesophageal<br>junction, Corpus luteum correctly | K/S | SH | N | Lecture, Practical | Written/ skill assessment | | | |
| AN52.4 | Describe the development of anterior abdominal wall | At the end of session, the phase I student should be able to describe the development of anterior<br>abdominal wall correctly | K | KH | N | Lecture | Written/ Viva voce | | | |
| AN52.5 | Describe the development and congenital anomalies of Diaphragm | At the end of session, the phase I student should be able to describe the development and<br>congenital anomalies of Diaphragm correctly | K | KH | Y | Lecture | Written/ Viva voce | | | |

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| AN52.6 | Describe the development and congenital anomalies of: Foregut, Midgut &<br>Hindgut | student should be able to describe the development<br>of Oesophagus and congenital anomalies correctly<br>2. At the end of session, the phase I student should be able to describe the development<br>of Duodenum and congenital anomalies correctly<br>3. At the end of session, the phase I student should be able to describe the development<br>of Midgut rotation and congenital anomalies correctly<br>4. At the end of session, the phase I student should be able to describe the vitello intestinal duct and its congenital anomalies correctly<br>5. At the end of session, the phase I student should be able to describe the Meckel's diverticulum and its clinical importance correctly<br>6. At the end of session, the phase I student should be able to describe the development<br>of allantoic diverticulum and congenital anomalies correctly<br>7. At the end of session, the phase I | K | KH | Y | Lecture | Written/<br>Viva voce | | | |

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| AN52.7 | Describe the development of Urinary system | 1. At the end of session, the phase I student should be able to describe the development of Kidney and congenital anomalies<br>2. At the end of session, the phase I student should be able to describe the development of Urinary bladder and congenital anomalies<br>3. At the end of session, the phase I student should be able to describe the development of Prostate and congenital anomalies<br>4. Describe the development of Urethra and congenital anomalies | K | KH | Y | Lecture | Written/ Viva voce | | | |
| AN52.8 | Describe the development of male & female reproductive system | 1. At the end of session, the phase I student should be able to describe the development of Testis and mention the factors responsible for the descent of testis<br>2. At the end of session, the phase I student should be able to describe the development of Ovary<br>3. At the end of session, the phase I student should be able to describe the derivatives of mesonephric duct<br>4. At the end of session, the phase I student should be able to describe the derivatives of paramesonephric duct | K | KH | Y | Lecture | Written/ Viva voce | | | |

# HUMAN ANATOMY - CBME

| Number | SLO<br>The student should be able to | Domain<br>K/S/A/<br>C | Level<br>K/KH/<br>SH/P | Core<br>(Y/N) | Teaching-Learning<br>Methods | Assessment<br>Methods | required<br>to certify<br>P | Vertical<br>Integration | Horizontal<br>Integration |
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| TOPIC =OSTEOLOGY OF ABDOMEN | | | | | | | | | |
| AN53.1 | a.Student should be able to Identify and hold the LUMBAR VERTEBRAE in anatomical position and Describe the salient features and articulations of them | K/S | SH | Y | Small Group Teaching, DOAP | Viva Voce, Skill assessment | | | |
| | b.Student should be able to Demonstrate the muscular attachments of Lumbar Vertebrae | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| AN53.2 | a.Student should be able to Demonstrate the Anatomical Position of Bony Pelvis | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| | b.Student should be able to show boundaries of pelvic inlet, pelvic cavity, pelvic outlet | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| AN53.3 | a.Student should be able to Define true pelvis and false pelvis | K | k | Y | Small group teaching, | Viva Voce | | | |
| | b.Student should be able to Demonstrate sex determination in male & female bony pelvis | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| AN53.4 | Student should be able to Explain and Demonstrate clinical importance of bones of abdominopelvic region | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| Radio-diagnosis of Abdomen | | | | | | | | | |
| AN54.1 | Student should be able to Describe & identify features of plain X ray abdomen | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| AN54.2 | Student should be able to identify and describe the special radiographs of abdominopelvic region | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | Radiodiagnosis | |
| AN54.3 | Student should be able to Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen | K | KH | N | Lecture | Viva Voce | | Radiodiagnosis | |
| SURFACE MARKING | | | | | | | | | |

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| AN55.1 | Student should be able to Demonstrate the surface marking of; Regions and planes of abdomen, Superficial inguinal ring, Deep inguinal ring , McBurney's point, Renal Angle & Murphy's point | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| AN55.2 | Student should be able to Demonstrate the surface projections of: Stomach, Liver, Fundus of gall bladder, Spleen, Duodenum, Pancreas, Ileocaecal junction, Kidneys | K/S | SH | Y | Small group teaching,DOAP | Viva Voce, Skill assessment | | | |
| | Meninges & CSF | | | | | | | | |
| AN56.1 | a.Student should be able to identify various layers of meninges | K/S | SH | Y | Lecture, Small group teaching,DOAP | Written, Viva Voce, Skill assessment | | | |
| | b.Student should be able to Describe various layers of meninges with its extent & modifications | K/S | SH | Y | Lecture, Small group teaching,DOAP | Written, Viva Voce, Skill assessment | | | |
| AN56.2 | Student should be able to Describe circulation of CSF with its applied anatomy | K | KH | Y | Lecture | Written | | | |
| | SPINAL CORD | | | | | | | | |
| AN57.1 | a.Student should be able to Identify the external features of spinal cord | K/S | SH | Y | Lecture, Small group teaching,DOAP | Written, Viva Voce, Skill assessment | | | |
| | b.Student should be able to Describe the external features of spinal cord | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | . | | |
| AN57.2 | a.Student should be able to Describe extent of spinal cord in child & adult | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |
| | b.Student should be able to Describe the clinical implications of extent of spinal cord in child & adult | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |
| AN57.3 | a.Student should be able to Draw & label transverse section of spinal cord at mid-cervical level | K | KH | Y | Lecture, Small group teaching | Written | | | |
| | b.Student should be able to Draw & label transverse section of spinal cord at mid-thoracic level | K | KH | Y | Lecture, Small group teaching | Written | | | |
| AN57.4 | a.Student should be able to Enumerate ascending tracts at mid thoracic level of spinal cord | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |
| | b.Student should be able to Enumerate descending tracts at mid thoracic level of spinal cord | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |
| AN57.5 | Student should be able to Describe anatomical basis of syringomyelia | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| | MEDULLA OBLONGATA | | | | | | | | |

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| AN58.1 | Student should be able to Identify external features of medulla oblongata | K/S | SH | Y | Lecture, Small group teaching,DOAP | Written, Viva Voce, Skill | | | |
| AN58.2 | a.Student should be able to Describe transverse section of medulla oblongata at the level of pyramidal decussation | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| | b.Student should be able to Describe transverse section of medulla oblongata at the level of sensory decussation | K | KH | Y | Lecture,Small group teaching | Written, Viva Voce, | | | |
| | c.Student should be able to Describe transverse section of medulla oblongata at the level of Inferior Olivary Nucleus | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| AN58.3 | a.Student should be able to Enumerate cranial nerve nuclei in medulla oblongata | K | K | Y | Lecture | Written, Viva Voce, | | | |
| | b.Student should be able to Enumerate functional groups of cranial nerve nuclei in medulla oblongata | K | K | Y | Lecture | Written, Viva Voce, | | | |
| AN58.4 | Student should be able to Describe anatomical basis & effects of lateral medullary syndrome | K | KH | Y | Lecture | Written, Viva Voce, | | General Medicine | |
| AN58.5 | Student should be able to Describe anatomical basis & effects of medial medullary syndrome | K | KH | Y | Lecture | Written, Viva Voce, | | General Medicine | |
| PONS | | | | | | | | | |
| AN59.1 | Student should be able to Identify external features of pons | K/S | SH | Y | Lecture, Small group teaching,DOAP | Written, Viva Voce, Skill assessment | | | |
| AN59.2 | a.Student should be able to Draw & label transverse section of pons at the upper level | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| | b.Student should be able to Draw & label transverse section of pons at the lower level | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| AN59.3 | a.Student should be able to Enumerate cranial nerve nuclei in pons | K | K | Y | Lecture | Written, Viva Voce, | | | |
| | b.Student should be able to Enumerate the functional groups of cranial nerve nuclei in pons | K | K | Y | Lecture | Written, Viva Voce, | | | |
| CEREBELLUM | | | | | | | | | |
| AN60.1 | a.Student should be able to Describe & demonstrate external features of cerebellum | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | b.Student should be able to Describe & demonstrate internal features of cerebellum | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| AN60.2 | a.Student should be able to Describe connections of cerebellar cortex | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |

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| | b.Student should be able to Describe connections of intracerebellar nuclei | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| AN60.3 | Student should be able to Describe anatomical basis of cerebellar dysfunction | K | K | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |

MIDBRAIN

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| AN61.1 | a.Student should be able to Identify external features of midbrain | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | b.Student should be able to Identify internal features of midbrain | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| AN61.2 | a.Student should be able to Describe internal features of midbrain at the level of superior colliculus | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| | b. Student should be able to Describe internal features of midbrain at the level of inferior colliculus | K | KH | Y | Lecture, Small group teaching, | Written, Viva Voce, | | | |
| AN61.3 | a.Student should be able to Describe anatomical basis & effects of Benedikt's syndrome | K | K | Y | Lecture, Small group teaching | Written, Viva Voce, | | General Medicine | |
| | b.Student should be able to Describe anatomical basis & effects of Weber's syndrome | K | K | Y | Lecture, Small group teaching | Written, Viva Voce, | | General Medicine | |

CRANIAL NERVE NUCLEII & CEREBRAL HEMISPHERES

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| AN62.1 | Student should be able to Enumerate cranial nerve nuclei with their functional component | K | K | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| AN62.2 | a.Student should be able to Describe & demonstrate surfaces, sulci, gyri & poles of cerebral hemisphere | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill | | | |
| | b.Student should be able to Describe & demonstrate functional areas of cerebral hemisphere | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill | | | |
| AN62.3 | b.Student should be able to Describe the white matter of cerebrum | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| AN62.4 | a.Student should be able to Enumerate parts & major connections of basal ganglia | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| | b.Student should be able to Enumerate parts & major connections of limbic lobe | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| AN62.5 | a.Student should be able to Describe boundaries, parts, gross relations of dorsal thalamus | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |

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| | b.Student should be able to Describe boundaries, parts, gross relations of hypothalamus, epithalamus, metathalamus and subthalamus | K | KH | Y | Lecture, Small group teaching | Written,Viva Voce | | | |
| | c.Student should be able to Describe major nuclei and connections of dorsal thalamus | K | KH | Y | Lecture, Small group teaching | Written,Viva Voce | | | |
| | d.Student should be able to Describe major nuclei and connections hypothalamus, epithalamus, metathalamus and subthalamus | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| AN62.6 | a.Student should be able to Describe formation & branches of circle of Willis | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| | b.Student should be able to identify branches of circle of Willis | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | c.Student should be able to Describe major areas of distribution of branches of circle of Willis | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| | d.Student should be able to identify major areas of distribution of branches of circle of Willis | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | VENTRICULAR SYSTEM | | | | | | | | |
| AN63.1 | a.Student should be able to Describe & demonstrate parts of third ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | b.Student should be able to Describe & demonstrate parts of fourth ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | c.Student should be able to Describe & demonstrate parts lateral ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | d.Student should be able to Describe & demonstrate boundaries & features of IIIrd ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | e.Student should be able to Describe & demonstrate boundaries & features of IVth ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | f.Student should be able to Describe & demonstrate boundaries & features of lateral ventricle | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| AN63.2 | a.Student should be able to Describe anatomical basis of congenital hydrocephalus | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce | | | |
| | HISTOLOGY & EMBRYOLOGY | | | | | | | | |
| AN64.1 | a.Student should be able to Describe the microanatomical features of Spinal cord | K | KH | Y | Lecture, Small group teaching | Written,Viva Voce | | | |

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| | b.Student should be able to identify the microanatomical features of Spinal cord in a given slide | K | KH | Y | Practical,DOAP,Small group teaching | Practical, Viva Voce, | | | |
| | c.Student should be able to Describe the microanatomical features of cerebellum | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| | d.Student should be able to identify the microanatomical features of cerebellum in a given slide | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| | e.Student should be able to Describe the microanatomical features of cerebrum | K | KH | Y | Lecture, Small group teaching | Written, Viva Voce, | | | |
| | f.Student should be able to identify the microanatomical features of cerebrum in a given slide | K/S | SH | Y | Lecture, Small group teaching,DOAP,Practical | Written, Viva Voce, Skill assessment | | | |
| AN64.2 | a.Student should be able to Describe the development of neural tube and spinal cord | K | KH | Y | Lecture | Written,Viva Voce | | | |
| | b.Student should be able to Describe the development of medulla oblongata,<br>pons, midbrain | K | KH | Y | Lecture | Written,Viva Voce | | | |
| | c.Student should be able to Describe the development of cerebral hemisphere & cerebellum | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| AN64.3 | Student should be able to Describe various types of open neural tube defects with its embryological<br>basis | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| | EPITHELIUM HISTOLOGY | | | | | | | | |
| AN65.1 | a.Student should be able to define epithelium & describe the various types of epithelium | K | kH | Y | Lecture | Written, Viva Voce | | | |
| | b.Student should be able to identify different types of epithelia under microscope in given slides | K/S | SH | Y | Lecture,Small group teaching,Practical | Written, Viva Voce, Skill assessment | | | |
| | c.Student should be able to correlate the functions of different types of epithelia | K | KH | Y | Lecture | Written,Viva Voce | | | |
| AN65.2 | Student should be able to Describe the ultrastructure of epithelium | K | KH | Y | Lecture | Written, Viva Voce, | | | |
| | CONNECTIVE TISSUE HISTOLOGY | | | | | | | | |
| AN66.1 | a.Student should be able to Describe various types of connective tissue with functional correlation | K | kH | Y | Lecture | Written, Viva Voce | | | |
| | b.Student should be able to identify different types of connective tissues under microscope in given slides | K/S | SH | Y | Lecture, Small group teaching,Practical | Written, Viva Voce, Skill assessment | | | |
| AN66.2 | Student should be able to Describe the ultrastructure of connective tissue | K | KH | Y | Lecture | Written,Viva Voce | | Pathology | |
| | MUSCLE HISTOLOGY | | | | | | | | |

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| AN67.1 | a.Student should be able to Describe various types of Muscles | K | KH | Y | Lecture | Written, Viva Voce | | | |
| | b.Student should be able to identify different types of muscles under microscope in given slides | K/S | SH | Y | Lecture, Small group teaching,Practical | Written, Viva Voce, Skill assessment | | | |
| AN67.2 | Student should be able to Classify muscle and describe the structure-function correlation of the same | K | KH | Y | Lecture,Practical | Written,Viva Voce | | | |
| AN67.3 | Describe the ultrastructure of muscular tissue | K | KH | Y | Lecture,Practical | Written,Viva Voce | | | |

NERVE TISSUE HISTOLOGY

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|---|---|---|---|---|---|---|---|---|---|
| AN68.1 | a.Student should be able to Describe multipolar & unipolar neuron, ganglia, peripheral nerve | K | KH | Y | Lecture | Written, Viva Voce | | | |
| | b.Student should be able to identify multipolar & unipolar neuron, ganglia, peripheral nerve under microscope in given slides | K/S | SH | Y | Lecture, Small group teaching,Practical | Written, Viva Voce, Skill assessment | | | |
| AN68.2 | Student should be able to Describe the structure-function correlation of neuron | K | KH | Y | Lecture,Practical | Written,Viva Voce | | | |
| AN68.3 | Describe the ultrastructure of nervous tissue | K | KH | Y | Lecture,Practical | Written,Viva Voce | | | |

# HUMAN ANATOMY - CBME

| Number | OBJECTIVES FOR THE RESPECTIVE COMPETENCY (At the end of the session student should be able to) | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods | Number required to certify | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| | | | 69.BLOOD VESSELS | | | | | | |
| AN69.1 | 1.At the end of the session student should be able to Differentiate the elastic and muscular arteries under microscope accurately. | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session student should be able to Differentiate different type of capillaries under microscope | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN69.2 & AN69.3 | 1.At the end of the session student should be able to Enumerate different generations of blood vessels from larger diameter to smaller diametere | K | KH | Y | LECTURE | VIVA | | | |
| | 2.At the end of the session student should be able to Explain the structure and function of different blood vessels. | K | KH | Y | LECTURE | VIVA | | | |
| | | | 70.Glands & Lymphoid tissue | | | | | | |
| AN 70.1 | 1.At the end of the session student should be able to Differentiete endocrine and exocrine glands under the microscope Correctly | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session student should be able to Differentiate serous ,mucous, and mixed type of acini and different type of ducts and their functional significance correctly under microscope. | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| AN70.2 | 1.At the end of the session student should be able to Differentiate ,and identify different lymphoid organs like spleen,thymus,lymph node and palatine tonsil under microscope, accurately. | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |

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|---|---|---|---|---|---|---|---|---|---|
| | 2.At the end of the session student should be able to Explain the structure and function of lymphnode | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 3.At the end of the session student should be able to Explain the structure and function of thymus. | k | KH | Y | SMALL GROUP | VIVA | | | |
| | 4.At the end of the session student should be able to Explain the structure and function of spleen. | K | KH | Y | SMALL GROUP | VIVA | | | |
| 71. Bone & Cartilage | | | | | | | | | |
| AN71.1 | 1.At the end of the session student should be able to Differentiate Longitudinal section and Transverse section of a bone under microscope accurately. | K/S | SH | Y | DOAP | SKILL ASSESSMENT | | | |
| | 2.At the end of the session student should be able to Explain Haversian system and different kind of lamelle in the bone under microscope. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 3.At the end of the session student should be able to Differentiate between compact and cancellous bone. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 4.At the end of the session student should be able to Explain the functional anatomy of compact and spongy bone. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN71.2 | 1.At the end of the session student should be able to Differentiate different types of cartilage under microscope accurately. | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.Explain the microanatomy of hyaline ,elastic and fibrocartilage with examples . | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to Explain the functional significance of hyaline ,elastic and | K | KH | Y | LECTURE | WRITTEN | | | |
| 72.Integumentary System | | | | | | | | | |
| AN72.1 | 1.At the end of the session student should be able to Differentiat between thick skin and thin skin under microscope accurately. | K/S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |

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| | 2.At the end of the session student should be able to Enumerate different appendages of skin and their functions. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 3.At the end of the session student should be able to Enumerate different layers of epidermis and cells present in each layer and their function. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 4.At the end of the session student should be able to Explain the structure of dermis of skin. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | | | | 73.Chromosomes | | | | | |
| AN73.1 | 1.At the end of the session student should be able to Explain the structure of chromosomes in detail. | K | KH | Y | LECTURE | VIVA | | | |
| | 2.At the end of the session student should be able to Classify the chromosomes based on the size and positin of centromere in to groups. | K | KH | y | LECTURE | VIVA | | | |
| AN73.2 | 1.At the end of the session student should be able to Explain the procedure of karyotyping in detail. | K | KH | Y | LECTURE | VIVA | | | |
| | 2.At the end of the session student should be able to List out the clinical application of karyotyping. | K | KH | Y | LECTURE | VIVA | | | |
| AN73.3 | At the end of the session student should be able to Explain Lyon's hypothesis. | K | KH | Y | LECTURE | VIVA | | | |
| | | | | 74.Patterns of Inheritance | | | | | |
| AN74.1 | 1.At the end of the session student should be able to Enumerate different modes of inheritance. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 2.At the end of the session student should be able to Explain Autosomal dominante mode of inheritance in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 3.At the end of the session student should be able to Explain Autosomal reccessive mode of inheritance in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |

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| | 4.At the end of the session student should be able to Explain X-linked dominant mode of inheritance in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 5.At the end of the session student should be able to Explain X-linked reccessive mode of inheritance in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |
| | 6.At the end of the session student should be able to Explain Y-linked inharitance in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN74.2 | At the end of the session student should be able to illustrate pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance by drawing diagrams. | K | KH | Y | SMALL GROUP | WRITTEN | | | |
| AN74.3 | At the end of the session student should be able to Explain multifactorial inheritance with examples in detail. | K | KH | Y | SMALL GROUP | VIVA | | | |
| AN74.4 | At the end of the session student should be able to Explain the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia. | K | KH | Y | SMALL GROUP | VIVA | | | |
| 75.Principle of Genetics, Chromosomal Aberrations & Clinical Genetics | | | | | | | | | |
| AN75.1 | 1.At the end of the session student should be able to Explain structural chromosomal aberrations with examples. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Explain numerical chromosomal aberrations with examples. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN75.2 | At the end of the session student should be able to Define the terms chimera and mosaic with examples. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN75.3 | 1.At the end of the session student should be able to Explain genomic imprinting disorders with features of praderwillie syndrome. | K | KH | Y | LECTURE | WRITTEN | | | |

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| | 2.At the end of the session student should be able to Enumerate genotypic and phenotypic features of Edward syndrome and Patau syndrome. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN75.4 | At the end of the session student should be able to Explain in detail about variation , polymorphism and mutation. | K | KH | Y | LECTURE | VIVA | | | |
| AN75.5 | At the end of the session student should be able to Enumerate and explain the principles of genetic counselling. | K | KH | Y | LECTURE | WRITTEN | | Paediatrics,Community Medicine,Obstetrics & Gynaecology | |
| | 76.Introduction to Embryology | | | | | | | | |
| AN76.1 | 1.At the end of the session student should be able to Define and explain Prenatal and Postnatal development. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Differentiate different stages of postnatal development like Infancy,Childhood,Puberty,Adolescence,Adulthood | K | KH | Y | LECTURE | WRITTEN | | | |
| AN76.2 | At the end of the session student should be able to Explain the terms- phylogeny, ontogeny, trimester, viability | K | KH | Y | LECTURE | WRITTEN | | | |
| | 77.Gametogenesis and fertilization | | | | | | | | |
| AN77.1 | 1.At the end of the session student should be able to Explain the morphological changes of uterus during different phases of menstrual cycle | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Differentiate between secretory and proliferative phase of menstrual cycle. | K | KH | Y | LECTURE | WRITTEN | | | |

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| AN77.2 | At the end of the session student should be able to Describe the synchrony between the ovarian and menstrual cycles | K | KH | Y | LECTURE | WRITTEN | | | |
| AN77.3 | 1.At the end of the session student should be able to Explain spermatogenesis with diagrams. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Explain oogenesis with diagrams. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to List out all the possible differences between oogenesis and spermatogenesis | K | KH | Y | LECTURE | WRITTEN | | | |
| AN77.4 | 1.At the end of the session student should be able to Explain the stages of fertilisation in detail. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Explain the effects of fertilisation. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN77.5 | At the end of the session student should be able to Enumerate and describe the anatomical principles underlying contraception | K | KH | Y | LECTURE | WRITTEN | | | |
| AN77.6 | At the end of the session student should be able to Describe teratogenic influences; fertility and sterility, surrogate motherhood, social significance of "sex-ratio". | K | KH | Y | LECTURE | WRITTEN | | Obstetrics & Gynaecology | |
| 78.Second week of development | | | | | | | | | |
| AN78.1 | At the end of the session student should be able to Explain cleavage and formation of blastocyst in detail. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN78.2 | At the end of the session student should be able to Describe the development of trophoblast | K | KH | Y | LECTURE | WRITTEN | | | |
| AN78.3 | 1.At the end of the session student should be able to Explain process of implantation of embryo. | K | KH | Y | LECTURE | WRITTEN | | | |

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| | 2.At the end of the session student should be able to Explain the anatomical basis of ectopic pregnancy and list out the sites of ectopic implantation. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN78.4 | 1.At the end of the session student should be able to Describe the formation of extra-embryonic mesoderm and coelom, bilaminar disc and prochordal plate | K | KH | Y | LECTURE | WRITTEN | | | |
| AN78.5 | 1.At the end of the session student should be able to Explain the process of Abortion. | K | KH | Y | LECTURE | VIVA | | | |
| | 2.At the end of the session student should be able to Define decidual reaction. | K | KH | Y | LECTURE | VIVA | | | |
| | 3.At the end of the session student should be able to Explain the anatomical basis of pregnancy test. | K | KH | Y | LECTURE | VIVA | | | |
| 79..3rd to 8th week of development | | | | | | | | | |
| AN79.1 | At the end of the session student should be able to Describe the formation & fate of the primitive streak | K | KH | Y | LECTURE | VIVA | | | |
| AN79.2 | At the end of the session student should be able to Describe formation & fate of notochord | K | KH | Y | LECTURE | VIVA | | | |
| AN79.3 | At the end of the session student should be able to Describe the process of neurulation | K | KH | Y | LECTURE | VIVA | | | |
| AN79.4 | 1.At the end of the session student should be able to Explain the formation of somite . | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to List out the derivatives of somite. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to Explain the formation of intra-embryonic coelom. | K | KH | Y | LECTURE | WRITTEN | | | |

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| AN79.5 | 1.At the end of the session student should be able to Explain the anatomical basis of prolapsed intervertebral disc. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Explain the anatomical basis of sacro coccygeal teratoma. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3. At the end of the session student should be able to Enumerate different neural tube deffects. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 4.At the end of the session student should be able to Explain the anatomical basis of neural tube deffects. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN79.6 | 1.At the end of the session student should be able to Define teratogenecity. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Classify the teratogens. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to Define critical period of organogenesis. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 4.At the end of the session student should be able to Explain the importance of alpha feto protein during first trimister of pregnancy. | K | KH | Y | LECTURE | WRITTEN | | | |
| | | | | 80.Fetal membranes | | | | | |
| AN80.1 | 1.At the end of the session student should be able to Define the terms chorion,amnion,yolk sac,allantois,decidua. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Explain formation of chorion,amnion,yolksac,allantois,decidua. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to Explain fate of chorion,amnion,yolksac,allontois. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN80.2 | At the end of the session student should be able to Describe formation & structure of umbilical cord | K | KH | Y | LECTURE | WRITTEN | | | |

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| AN80.3 | 1.At the end of the session student should be able to Explain the formation of placenta . | K | KH | Y | LECTURE | VIVA | | | |
| | 2.At the end of the session student should be able to Enumerate the functions of placenta. | K | KH | Y | LECTURE | VIVA | | | |
| | 3.At the end of the session student should be able to Explain in detail about foetomaternal circulation | K | KH | Y | LECTURE | VIVA | | | |
| | 4.At the end of the session student should be able to Explain in detail about placental barrier. | K | KH | Y | LECTURE | VIVA | | | |
| AN80.4 | 1.At the end of the session student should be able to Explain embryological basis of twinning. | K | KH | Y | LECTURE | WRITTEN | | | |
| | 2.At the end of the session student should be able to Differetiate between monozygotic and dizygotic twinning. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN80.5 | At the end of the session student should be able to Describe role of placental hormones in uterine growth & parturition | K | KH | Y | LECTURE | WRITTEN | | | |
| AN80.6 | At the end of the session student should be able to Explain embryological basis of estimation of fetal age. | K | KH | Y | LECTURE | WRITTEN | | | |
| AN80.7 | At the end of the session student should be able to Describe various types of umbilical cord attachments | K | KH | Y | LECTURE | WRITTEN | | | |
| 81.Prenatal Diagnosis | | | | | | | | | |
| AN 81.1 | At the end of the session student should be able to Enumerate various methods of prenatal diagnosis. | K | KH | Y | LECTURE | WRITTEN | | Obstetrics & Gynaecology | |
| AN81.2 | 1.At the end of the session student should be able to List out the indications of amniocentesis | K | KH | Y | LECTURE | WRITTEN | | Obstetrics & Gynaecology | |
| | 2.At the end of the session student should be able to Explain the process of amniocentesis | K | KH | Y | LECTURE | WRITTEN | | | |

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| | 3.At the end of the session student should be able to Enumerate the disadvantages of amniocentesis | K | KH | Y | LECTURE | WRITTEN | | | |
| AN81.3 | 1.At the end of the session student should be able to List out the indications of Chorionic villous biopsy | K | KH | Y | LECTURE | WRITTEN | | Obstetrics & Gynaecology | |
| | 2.At the end of the session student should be able to Explain the process of chorionic villous biopsy | K | KH | Y | LECTURE | WRITTEN | | | |
| | 3.At the end of the session student should be able to Enumerate the disadvantages of chorionic villous biopsy. | K | KH | Y | LECTURE | WRITTEN | | | |
| 82.Ethics in Anatomy | | | | | | | | | |
| AN82.1 | 1.At the end of the session student should be able to Demonstrate respect while handling cadavers and other biologic tissue | S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |
| | 2.Demonstrate the correct procedure while handling cadavers and other biologic tissue. | S | SH | Y | SMALL GROUP | SKILL ASSESSMENT | | | |

# ANATOMY INTEGRATIONS

# HORIZONTAL INTEGRATION – ANATOMY TO PHYSIOLOGY

| No. | COMPETENCY<br><br>The student should be able to: | Specific learning objectives<br><br>The student should be able to: | Domain K/S/A/C | Level<br><br>K/KH/<br><br>SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify<br><br>P | Vertical Integration | Horizontal Integration | Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AN 5.7 | Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses | 1.Describe about micro circulation | K | KH | Y | Small group teaching | Viva voce | | | Horizontal | 1 |
| | | 2.Explain the structure of interstia | | | | | | | | | |
| | | 3.Describe the maintenance of colloidal osmotic pressure and hydrostatic | | | | | | | | | |
| | | 4.Discuss about the formation of edema | | | | | | | | | |
| | | 5.Mention the names of sensory receptors | | | | | | | | | |
| AN 7.5 | Describe principles of sensory and motor innervations of muscles | 1.Mention the names of sensory receptors | K | KH | Y | Lecture | W | | | Horizontal | 2 |
| | | 2.Describe the properties of receptors | | | | | | | | | |
| | | 3.Discuss about the different types of | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | | sensations | | | | | | | | | |
| | | 4.Discuss about the different sensory tracts carrying the sensations | | | | | | | | | |
| | | 5.Discuss about the structure of the reflex arc | | | | | | | | | |
| | | 6.Discuss about the motor tracts | | | | | | | | | |
| | | 7.Enumerate the different types of superficial and deep reflexes | | | | | | | | | |
| | | 8.Mention the functions of sensory and motor tracts | | | | | | | | | |
| AN 7.7 | Describe various types of synapse | 1.What is definition of synapse | K | KH | Y | Small group teaching | Viva voce | | | Horizontal | 1 |
| | | 2.Describe the structure of the synapse | | | | | | | | | |
| | | 3.Mention the physiological classification of synapse | | | | | | | | | |
| AN21.9 | Describe & demonstrate mechanics and | 1.Mention the names of the inspiratory and | K | KH | Y | Small group teaching | Viva voce | | | Horizontal | 1 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | types of respiration | expiratory muscles | | | | | | | | | |
| | | 2.What is compliance | | | | | | | | | |
| | | 3.Explain the different pressure and volumes of the thoracic cavity | | | | | | | | | |
| AN 22.7 | Mention the parts, position and arterial supply of the conducting system of heart | 1.Describe the conducting system of heart | K | KH | Y | Small group teaching | Viva voce | | | Horizontal | 1 |
| | | 2.Mention the nerve and blood supply | | | | | | | | | |
| | | 3.Mention the functions of conducting system | | | | | | | | | |

## Anatomy topics integrated with Pathology

| Number | COMPETENCY | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods |
|---|---|---|---|---|---|---|
| **AN5.8** | Define thrombosis, infarction & aneurysm | K | KH | N | Lecture | Written |
| Objectives | | | | | | |
| | **AN5.8.1** At the end of the session, phase I student must be able to define thrombosis correctly | k | KH | Y | Lecture | Written/ viva voce |
| | **AN5.8.2** At the end of the session, phase I student must be able to define infarction correctly | k | KH | N | Lecture | Written/ viva voce |
| | **AN5.8.3** At the end of the session, phase I student must be able to define aneurysm correctly | k | KH | y | Lecture | Written/ viva voce |
| | | | | | | |
| **AN66.2** | Describe the ultrastructure of connective tissue | K | KH | N | Lecture | Written/ viva voce |
| Objectives | | | | | | |
| | **AN66.2.1** At the end of the session, phase I student must be able to know types of collagen accurately | k | KH | N | Lecture | Written/ viva voce |
| | **AN66.2.2** At the end of session , phase I students should have knowldge of molecular stucture of proteoglycan, elastin & collagen correctly | k | KH | N | Lecture, small group disscsion | Written/ viva voce |
| | **AN66.2.3** At the end of the session, phase I student must be able to know the interaction between collagen, proteoglycan and elastin significantly | k | KH | N | Lecture, small group disscsion | Written/ viva voce |

# Anatomy topics integrated with Forensic Medicine

| Number | COMPETENCY | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods |
|---|---|---|---|---|---|---|
| AN 14.3 | Describe the importance of ossification of lower and femur and upper end of tibia | | | | | |
| OBJECTIVES | The first phase students should be able to know when the ossification centres appear in the intrauterine life for lower end of femur | k | KH | Y | Lecture | Written/ viva voce |
| | The first phase students should be able to know when the ossification centres appear in the intrauterine life of uppwer end of tibia | k | KH | Y | Lecture | Written/ viva voce |
| | The first phase students should be able to know Medico legal importance of ossification centres of lower end of femur and upper end of tibia. | k | KH | Y | Lecture | Written/ viva voce |

# ANATOMY INTEGRATION WITH COMMUNITY MEDICINE

## Genetic Counselling

| SN | Competency | SLO: At the end of the session the phase – I students must be able to | Domain | Level | T/L method | Assessment Method | Duration |
|---|---|---|---|---|---|---|---|
| AN 75.5 | Describe the principles of genetic counselling | **SLO: At the end of the session the phase – I students must be able to** define counselling accurately | K | KH | Lecture | Written / Viva Voce | 5 min |
| | | **SLO: At the end of the session the phase – I students must be able to** know principles and commonly used methods of genetic counselling | k | KH | Lecture | Written | 5 min |

# ANATOMY INTEGRATION WITH OTORHINOLARYNGOLOGY

| Number | Competency The phase 1 student should be able to | Specific learning objective (SLO) | Domain K/S/A/C | LEVEL K/KH/S /SH/P | CORE (Y/N) | Teaching learning methods | Assesment methods | Vertical integration |
|---|---|---|---|---|---|---|---|---|
| AN 36.4 | Describe the anatomical basis of Tonsillitis , Tonsillectomy , Adenoids and Peritonsillar abscess | 1. At the end of session student s should able to explain different between palatine tonsil land adenoids | k | KH | Y | Lecture Small group discussion | Written exam Practical exam with viva | |
| | | 2. Enumerate or list the components of the Waldeyers lymphatic ring | k | K | Y | Lecture Small group discussion | Written exam Practical exam with viva | |
| | | 3. At the end of session the students should able to explain types of tonsillitis , tonsillectomy procedure and symptoms of peritonsillar abcess. | k | KH | Y | Lecture Small group discussion | Written exam Practical exam with viva | |
| AN 37.2 | Describe location and functional anatomy of paranasal sinuses | 1.Identify and locate the various paranasal sinuses in an x-ray of AP view of skull | K/S | SH | Y | Lecture Small group discussion | Written exam Practical exam with viva | |
| | | 2. At the end of session students should explain function of the paranasal sinuses . | K/S | KH | Y | Lecture Small group discussion | Written exam Practical exam with viva | |

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| AN 37.3 | Describe anatomical basis of sinusitis & maxillary sinus tumours | 1. Explain the causes for the sinusitis | K | KH | Y | Lecture | Written exam Practical exam with viva | |
| | | 2.types of different maxillary sinus tumours. | K | KH | Y | Lecture | Written exam Practical exam with viva | |
| AN 38.2 | Describe the anatomical aspects of laryngitis | 1.Explain the anatomical basis of hoarseness of voice. | K | K | Y | Lecture | Written exam | |
| | | 2. casuse for laryngitis | K | K | Y | Lecture | Written exam | |
| AN 40.4 | Explain anatomical basis of otitis and otitis media | 1.Explain the causes of Otitis externa | K | K | Y | Lecture | Written exam | |
| | | 2 Otitis media causes | K | K | Y | Lecture | Written exam | |
| AN 40.5 | Explain anatomical basis of myringotomy | 1.Explain the indication for myringotomy | K | K | Y | Lecture | Written exam | |
| | | 2.myringotomy procedure . | K | K | Y | Lecture | Written exam | |

# VERTICAL INTEGRATION – HUMAN ANATOMY TO OPHTHALMOLOGY

| No. | COMPETENCY<br><br>The student should be able to: | Specific learning objectives<br><br>The student should be able to: | Domain<br>K/S/A/C | Level<br><br>K/KH/<br><br>SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify<br><br>P | Vertical Integration | Horizontal Integration | Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AN 31.5 | Explain the anatomal basis of oculomotor , trochler and abducent nerve palsies along with strabismus | 1. Should be able to describe the cranial nerves and their pathway | K | KH | Y | lecture | written | | Vertical | | |
| | | 2. Should be able to enumerate the extra ocular muscles, their innervation and actions | | | | | | | | | |
| | | 3. Be able to describe strabismus due to their paralysis | | | | | | | | | |

| No. | COMPETENCY | Specific learning objectives<br><br>The student should be able to: | Domain K/S/A/C | Level<br><br>K/KH/<br><br>SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify<br><br>P | Vertical Integration | Horizontal Integration | Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AN 41.2 | Describe the anatomical aspects of cataract, glaucoma and central retinal artery occlusion | 1. Be able to describe parts of the eye ball and functions | K | KH | N | lecture | written | | Vertical | | |
| | | 2. Be able to define glaucoma | | | | | | | | | |
| | | 3. Be able to enumerate types of glaucoma | | | | | | | | | |
| | | 4. Be able to describe anatomy and pathophysiology of lens | | | | | | | | | |
| | | 5.Be able to describe central retinal artery and it's distribution | | | | | | | | | |
| | | 6.Be able to enumerate the effects of CRA obstruction | | | | | | | | | |

## VERTICAL INTEGRATION ANATOMY TO GENERAL SURGERY

| Number | Competency<br>The student should be able to | Specific learning objectives<br>( SLO ) | Domain<br>K/S/A/C | Level<br>K/KH/S/SH/P | CORE<br>(Y/N) | Teaching learning method | Assessment method | Vertical integration | Horizontal integration |
|---|---|---|---|---|---|---|---|---|---|
| AN 6.3 | Explain the concept of Lymphoedema and spread of tumours via lymphatics | 1. Explain the common causes of lymphatic obstruction<br>2. Describe the mode of spread of tumours through lymphatics | K | KH | N | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 15.4 | Explain anatomical basis of psoas abscess & femoral hernia | 1. Describe the clinical presentation and common causes of psoas abscess.<br>2. Clinical features of obstructed femoral hernia. | k | KH | N | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 16.2 | Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections | 1. Describe the complications following sciatic nerve injury.<br>2. Precautions to avoid sciatic nerve injury. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

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| AN 20.4 | Describe anatomical basis of enlarged inguinal lymph nodes | 1. Explain causes of enlarged inguinal lymph nodes.<br>2. Clinical examination of vertical & Horizontal group of lymph nodes. | k / S | KH / SH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 20.5 | Describe anatomical basis of varicose veins and deep vein thrombosis | 1. Identify long saphenous vein and short saphenous vein,Sapheno Femoral Junction and different groups of perforating veins in a patient.<br>2. Describe complications of varicose veins like Deep Vein Thrombosis. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

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|---|---|---|---|---|---|---|---|---|---|
| AN 20.9 | Identify & demonstrate palpation of vessels ( femoral, popliteal, dorsalis pedis, post tibial ), mid inguinal point, Surface projection of : femoral nerve, saphenous opeaning, sciatic, tibial, common peroneal & deep peroneal nerve, Great and small saphenous veins. | 1. Explain and identify The major arteries of lower limb i.e femoral, poplitel,dorsalis etc.<br>2. Identify the sciatic, femoral , tibial common peroneal and deep peroneal nerve and its clinical significance and diseases.<br>3. Identify mid inguinal point saphenous opening, great and small saphenous veins. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 28.9 | Describe & demonstrate the parts, boerders, surfaces, contects, relations and nerve supply of parotid gland with course of its duct and surgical importance. | 1. Explain Topography of parotid gland, different lobes facio-venous plain, course and branches of facial nerve.<br>2. Explain consequences of facial nerve injury | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

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|---|---|---|---|---|---|---|---|---|---|
| AN 35.2 | Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland. | 1. Describe the relation and surgical importance of superior thyroid artery and inferior thyroid artery to the gland.<br>2. The relation and surgical importance of recurrent laryngeal nerve and superior laryngeal nerve during thyroid surgery. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 35.9 | Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib | 1. Describe suspect the presence of cervical rib with clinical picture. Complications following subclavian artery and lower brachial plexus compression due to cervical rib. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 44.7 | Enumerate common abdominal incisions | 1. Different abdominal incisions given in elective and emergency surgeries.<br>2. Complications following from different incisions Ideal abdominal incisions practiced. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

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| AN 47.3 | Explain anatomical basis of Ascites & Peritonitis. | 1.Explain the common causes of ascites & peritonitis in prevailing diseases. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |
| AN 47.6 | Explain the anatominal 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, Reeferred pain around umbilicus, Radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach. | 1. The location of splenic notch, surgical importance of accessory spleens, and kehr's sign.<br>2. Significance about types of vagotomy, and indication liver biopsy with exact location of needle.<br>3.Identify and locate exact site of referred pain in cholecystitis and about clinical significance of obstructive jaundice. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

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| AN 48.5 | Explain the anatominal basis of Suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy internal and external haemorrhoids, Anal fistula, Vasectomy | 1. List the common indications for suprapubic cystostomy in urinary obstructive diseases.<br>2. Describe external and internal hemorrhoids, anal fistula and vasectomy. | k | KH | Y | 1. Lecture<br>2. Small group discussion | 1. Written exam<br>2. Practical exam with viva<br>3. OSCE | Anatomy | |

| VERTICAL INTEGRATION ANATOMY TO GENERAL MEDICINE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
| No. | Objectives for the respective Competency | Domain | K/KH/SH/P | CORE | T/L Method | Assessment Method | No req to certify P | Vertical Integration | Horizontal Integration |
| AN22.4 | 1. The first phase students should be able to DEFINE TYPICAL ANGINA AND ATYPICAL ANGINA | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.4 | The first phase students should be able to enumerate clinical features of acute coronary syndrome | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.4 | The first phase students should be able to enumerate risk factors for IHD | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.4 | The first phase students should be able to DISCUSS basic investigations to diagnose IHD | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.7 | The first phase students should be able to Classify Heart blocks | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.7 | The first phase students should be able to Discuss the clinical features of diseases of conducting system | K | K | Y | LECTURE | WRITTEN | | | |
| AN22.7 | The first phase students should be able to describe the first AID measures for handling the heart block patients | K/S | SH | Y | Small group teaching | Viva voice | | | |
| AN24.1 | The first phase students | K/S | SH | Y | Small | Viva voice | | | |

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| | should be able to Enumerate the clinical features of pleural disease | | | | group teaching | | | | |
| AN24.1 | The first phase students should be able to List basic investigation to know pleural disease | K | KH | Y | LECTURE | WRITTEN | | | |
| AN24.1 | The first phase students should be able to enumerate the causes of pleural disease | K | KH | Y | LECTURE | WRITTEN | | | |
| AN24.2 | The first phase students should be able to Descibe the clinical features of superior mediastinal syndrome | k | kH | y | Small group teaching | Viva voice | | | |
| AN24.2 | The first phase students should be able to enumerate the causes of superior mediastinal syndrome | K | K | y | LECTURE | WRITTEN | | | |
| AN25.7 | The first phase students should be able to TO differentiate PA & AP VIEW and their significance | S | SH | y | Small group | SKILL ASSESSMENT | | | |
| AN25.7 | The first phase students should be able to Enumerate few conditions of lung and Heart that can be diagnosed by chest xray | S | SH | y | Small group teaching | SKILL ASSESSMENT | | | |
| AN25.9 | The first phase students should be able to list different areas of Auscultation in C.V.S examination | S | P | y | Small group teaching | SKILL ASSESSMENT | | | |
| AN25.9 | The first phase students should be able to demonstrate clinical significance of Lung lobe borders | S | P | y | Small group teaching | SKILL ASSESSMENT | | | |
| AN58.4 & 58.5 | The first phase students should be able to Discuss chief complaints of patients with Medial and Lateral Medullary syndrome | K | K | Y | LECTURE | WRITTEN | | | |

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| AN58.4 & 58.5 | The first phase students should be able to List few causes of paralysis | K | K | Y | LECTURE | WRITTEN | | | |
| AN61.3 | The first phase students should be able to discuss chief complaints of patients with BENEDICT & webers syndrome | K | K | Y | LECTURE | WRITTEN | | | |
| AN61.3 | The first phase students should be able to Mention risk factors for CVA | K | K | Y | LECTURE | WRITTEN | | | |
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## VERTICAL INTEGRATION ANATOMY TO OBSTETRICS & GYNAECOLOGY

| Number | Competency<br>The student should be able to | Specific Learning objectives (SLO) | Domain<br>K/S/A/C | LEVEL<br>K/KH/S/SH/P | CORE<br>(Y/N) | Teaching learning methods | Assessment methods | Vertical integration | Horizontal integration |
|---|---|---|---|---|---|---|---|---|---|
| AN 49.5 | Expalin the anatomical basis of Perineal tear , Epsiotomy | 1. Describe in detail the anatomy of pelvic musculature<br>2. List or enumerate the degrees of Perineal tears<br>3. Expalin the anatomical basis of Episiotomy and its role in child birth | K | KH | N | LECTURE | written | Anatomy | |
| AN 75.5 | Describe the principles of genetic counselling | 1.List out the indications of genetic counselling<br>2.Descibe the priniciples of gentic counselling | K | KH | Y | LECTURE | written | Anatomy | |

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|---|---|---|---|---|---|---|---|---|---|
| AN 77.6 | Describle teratogenic influences; Fertility and sterility,surrogate motherhood,social significance of"sex-ratio | 1.Describe teratogenicity and list various drugs causing teratogenicity<br>2.Define Fertility and Sterility<br>3.Explain surrogacy and enumerate indications of surrogacy<br>4.Describe in detail Preconceptional and Prenatal Diagnosis Test Act ( PCPNDT )and social significance of sex - ratio | K | KH | N | LECTURE | written | Anatomy | |
| AN 81.1 | Descide various methods of prenatal diagnosis | List out the various methods of prenatal diagnosis | K | KH | Y | LECTURE | written | Anatomy | |
| AN 81.2 | Describe indications,process and disadvantages of Amniocentesis | 1.List out the indications of amniocentesis.<br>2.Descibe the procedure of amniocentesis.<br>3.Enumerate the complications associated with amniocentesis. | K | KH | Y | LECTURE | written | Anatomy | |

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| AN 81.3 | DescriBe indications,process and disadvantages of chorion villus biopsy | 1. List out the indications of chorion villus biopsy.<br>2. Descibe the procedure of chorion villus biopsy.<br>3. Enumerate the complications associated with chorion villus biopsy. | K | KH | Y | LECTURE | written | Anatomy | |

## Anatomy topics integrated with Orthopaedics

| Number | COMPETENCY | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods |
|---|---|---|---|---|---|---|
| **AN 8.6** | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE SCAPHOID FRACTURE AND EXPLAIN THE ANATOMICAL BASIS OF AVASCULAR NECROSIS. | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE BLOOD SUPPLY OF SCAPHOID | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE INJURY PATTERN LEADING TO DISRUPTION OF BLOOD SUPPLY | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE THE CLASSIFICATION OF SCAPHOID FRACTURES | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 10.12 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE AND DEMONSTRATE SHOULDER JOINT FOR – TYPE,ARTICULAR SURFACES ,CAPSULE,SYNOVIAL MEMBRANE,LIGAMENTS,RELATIONS,MOVEMENTS | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULLD BE ABLE TO DESCRIBE ROTATOR CUFF INSERTIONAL ANATOMY | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE IMPORTANCE OF MOVEMENTS ASSOCIATED WITH EACH MUSCLE | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE MRI IN INJURIES | K | KH | Y | LECTURE | WRITTEN/VIVA |

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| AN 11.4 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMICAL BASIS OF STURDAY NIGHT PARALYSIS | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE SPIRAL GROOVE DEMONSTRATION | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE CLASSIFICATTION OF RADIAL NERVE PALSY | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 17.2 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMICAL BASIS OF COMPLICATIONS OF FRACTURE NECK OF FEMUR. | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMY OF HEAD AND NECK OF FEMUR | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE BLOOD SUPPLY OF HEAD AND NECK OF THE FEMUR . | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE FRACTURE NECK OF FEMUR CLASSIFICATION | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE XRAY,CT-SCAN,MRI | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 17.3 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE DISLOCATIONS OF HIP JOINT AND SURGICAL HIP REPLACEMENT. | | | | | |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE CLASSIFICATION OF HIP DISLOCATION | K | KH | Y | LECTURE | WRITTEN/VIVA |

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| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DISCUSS THE MECHANISM OF EACH DISLOCATION | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO ENNUMERATE THE COMPLICATIONS | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE AVN OF HEAD OF FEMUR | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE THR | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 18.6 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE KNEE JOINT INJURIES WITH ITS APPLIED ANATOMY | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ROLE OF ACL,PCL, LCL, MCL, POPLITEUS IN INJURIES | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO EXPLAIN TESTS FOR INJURIES OF EACH LIGAMENT | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 18.7 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO EXPLAIN ANATOMICAL BASIS OF OSTEOARTHRITIS | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DISCUSS PATHOPHYSIOLOGY OF OA | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE STAGING OF OA | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE X RAY | K | KH | Y | LECTURE | WRITTEN/VIVA |
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| AN 19.4 | AT THE END OF SESSION PHASE 1, STUDENT SHOULLD BE ABLE TO EXPLAIN THE ANATOMICAL BASIS OF RUPTURE OF CALCANEAL TENDON | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMY OF TA | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO ENNUMERATE THE CAUSES OF RUPTURE | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO EXPLAIN TESTS | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE IMAGING | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 19.6 | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO EXPLAIN THE ANATOMICAL BASIS OF FLAT FOOT & CLUB FOOT | | | | | |
| Objectives | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMY OF ARCHES OF FOOT | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE FLATFOOT,CLUBFOOT. | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE PATHOANATOMY | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE XRAY,MRI | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | | | | | | |
| AN 19.7 | AT THE END OF SESSION PHASE 1 STUDENT SHOULD BE ABLE TO EXPLAIN THE ANATOMICAL BASIS OF METATARSALGIA & PLANTAR FASCIITIS | | | | | |

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| Objectives | AT THE END OF SESSIONPHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE METATARSAL ANATOMY ® | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO DESCRIBE ANATOMY IN RELATION TO HEEL PAD AND PLANTAR FASCIA | K | KH | Y | LECTURE | WRITTEN/VIVA |
| | AT THE END OF SESSION PHASE 1, STUDENT SHOULD BE ABLE TO ENNUMERATE THE CAUSES | K | KH | Y | LECTURE | WRITTEN/VIVA |

| Anatomy topics integrated with Paediatrics | | | | | | |
|---|---|---|---|---|---|---|
| Number | COMPETENCY | Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Teaching-Learning Methods | Assessment Methods |
| **AN 25.4** | **Tracheo-oesophageal fistula** | k | kh | y | Lecture | Written |
| Objectives | Difine the Tracheo-oesophegeal fistula | k | kh | y | Lecture | Written |
| | Epidemiology and Types and Clinical features and Prognosis of Tracheo-oesophageal fistula | k | kh | y | Lecture | Written |
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| **AN 25.5** | **Transposition of Great arteries** | | | | | |
| Objectives | Define the transposion of great arteries | k | kh | y | Lecture | Written |
| | Incidence and Types and Etiology and Prognosis of Transposition of Great arteries | k | kh | y | Lecture | Written |
| AN 25.5 | **Patent ductes arteriosus** | | | | | |
| | Explain Fetal circulation | k | kh | y | Lecture | Written |
| Objectives | Define the Patent ducts arteriousus | k | kh | y | Lecture | Written |
| | Histology, Incedence,Clinical features of Patent ductes arteriosus | k | kh | y | Lecture | Written |
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| **AN 25.5** | **Dextro cardia** | | | | | |
| Objectives | Define the Dextro cardia | k | kh | y | Lecture | Written |
| | Etiology, Types, Clinical features and Prognosis of Dextro cardia | k | kh | y | Lecture | Written |
| | | | | | | |
| | | | | | | |
| **AN 75.5** | **Principles of genetic counsellig** | | | | | |
| Objectives | Define the Genetic counselling | k | kh | y | Lecture | Written |
| | Indications of Genetic counselling in Paediatrics | k | kh | y | Lecture | Written |
| | Clasification of Genetic disorders and Purpose of Genetic counselling. | k | kh | y | Lecture | Written |

## VERTICAL INTEGRATION ANATOMY TO RADIO-DIAGNOSIS

| Number | Competency The student should be able to | Specific Learning objective (SLO ) | Domain K/S/A/C | Level K/KH/S/SH/P | Core (Y/N) | Teaching Learning method | Assessment method | Vertical integration | Horizontal integration | |
|---|---|---|---|---|---|---|---|---|---|---|
| AN 25.7 | Identify the structures seen on Plain X-ray Chest P.A.View | 1. Identify and describe the hilar structures and bronchovascular markings<br>2. Describe the Costophrenic angle and mention its importance<br>3.Identify the domes of diaphragm and ribs. | K/S | KH/SH | Y | PRACTICAL DOAP SESSION | WRITTEN EXAM VIVA | Anatomy | | |
| AN 25.8 | Identify and describe in brief a Barium swallow | 1. Describe the position of patient , contrast used and part examined in a Barium swallow<br>2. Identify the presence of any strictures / filling defects. | K/S | KH / SH | N | PRACTICAL /DOAP SESSION | WRITTEN EXAM / VIVA | Anatomy | | |

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| AN 43.7 | Identify the anatomical structures in<br>1) Plain X ray skull, AP and LATERAL view<br>2) Plain X ray cervical spine - AP/LAT view<br>3) Plain X RAY of paranasal sinuses. | 1. Identify the various structures of skull bones , atlanto axial joint and mandible.<br>2. Describe in detail the paranasal sinuses with mastoids.<br>3. Identify the parts of cervical vertebral bodies.<br>4. Identify if there are any osteophytes / joint space narrowing.<br>5.Assess the paranasal sinuses for any opacification . | K/S | KH/SH | Y | PRACTICAL | VIVA/ SKILL ASSESSMENT | ANATOMY | | |
| AN 43.9 | Identify the anatomical structures in carotid and vertebral angiogram. | 1. Identify the anatomical structures in carotid angiogram.<br>2. Identify the anatomical structures in vertebral angiogram. | K/S | KH/SH | N | PRACTICAL | VIVA/ SKILL ASSESSMENT | ANATOMY | | |
| AN 54.3 | Describe the role of ERCP, CT abdomen , MRI, Arteriographyin radiodiagnosis of abdomen. | 1. Describe the views in CT abdomen.<br>2. Identify the major structures in CT abdomen.<br>3. Describe the sequences in MRI used for abdomen.<br>4. Identify various organs in MRI abdomen. | K | KH | N | LECTURE | VIVA | Anatomy | | |

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| AN 54.2 | Describe and identify the special radiographs of abdomino pelvic region (contrast x ray, barium swallow, barium meal , barium enema, cholecystography, IVP, hysterosalpingography.) | 1. Identify the position , part examined and view for the Barium swallow, meal , enema.<br>2. Describe about the type of contrast and amount to be given.<br>3. Describe in detail the mode of contrast administration with the procedure of IVP.<br>4. Describe in detail the mode of contrast administration with procedure of HSG. | K/S | KH/SH | Y | LECTURE/ DOAP SESSION | VIVA/ SKILL ASSESSMENT | Anatomy | | |