

HUMAN ANATOMY (CODE: AN)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses ment Metho ds	Number required to certify P	Vertical Integra tion	Horizontal Integration
Human Anatomy										
Topic: Anatomical terminology				Num ber of comp etenci es: (2)		Number of procedures for certification: (NIL)				
AN1.1	Demonstrate normal anatomical position, various planes, relation, comparison, laterality & movement in our body	K/S	SH	Y	Lecture, DOAP session	1.Demonstrate normal anatomical position on an individual 2.Name the planes on longitudinal axis 3.Demonstrate movement of his shoulder joint	Written/ Viva voce/sk ills assess ment			
AN1.2	Describe composition of bone and bone marrow	K	KH	Y	Lecture	1.Enumerate the chief mineral component of Bone 2. Enumerate all the cells of bone marrow.	Written/ Viva voce			
Topic: General features of bones & Joints				Nu mbe r of com pete ncie s: (6)		Number of procedures for certification: (NIL)				
AN2.1	Describe parts, blood and nerve supply of a long bone	K	KH	Y	Lecture, DOAP session	1.Describe the parts of long bone 2. Locate the long bones in an individual	Written/ Viva voce			
AN2.2	Enumerate laws of ossification	K	KH	N	Lecture	1.List the named laws of ossification 2. Discuss the anatomical basis for the delayed fusion of growing end with shaft	Written			
AN2.3	Enumerate special features of a sesamoid bone	K	KH	N	Lecture	1.Describe features of sesamoid bone 2.Name 3 salient features Of sesamoid bone	Written			
AN2.4	Describe various types of cartilage with its structure & distribution in body	K	KH	Y	Lecture	1.Name the types of cartilage 2. Illustrate the structure of hyaline cartilage with one example 3. Illustrate the structure of elastic cartilage with one example	Written/ Viva voce		Orthopedics	

AN2.5	Describe various joints with subtypes and examples	K	KH	Y	Lecture	1.Describe the synovial joint 2.Classify synovial joint based on Axis of Movement	Written/ Viva voce		Orthopedics	
AN2.6	Explain the concept of nerve supply of joints & Hilton's law	K	KH	Y	Lecture	1. Describe the importance of nerve supply of Joint 2. Construct nerve supply to shoulder joint on the basis of Hilton's Law.	Written/ Viva voce			
Topic: General features of Muscle		Number of competencies: (3)			Number of procedures for certification: (NIL)					
AN3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	1. Name the structural classification of muscle tissue 2. Enumerate 3 muscles named according to its action	Written/ Viva voce			Physiology
AN3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	1.Name the parts of the skeletal muscle 2.Distinguish tendon from aponeurosis with suitable example	Written/ Viva voce			
AN3.3	Explain Shunt and spurt muscles	K	KH	N	Lecture	1.Define shunt muscle 2.Define spurt muscle	Written			
Topic: General features of skin and fascia		Number of competencies: (5)			Number of procedures for certification: (NIL)					
AN4.1	Describe different types of skin & dermatomes in body	K	KH	N	Lecture, DOAP session	1.Name the types of skin 2. Locate the types of skin in the body 3. Illustrate the structure of thick skin 4. Illustrate the structure of thin skin	Written			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses ment Metho ds	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN4.2	Describe structure & function of skin with its appendages	K	KH	Y	Lecture, DOAP session	1.Describe the parts of the skin 2.Enumerate the functions of skin 3. Locate the thick skin present in the body	Written/ Viva voce		Dermatolo gy, Venereolo gy & Leprosy	

AN4.3	Describe superficial fascia along with fat distribution in body	K	KH	Y	Lecture, DOAP session	1.Mention 3 salient features of superficial fascia 2.List all the region with abundant fat distribution	Written/ Viva voce			
AN4.4	Describe modifications of deep fascia with its functions	K	KH	Y	Lecture, DOAP session	1.Define deep fascia 2.Enumerate any 3 modifications of superficial fascia 3.Mention the functions of deep fascia	Written/ Viva voce		Dermatology, Venereology & Leprosy	
AN4.5	Explain principles of skin incisions	K	KH	N	Lecture	1.Summarize dermo-epidermal junction 2.Describe the orientation of collagen fibers in limb, trunk and neck 3. Justify the reasons for skin incision along Langer's line	Written		Dermatology, Venereology & Leprosy	
Topic: General features of the cardiovascular system		Number of competencies: (8)				Number of procedures for certification: (NIL)				
AN5.1	Differentiate between blood vascular and lymphatic system	K	KH	Y	Lecture	1.Enumerate the components of vascular system 2.List all the tunics of blood vessels 3.Distinguish vein from lymph vessels	Written/ Viva voce			Physiology
AN5.2	Differentiate between pulmonary and systemic circulation	K	KH	Y	Lecture	1.Describe pulmonary circulation 2.Explain systemic circulation 3.Distinguish all the differences between pulmonary and systemic circulation	Written/ Viva voce			Physiology
AN5.3	List general differences between arteries & veins	K	KH	Y	Lecture	1.List all the tunics of artery 2. List all tunics of vein 3. Difference between artery and vein based on its tunics	Written/ Viva voce			
AN5.4	Explain functional difference between elastic, muscular arteries and arterioles	K	KH	Y	Lecture	1.Describe micro-anatomy of elastic artery and its function 2. Describe micro-anatomy of muscular artery and its function	Written/ Viva voce			
AN5.5	Describe portal system giving examples	K	KH	Y	Lecture	1.Describe portal circulation 2.State the location of portal circulation in the body 3. Enumerate the significance of portal circulation	Written/ Viva voce			
AN5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	1.Define anastomosis 2.Describe collateral circulation 3.Locate end arteries in any 2 organs in our body	Written/ Viva voce		General Medicine	Physiology

AN5.7	Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses	K	KH	N	Lecture	1. Define arterio-venous anastomosis 2. Define precapillary sphincter	Written			Physiology
AN5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	1. Define infarction 2. Define aneurysm	Written		Pathology	Physiology
Topic: General Features of lymphatic system		Number of competencies: (3)				Number of procedures for certification: (NIL)				
AN6.1	List the components and functions of the lymphatic system	K	KH	N	Lecture	1. Enumerate components of lymphatic system 2. Explain formation of lymph 3. Explain the function of nervous system	Written			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses sment Metho ds	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN6.2	Describe structure of lymph capillaries & mechanism of lymph circulation	K	KH	N	Lecture	1. Describe lymph capillaries	Written			
AN6.3	Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system	K	KH	N	Lecture	1. co relate the anatomical basis for the spread of tumour cell through lymphatic in carcinoma breast	Written		General Surgery	
Topic: Introduction to the nervous system		Number of competencies : (8)				Number of procedures for certification: (NIL)				
AN7.1	Describe general plan of nervous system with components of central, peripheral & autonomic nervous systems	K	KH	Y	Lecture	1. Draw a neat labelled diagram of neuron. 2. Types of neuron 3. Classify nervous system	Written			
AN7.2	List components of nervous tissue and their functions	K	KH	Y	Lecture	1. Name the component of nervous system 2. Neuroglial cells of central and peripheral nervous system	Written/ Viva voce			Physiology
AN7.3	Describe parts of a neuron and classify them based on number of neurites, size & function	K	KH	Y	Lecture	1. Name the parts of neuron 2. Classify neuron based on number of neurites	Written/ Viva voce			Physiology
AN7.4	Describe structure of a typical spinal nerve	K	KH	Y	Lecture	1. Draw and label a typical spinal nerve	Written/ Viva voce			
AN7.5	Describe principles of sensory and motor innervation of muscles	K	KH	N	Lecture	1. Describe Bell magendie law	Written		General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses ment Metho ds	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN8.4	Demonstrate important muscle attachment on the given bone	K/S	SH	Y	Practical DOAP session, Small group teaching	1. At the end of the session the Phase I students should be able to demonstrate at least 2 muscle attachment in a given upper limb bone	Viv a voc e Pra ctic als		Orthopedics	
AN8.5	Identify and name various bones in articulated hand, Specify the parts of metacarpals and phalanges and enumerate the peculiarities of pisiform	K/S	SH	Y	Practical,F9 1 DOAP session, Small group teaching	1. At the end of the session the Phase I students should be able to identify the carpal bones in an articulated skeleton 2. At the end of the session the Phase I students should be able to describe the peculiarities of pisiform bone	Viv a voc e Pra ctic als			
AN8.6	Describe scaphoid fracture and explain the anatomical basis of avascular necrosis	K	KH	N	DOAP session	1. At the end of the session the Phase I students should be able to describe the anatomical basis of avascular necrosis in scaphoid fracture	Viva voce		Orthopedics	
Topic: Pectoral region		Number of competencies: (3)				Number of procedures for certification: (NIL)				
AN9.1	Describe attachment, nerve supply & action of pectoralis major and pectoralis minor	K	KH	Y	Lecture, Practical	1. At the end of the session the Phase I students should be able to describe the parts of the given upper limb bone 2. At the end of the session the Phase I students should be able to demonstrate the anatomical position of the given upper limb bone	Written			
AN9.2	Breast: Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	K	KH	Y	Practical, Lecture	1. At the end of the session the Phase I students should be able to describe the origin and insertion of pectoralis group of muscles 2. At the end of the session the Phase I students should be able to describe the nerve supply of pectoralis group of muscles 3. At the end of the session the Phase I students should be able to demonstrate the action of pectoralis group of muscles	Written/ Viva voce		General Surgery	
AN9.3	Describe development of breast	K	KH	N	Lecture	1. At the end of the session the Phase I students should be able to describe the stages of breast	Written			

						development 2. At the end of the session the Phase I students should be able to enumerate the embryological anomalies of breast				
Topic: Axilla, Shoulder and Scapular region		Number of competencies: (13)				Number of procedures for certification: (NIL)				
AN10.1	Identify & describe boundaries and contents of axilla	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to describe the location and boundaries of axilla 2. At the end of the session the Phase I students should be able to demonstrate the contents of axilla in a given specimen	Written/ Viva voce/ skill assessment			
AN10.2	Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to describe the parts and course of axillary vessels 2. At the end of the session the Phase I students should be able to identify axillary vessels in a given specimen 3. At the end of the session the Phase I students should be able to describe the branches of axillary artery	Written/ Viva voce/ skill assessment			
AN10.3	Describe, identify and demonstrate formation, branches, relations, area of supply of branches, course and relations of terminal branches of brachial plexus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to describe the parts and course of brachial plexus 2. At the end of the session the Phase I students should be able to identify the 3 major nerves of brachial plexus in a given specimen	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assess ment Method s	Number required to certify P	Vertical Integratio n	Horizontal Integration
AN10.4	Describe the anatomical groups of axillary lymph nodes and specify their areas of drainage	K	KH	Y	Practical, Lecture	1. At the end of the session the Phase I students should be able to describe the anatomical groups of axillary lymph nodes 2. At the end of the session the Phase I students should be able to describe the drainage area of axillary lymph nodes	Written/ Viva voce		General Surgery	
AN10.5	Explain variations in formation of brachial plexus	K	KH	Y	Practical, Lecture	1. At the end of the session the Phase I students should be able to identify any variations in formation of brachial plexus	Written/ Viva voce			
AN10.6	Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis	K	KH	N	Lecture	1. At the end of the session the Phase I students should be able to describe the anatomical basis of erb's and klumpke's paralysis 2. At the end of the session the Phase I students should be able to enumerate the muscles paralyzed in erb's and klumpke's paralysis	Written		General Surgery	
AN10.7	Explain anatomical basis of enlarged axillary lymph nodes	K	KH	N	Lecture	1. At the end of the session the Phase I students should be able to describe the anatomical basis of enlarged axillary lymph node 2. At the end of the session the Phase I students should be able to describe the signs and symptoms of enlarged axillary lymph node	Written		General Surgery	
AN10.8	Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi	K/S	SH	Y	Practical, Lecture, Small group discussio n, DOAP session	1. At the end of the session the Phase I students should be able to describe the origin and insertion of trapezius and latissimus dorsi muscle 2. At the end of the session the Phase I students should be able to identify the trapezius and latissimus dorsi muscle in a given specimen 3. At the end of the session the Phase I students should be able to Describe the actions of trapezius and latissimus dorsi muscle	Written/ Viva voce/ skill assessment			

AN10.9	Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation	K	KH	N	Lecture	1. At the end of the session the Phase I students should be able to Describe the arterial anastomosis around scapula 2. At the end of the session the Phase I students should be able to demonstrate the boundaries of triangle of auscultation in a given specimen	Written			
AN10.10	Describe and identify the deltoid and rotator cuff muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to Describe the origin, insertion and action of deltoid muscle 2. At the end of the session the Phase I students should be able to identify deltoid and rotator cuff muscles in a given specimen	Written/ Viva voce/ skill assessment			
AN10.11	Describe & demonstrate attachment of serratus anterior with its action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to describe the origin and insertion of serratus anterior muscle 2. At the end of the session the Phase I students should be able to describe the anatomical basis behind winging of scapula 3. At the end of the session the Phase I students should be able to identify serratus anterior in a given specimen	Written/ Viva voce/ skill assessment			
AN10.12	Describe and demonstrate shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. At the end of the session the Phase I students should be able to demonstrate the articular surfaces involved in formation of shoulder joint 2. At the end of the session the Phase I students should be able to describe the ligaments and relation of shoulder joint 3. At the end of the session the Phase I students should be able to demonstrate the shoulder movements in a given skeleton	Written/ Viva voce/ skill assessment		Orthopedics	
AN10.13	Explain anatomical basis of Injury to axillary nerve during intramuscular injections	K	KH	N	Lecture	1. At the end of the session the Phase I students should be able to identify the site of intramuscular injection in shoulder region 2. At the end of the session the Phase I students should be able to describe the anatomical basis behind axillary nerve injury during intramuscular injection	Viva voce			

Topic: Arm & Cubital fossa										
Number of competencies: (6)						Number of procedures for certification: (NIL)				
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integratio n	Horizontal Integration
AN11.1	Describe and demonstrate muscle groups of upper arm with emphasis on biceps and triceps brachii	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify biceps and triceps muscle in a given specimen 2. Describe the action of biceps and triceps muscle	Written/ Viva voce/ skill assessment			
AN11.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels in arm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify brachial artery and its 2 terminal branches in a given specimen 2. Describe the course of median and ulnar nerve in arm and cubital fossa 3. Describe the muscles supplied by median and ulnar nerve	Written/ Viva voce/ skill assessment			
AN11.3	Describe the anatomical basis of Venepuncture of cubital veins	K	KH	Y	Practical, Lecture	1. Describe the anatomical basis of venipuncture in median cubital vein	Written/ Viva voce		General Surgery	
AN11.4	Describe the anatomical basis of Saturday night paralysis	K	KH	Y	Practical, Lecture	1. Identify the site and nerve injured in Saturday night paralysis 2. Describe the muscles paralyzed in Saturday night paralysis	Written/ Viva voce		Orthopedics	

AN11.5	Identify & describe boundaries and contents of cubital fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify boundaries and contents of cubital in a given specimen	Written/ Viva voce/ skill assessment			
AN11.6	Describe the anastomosis around the elbow joint	K	KH	N	Lecture	1. Describe the anastomosis around elbow joint 2. Describe the functional significance of anastomosis around elbow joint	Written			
Topic: Forearm & hand		Number of competencies: (15)			Number of procedures for certification: (NIL)					
AN12.1	Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the origin, insertion and action of front of forearm muscles 2. Identify the front of forearm muscles in a given specimen	Written/ Viva voce/ skill assessment			
AN12.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe course and relation of median nerve and ulnar nerve in forearm 2. Identify the median nerve and ulnar nerve in forearm in a given specimen	Written/ Viva voce/ skill assessment			
AN12.3	Identify & describe flexor retinaculum with its attachments	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the attachments of flexor retinaculum 2. Identify the structures that pass deep to the retinaculum in a given specimen	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Method	Number required to certify P	Vertical Integration	Horizontal Integration

							s			
AN12.4	Explain anatomical basis of carpal tunnel syndrome	K	KH	Y	Lecture	1.Describe the anatomical basis of carpal tunnel syndrome	Written/ Viva voce			
AN12.5	Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify & describe thenar muscles of hand 2.. Identify & describe hypo thenar muscles 3. Describe movements of thumb and muscles involved	Written/ Viva voce/ skill assessment			
AN12.6	Describe & demonstrate movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify the muscles of hand in a given specimen 2. Describe the attachment and action of thenar and hypothenar muscles	Written/ Viva voce/ skill assessment			
AN12.7	Identify & describe course and branches of important blood vessels and nerves in hand	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify the superficial palmar arch and its branches 2. Describe the course of radial and ulnar artery in hand	Written/ Viva voce/ skill assessment			
AN12.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture	1. Describe the anatomical basis of claw hand 2. Analyze between high and low ulnar nerve injury	Written/ Viva voce		General Surgery	
AN12.9	Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify the fibrous flexor sheath in a given specimen 2. Describe the location, relations and functions of bursa of hand	Written/ Viva voce/ skill assessment			

AN12.10	Explain infection of fascial spaces of palm	K	KH	N	Lecture	1.Describe the incision and drainage of hand space infection	Written		General Surgery	
AN12.11	Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Identify the muscles present in the extensor aspect of forearm in a given specimen 2.Describe the nerve supply and action of extensor forearm muscles	Written/ Viva voce/ skill assessment		General Surgery	
AN12.12	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Identify the radial nerve in extensor aspect of forearm in a given specimen 2.Describe the course of radial nerve in extensor aspect of forearm	Written/ Viva voce/ skill assessment		General Surgery	
AN12.13	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture	1.Describe the muscles paralyzed in wrist drop	Written/ Viva voce		General Surgery	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Obectives	Assesment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN12.14	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the compartments of extensor retinaculum 2.Identify the extensor tendons passing through the extensor retinaculum	Written/ Viva voce/ skill assessment		General Surgery	
AN12.15	Identify & describe extensor expansion formation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	1.Identify the extensor expansion of fingers 2.Describe the muscles attached to extensor expansion 3.Describe the function of extensor expansion	Written/ Viva voce/ skill assessment			

					session					
Topic: General Features, Joints, radiographs & surface marking										
					Number of competencies: (8)			Number of procedures for certification: (NIL)		
AN13.1	Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage	K	KH	Y	Lecture	1. Identify the cephalic and basilic vein in a given specimen 2. Describe the lymphatic drainage of upper limb 3. Describe the structures related to clavipectoral fascia	Written/ Viva voce			
AN13.2	Describe dermatomes of upper limb	K	KH	N	Lecture	1. Describe the dermatomes of upper limb	Written/ Viva voce			
AN13.3	Identify & describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, blood and nerve supply of elbow joint, proximal and distal radio-ulnar joints, wrist joint & first carpometacarpal joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	2. Describe the type, articular surface, relations of elbow joint and radioulnar joint 3. Demonstrate the movements possible at elbow and radioulnar joint by himself	Written/ Viva voce/ skill assessment			
AN13.4	Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint	K	KH	N	Lecture	1. Describe the bones involved in acromioclavicular joint and metacarpophalangeal joint 2. Describe the movements possible at metacarpophalangeal joint	Written			
AN13.5	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	Practical, Small group discussion, DOAP session	1. Identify the bones and joints in shoulder, elbow and wrist X-ray 2. Identify the bony landmarks in shoulder, elbow and wrist X-ray	Viva voce/ skill assessment		Radiodiagnosis	
AN13.6	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	1. Identify the sternal angle, spine of scapula and inferior angle of scapula in a given cadaver	Viva voce/ skill assessment			

	angle of the scapula				session					
AN13.7	Identify & demonstrate surface projection of: Cephalic and basilic vein, Palpation of Brachial artery, Radial artery, Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Surface mark brachial artery in a given cadaver 2.Demonstrate the testing of trapezius and serratus anterior muscle	Viva voce/skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN13.8	Describe development of upper limb	K	KH	N	Lecture	1.Describe the key stages of upper limb development 2.Enumerate 2 anomalies related to upper limb development	Written			
Features of individual bones (Lower Limb)		Number of competencies: (4)				Number of procedures for certification: (NIL)				
AN14.1	Identify the given bone, its side, important features & keep it in anatomical position	K/S	SH	Y	DOAP session	1.Identify the given bone 2.Place it in normal anatomical position	Viva voce			
AN14.2	Identify & describe joints formed by the given bone	K/S	SH	Y	Lecture, DOAP session	1.Identify & describe joints formed by the given bone	Viva voce			
AN14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	1.Mention one medico legal importance ossification of lower end of femur	Viva voce/Pr		Forensic Medicine & Toxicology	

							act ica ls			
AN14.4	Identify and name various bones in the articulated foot with individual muscle attachment	K/S	SH	N	Practical, DOAP session, Small group teaching	1.Name all the tarsal bone in the given articulated foot	Viv a vo ce/ Pr act ica ls			
Topic: Front & Medial side of thigh Number of competencies: (5) ð Number of procedures for certification: (NIL)										
AN15.1	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the origin and branches of femoral artery in the femoral triangle 2. Describe the origin and branches of femoral nerve	Written/ Viva voce/ skill assessment			
AN15.2	Describe and demonstrate major muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Name the extensor compartment muscles and nerve supply 2.Mention the action of quadriceps femoris	Written/ Viva voce/ skill assessment			
AN15.3	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe boundaries, floor, roof and contents of femoral triangle 2.Name the muscles forming floor of femoral triangle	Written/ Viva voce/ skill assessment		General Surgery	
AN15.4	Explain anatomical basis of Psoas abscess & Femoral hernia	K	KH	N	Lecture, DOAP session	1.Mention most common cause of Psoas abscess 2. Mention most common cause of Femoral hernia	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN15.5	Describe and demonstrate adductor canal with its content	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Mention the boundries of adductor canal 2.Mention one clinical significance of adductor canal	Written/ Viva voce/ skill assessment			
Topic: Gluteal region & back of thigh Number of competencies: (6) Number of procedures for certification: (NIL)										
AN16.1	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of gluteal region	K/S	SH	Y	Practical, Lecture, Small group discussio n, DOAP session	1.Describe the attachments, nerve supply and actions of muscles in the Gluteal region 2. Describe the origin, course, relations, branches and distribution of the superior & inferior gluteal nerves, sciatic nerve and other branches of the Lumbosacral plexus 3. Describe the origin, course, relations, branches and distribution of the superior & inferior gluteal arteries and formation of the cruciate and trochanteric anastomoses 4. Enumerate and identify all the structures under cover of gluteus maximus 5. Identify the nerves and vessels in the gluteal region correctly	Written/ Viva voce/ skill assessment			
AN16.2	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	K	KH	Y	Lecture, DOAP session	1. Describe location of the correct site for giving Intramuscular injections in the gluteus maximus and enumerate the clinical presentation of sciatic nerve injury due to an incorrect injection in a patient correctly	Written/ Viva voce		General Surgery	
AN16.3	Explain the anatomical basis of Trendelenburg sign	K	KH	Y	Lecture, DOAP session	1. Describe the causes, muscle affected and clinical presentation of a +ve Trendelenburg sign in a patient correctly	Written/ Viva voce		General Surgery	

AN16.4	Describe and demonstrate the hamstrings group of muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the attachments, nerve supply and actions of the hamstrings groups of muscles 2. Identify all the hamstring muscles in a cadaver correctly	Written/ Viva voce/ skill assessment			
AN16.5	Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels on the back of thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the course, relations, branches and distribution of the sciatic nerve and posterior cutaneous nerve of thigh 2. Describe the course, relations, branches and distribution of the profundafemoris artery 3. Identify all the nerves and vessels at the back of thigh in a cadaver correctly	Written/ Viva voce/ skill assessment			
AN16.6	Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Enumerate the boundaries, roof, floor, contents and relations of popliteal fossa 2. Describe the branches of the Popliteal artery in the popliteal fossa 3. Describe the branches of the Tibial and common peroneal nerves 4. Demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa correctly in a cadaver	Written/ Viva voce/ skill assessment			
Topic: Hip Joint Number of competencies: (3) Number of procedures for certification: (NIL)										
AN17.1	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integra tion	Horizontal Integration

AN17.2	Describe anatomical basis of complications of fracture neck of femur	K	KH	N	Lecture	1.Mention the most common complication fracture neck of femur 2.Explain anatomical basis of complications of fracture neck of femur	Written/ Viva voce		Orthopedics		
AN17.3	Describe dislocation of hip joint and surgical hip replacement	K	KH	N	Lecture	1.Mention the type dislocation of hip joint	Written/ Viva voce		Orthopedics		
Topic: Knee joint, Anterolateral compartment of leg & dorsum of foot											
					Number of competencies: (7) ð			Number of procedures for certification: (NIL)			
AN18.1	Describe and demonstrate major muscles of anterolateral compartment of leg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.List the muscles of the anterior compartment of the leg 2. Describe the attachments, nerve supply and action of the muscles of the anterior compartment 3. Identify and show the attachments of muscles of the anterior compartment of the leg *Tibia, fibula and articulated foot to be used as an added tool	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe origin course, relations, branches termination of important vessels and nerves of front of leg 2. Demonstrate the origin course, relations, branches termination of important vessels and nerves of front of leg	Written/ Viva voce/ skill assessment				
AN18.3	Explain the anatomical basis of foot drop	K	KH	Y	Lecture, DOAP session	1. Describe the different kinds of foot drop due to injuries of sciatic / common peroneal / deep peroneal Nerves	Written/ Viva voce		General Surgery		
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the type, articular surfaces, capsule, synovial membrane, ligaments of the knee joint 2. Describe the relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint 3. Demonstrate the ligaments, blood and nerve supply to the knee joint. Demonstrate the articular surfaces at the lower end of femur and upper end of tibia	Written/ Viva voce/ skill assessment				
AN18.5	Explain the anatomical basis of locking and unlocking of the knee joint	K	KH	Y	Small group teaching	1. Explain about the geometry of Condylar process of femur Explain about the geometry of articular surface of	Written/ Viva voce				

						Tibia Muscle involved in location of knee joint Muscle involved in unlocking of knee joint				
AN18.6	Describe knee joint injuries with its applied anatomy	K	KH	N	Lecture	1. Explain about anatomical basis of clergyman's knee Explain about anatomical basis of house maid's knee Explain most common menisci injured and most common cause of injury Explain cruciate ligament injury	Written/ Viva voce		Orthopedics	
AN18.7	Explain anatomical basis of Osteoarthritis	K	KH	N	Lecture	1. Explain anatomical basis of Osteoarthritis	Written/ Viva voce		Orthopedics	

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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.demonstrate superficial muscle pf posterior compartment of leg 2.Demonstrate deep muscle of posterior compartment of leg 3.Nerve supply of muscles of posterior compartment of leg	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN19.2	Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of leg	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe origin ,branches of posterior tibial artery 2.Demonstrate the origin course of tibial nerve	Written/ Viva voce/ skill assessment			
AN19.3	Explain the concept of "Peripheral heart"	K	KH	Y	Lecture	1.Describe the action of soleus muscle while standing	Written/ Viva voce		General Surgery	
AN19.4	Explain the anatomical basis of rupture of calcaneal tendon	K	KH	N	Lecture	1.explain the distal attachment triceps surae	Written/ Viva voce		Orthopedics	

AN19.5	Describe factors maintaining importance arches of the foot with its importance	K	KH	Y	Lecture	1.Demonstrate all the structures passing beneath flexor retinaculum	Written/ Viva voce			
AN19.6	Explain the anatomical basis of Flat foot & Club foot	K	KH	N	Lecture	1.Name the muscles of all the layers of sole 2.Describe the attachments of plantar aponeurosis	Written/ Viva voce		Orthopedics	
AN19.7	Explain the anatomical basis of Metatarsalgia & Plantar fasciitis	K	KH	N	Lecture	1.Name the nerves supplying muscle of 1stlayer of sole 2. Name the nerves supplying muscle of 2 nd layer of sole 3. Name the nerves supplying muscle of 3rdlayer of sole 4.Name the nerves supplying muscle of 4 th layer of sole	Written/ Viva voce		Orthopedics	
Topic: General Features, Joints, radiographs & surface marking										
					Number of competencies: (10)			Number of procedures for certification: (NIL)		
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List and describe the type, articular surfaces and the ligaments of 3 tibiofibular joints correctly. 2. Describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, blood and nerve supply of ankle joint correctly 3. Demonstrate the movements of dorsiflexion and plantar flexion and muscles involved in ankle joint accurately	Written/ Viva voce/ skill assessment			
AN20.2	Describe the subtalar and transverse tarsal joints	K	KH	N	Lecture, DOAP session	1. List the Subtalar joints and transverse tarsal joints of foot correctly	Written/ Viva voce			
AN20.3	Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Define fascia lata as deep fascia of thigh and describe its attachment correctly 2. List the modifications of deep fascia in the thigh, leg and foot correctly 3. Demonstrate the location and structures passing through saphenous opening accurately 4. Demonstrate the location, attachments and describe the functions of iliotibial tract correctly 5. Describe the retinaculae around the ankle joint and structures passing beneath correctly 6. Demonstrate the cutaneous nerves and dermatomes of lower limb accurately 7. Describe the course & tributaries of superficial & deep veins of lower limb correctly	Written/ Viva voce/ skill assessment			

						8. Describe the location ,structure & functions of perforator veins correctly 9. Describe the areas of lymphatic drainage of lower limb correctly				
AN20.4	Explain anatomical basis of enlarged inguinal lymph nodes	K	KH	N	Lecture	1. Describe the superficial and deep group of inguinal lymph nodes correctly 2. Describe the anatomical basis for enlarged inguinal lymph nodes preferably	Written/ Viva voce		General Surgery	
AN20.5	Explain anatomical basis of varicose veins and deep vein thrombosis	K	KH	Y	Lecture	1.Describe the formation and course and termination of great saphenous vein 2.Describe the perforators of great saphenous vein	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	K/S	SH	Y	Lecture, Small group discussion, DOAP session	1. Identify the view, side and bones forming the hip joint in (acetabulum of hip, head, neck and trochanters of upper end of femur)normal plain AP & lateral radiographs accurately 2. Identify the view, side and bones forming the knee joint(condyles of femur, condyles of tibia, patella, head of fibula)in normal plain AP & Lateral radiographs of knee joint accurately 3. Identify the view , side and bones forming the ankle joint (lower ends of tibia & fibula, medial and lateral malleoli, talus & calcaneum) in normal plain AP & Lateral view of ankle joint accurately 4. Identify the view, side ,small bones and joints of foot in normal plain AP & Lateral radiographs of foot accurately	Viva voce/ skill assesment		Radiodiagnosis	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
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	K/S	SH	Y	Practical, Lecture, Small group discussion	1. Identify the bony land marks following structures iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle,	Viva voce/ skill assesment			

	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				, DOAP session	-Tibial tuberosity, head of fibula, -Medial and lateral malleoli, Condyles of femur and tibia, sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular				
AN20.8	Identify & demonstrate palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Demonstrate palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment	Viva voce/ skill assessment		General Medicine	
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. 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	Viva voce/ skill assessment		General Medicine, General Surgery	
AN20.10	Describe basic concept of development of lower limb	K	KH	N	Lecture	1. Development of lower limb bud	Viva voce			
Topic: Thoracic cage Number of competencies: (11) Number of procedures for certification: (NIL)										
AN21.1	Identify and describe the salient features of sternum, typical rib, 1 st rib and typical thoracic vertebra	K/S	SH	Y	Lecture, DOAP session	1. Describe salient features of sternum 2. Describe salient features of Typical rib 3. Demonstrate salient features of 1 st rib 4. Demonstrate salient features of thoracic vertebrae	Viva voce/ skill assessment			
AN21.2	Identify & describe the features of 2 nd , 11 th and 12 th ribs, 1 st , 11 th and 12 th thoracic vertebrae	K/S	SH	N	Lecture, DOAP session	1. identify 2 rib 2. Identify 11 rib 3. Identify 12 rib 4. Identify 1 thoracic vertebra	Viva voce/ skill assessment			

AN21.3	Describe & demonstrate the boundaries of thoracic inlet, cavity and outlet	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Demonstrate the boundaries of thoracic inlet 2. Demonstrate the boundaries of thoracic outlet	Written/ Viva voce/ skill assessment			
AN21.4	Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Demonstrate the extent attachment, direction of intercostal muscles. 2. Describe action of intercostal muscles.	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN21.5	Describe & demonstrate origin, course, relations and branches of a typical intercostal nerve	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the origin, course and branches of typical intercostal nerve.	Written/ Viva voce/ skill assessment			
AN21.6	Mention origin, course and branches/ tributaries of: 1) anterior & posterior intercostal vessels 2) internal thoracic vessels	K	KH	Y	Practical, Lecture	1. Anterior and posterior intercostal vessels 2. Internal thoracic vessels	Written/ Viva voce			
AN21.7	Mention the origin, course, relations and branches of 1) atypical intercostal nerve 2) superior intercostal artery, subcostal artery	K	KH	N	Lecture	1. atypical intercostal nerve. 2. Superior intercostal artery 3. Subcostal artery.	Written			

AN21.8	Describe & demonstrate type, articular surfaces & movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the type, articular surfaces manubrio-sternal, costo-vertebral, costo- transverse xiphi sternal joints	Written/ Viva voce/ skill assessment			
AN21.9	Describe & demonstrate mechanics and types of respiration	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the movements of thoracic wall during respiration	Written/ Viva voce/ skill assessment			Physiology
AN21.10	Describe costochondral and interchondral joints	K	KH	N	Lecture	1.Describe the structures take part in costo-chondral joint	Written			
AN21.11	Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum	K	KH	Y	Practical, Lecture	1.Enumerate the boundaries and content of superior mediastinum 2.Enumerate the boundaries and content of posterior mediastinum	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the subdivisions of pericardium accurately 2.To name the nerve supply and arterial supply of the pericardium 3.Define and name the pericardial sinuses and enumerate their important boundaries 4.Demonstrate the parts of pericardium and identify the cardiac sinuses in the gross specimen	Written/ Viva voce/ skill assessment			
AN22.2	Describe & demonstrate external and internal features of each chamber of heart	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the external features, surfaces, borders, apex, base (anatomical vs clinical) of the heart 2.Describe the parts, openings and salient features of interior of right atrium 3.Describe the interior of both ventricles 4.Demonstrate the surfaces, borders, apex and base of heart	Written/ Viva voce/ skill assessment			Physiology
AN22.3	Describe & demonstrate origin, course and branches of coronary arteries	K/S	SH	Y	Practical, Lecture, Small group discussion	1.Describe the origin, course and branches of right and left coronary arteries separately 2.Describe the area of supply of left and right coronary artery 3.Demonstrate the right coronary artery, left coronary	Written/ Viva voce/ skill assessment			Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses- men- t Met hod s	Number required to certify P	Vertical Integra- tion	Horizontal Integration
					, DOAP session	artery and their major branches				
AN22.4	Describe anatomical basis of ischaemic heart disease	K	KH	Y	Lecture	1.Describe the area of supply of left and right coronary artery 2.Describe the microarchitecture of coronary arteries 3.Describe the salient features of atherosclerosis 4.Describe the mechanisms controlling the coronary circulation 5.Describe the effects of altered blood supply to myocardium 6.Anatomically correlate the area affected during acute coronary event with ECG leads	Written/ Viva voce		Gene- ral Medi- cine	Physiology
AN22.5	Describe & demonstrate the formation, course, tributaries and termination of coronary sinus	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Describe the formation, course, tributaries and termination of coronary sinus 2.Demonstrate coronary sinus and major tributaries	Written/ Viva voce/ skill assessment			
AN22.6	Describe the fibrous skeleton of heart	K	KH	Y	Lecture	1.Describe the fibrous skeleton of the heart	Written			
AN22.7	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	1.Mention the parts, position and arterial supply of the conducting system of heart	Written		Gene- ral Medi- cine	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	K/S	SH	Y	Practical, Lecture, DOAP session	1.Define Mediastinum,mention the boundaries &contents of each 2.Describe the extent of oesophagus,location, constrictions,relations,bloodsupply,nervesupply,lymph	Written/ Viva voce/ skill assessment		General Surgery	

	applied anatomy of oesophagus					aticdrainage&applied anatomy 3. Demonstrate the Relations of oesophagus				
AN23.2	Describe & demonstrate the extent, relations tributaries of thoracic duct and enumerate its applied anatomy	K/S	SH	Y	Practical, Lecture, DOAP session	1.Describe extent,relations,tributaries of Thoracic duct &applied anatomy 2.Demonstrate the relations of Thoracic duct	Written/ Viva voce/ skill assessment		General Surgery	
AN23.3	Describe & demonstrate origin, course, relations, tributaries and termination of superior venacava, azygos, hemiazygos and accessory hemiazygos veins	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Describe origin, course, extent,relations,tributaries of superior vena cava. 2.Identify the superior vena cava in a human cadaver correctly. 3.Describe the origin, extent, course, relations,tributaries of azygos vein & its clinical significance.	Written/ Viva voce/ skill assessment			
AN23.4	Mention the extent, branches and relations of arch of aorta & descending thoracic aorta	K	KH	Y	Practical, Lecture	1.Describe origin, course,extent,relations and branches of arch of aorta. 2.Identify the arch of aorta in a human cadaver correctly. 3.Describe the course,extent ,relations of Descending Thoracic aorta and its branches 4.Identify the Descending thoracic aorta &in a human cadaver correctly.	Written/ Viva voce			
AN23.5	Identify & Mention the location and extent of thoracic sympathetic chain	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Mention the location &extent of Thoracic sympathetic chain 2.Identify the Thoracic sympathetic chain in Human cadaver	Written/ Viva voce/ skill assessment			
AN23.6	Describe the splanchnic nerves	K	KH	N	Lecture	1.Describe the formation of greater,lesser,leastsplachnic nerve	Written			

AN23.7	Mention the extent, relations and applied anatomy of lymphatic duct	K	KH	Y	Lecture	1.Describe extent,relations,tributaries of Lymphatic duct &applied anatomy	Written/ Viva voce		General Surgery	
--------	---	---	----	---	---------	--	--------------------	--	-----------------	--

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integra tion	Horizontal Integration
--------	---	-------------------	------------------------	---------------	----------------------------------	------------	---	---------------------------------------	-----------------------------	---------------------------

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	K	KH	Y	Practical, Lecture	1.Describe the parietal pleura, visceral pleura, pleural recesses. 2. Describe the plural ligaments and the blood supply, lymphatic drainage and nerve supply of pleuraaccurately. 3. Anatomical basis of referred pain of the pleura, pleural tap (thoracocentesis) and clinical terminology related to pleura.	Written/ Viva voce		Gene ral Medi cine	Physiology
AN24.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Describe the external features and relations of apex, base, borders, and surfaces of lung and side 2. Identify and describe the lobes and fissures of lung.and also can describe root of lung and identify structures in hilum of lung on both sides. 3. Anatomical basis pancoast syndrome and horner's syndrome . lobes , accessory lobes and fissures	Written/ Viva voce/ skill assessment		Gene ral Medi cine	Physiology
AN24.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	1. Describe and enumerate a bronchopulmonary segment, and bronchial tree and its parts.	Written/ Viva voce		Gene ral Medi cine	Physiology
AN24.4	Identify phrenic nerve & describe its formation & distribution	K/S	SH	Y	Lecture, Practical	1. Describe the origin, course, relations, branches and distribution of phrenic nerve	Written/ Viva voce			
AN24.5	Mention the blood supply, lymphatic drainage and nerve supply of lungs	K	KH	Y	Lecture	1.Describe the origin, course, relations, branches and distribution of bronchial arteries and pulmonary arteries. 2.Describe tributaries and relations of Bronchial veins and pulmonary veins and lymphatic vessels and	Written/ Viva voce			

						nodes and drainage of lung				
AN24.6	Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea	K	KH	N	Lecture	1. Describe the location, extent, length, course and relations, of trachea. 2. Blood supply, lymphatic drainage and nerve supply of trachea	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	K/S	SH	Y	Lecture, Practical	1. Draw the structure of micro anatomy of lung 2. Draw the structure of micro anatomy of Trachea	Written/ skill assessment	1		
AN25.2	Describe development of pleura, lung & heart	K	KH	Y	Lecture	1. Describe the Development of lung 2. Describe the development of inter atrial and inter ventricular septae	Written			
AN25.3	Describe fetal circulation and changes occurring at birth	K	KH	Y	Lecture	1. Describe fetal circulation	Written		General Medicine	Physiology
AN25.4	Describe embryological basis of: 1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula	K	KH	Y	Lecture	1. Describe embryological basis of atrial septal defect 2. Describe embryological basis of Ventricular septal defect, fallots tetralogy 3. Describe embryological basis of tracheo-esophageal fistula	Written/ Viva voce		General Medicine, Pediatrics	Physiology
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integra tion	Horizontal Integration
AN25.5	Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus	K	KH	Y	Lecture	1. Describe developmental basis of patent ductus arteriosus	Written/ Viva voce		General Medicine,	Physiology

	arteriosus and coarctation of aorta									Pediatrics	
AN25.6	Mention development of aortic arch arteries, SVC, IVC and coronary sinus	K	KH	N	Lecture	1. Development of arch of aorta	Written/ Viva voce				
AN25.7	Identify structures seen on a plain x-ray chest (PA view)	K/S	SH	Y	Practical, DOAP session	1. Identify structures seen on a plain x-ray chest (PA view)	Written/ Viva voce			Radiodiagnosis, General Medicine	
AN25.8	Identify and describe in brief a barium swallow	K/S	SH	N	Practical, DOAP session	1. Identify the structures seen in barium swallow film	Written/ Viva voce			Radiodiagnosis, General Medicine	
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	K/S	SH	Y	Practical	1.Draw the surface marking for I)Pleura II)Lung III) Trachea IV)Valves of the heart	Viva voce/ skill assessment			General Medicine, Pediatrics	Physiology
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	K/S	SH	Y	Lecture, DOAP session	1.Hold the skull in normal anatomical position 2. Identify bones forming neuro cranium and viscerocranium	Viva voce/ skill assessment				
AN26.2	Describe the features of norma frontalis, verticalis, occipitalis, lateralis and basalis	K/S	SH	Y	Lecture, DOAP session	1.Locate bones visualised in norma frontal view of skull 2.Locate coronal, sagittal, lambdoid and metopic suture 3.Name the bones forming the orbit 4.Name 3 sutures in norma frontal view 5.Name all the bones seen on norma lateral view of skull 6.Locate temporal line 7.Locate attachment of temporal fascia 8.Locate zygomatic arch 9.Locate boundary of temporal fossa	Viva voce/ skill assessment				

AN26.3	Describe cranial cavity, its subdivisions, foramina and structures passing through them	K/S	SH	Y	Lecture, DOAP session	1. Define the Locate foramen magnum and its content 2. Locate foramen spinosum and its content 3. Locate carotid canal and its content 4. Locate foramen ovale and its content 5. Locate styloid process and muscles attached to it 6. Locate sulcus tubae	Viva voce/ skill assessment			
AN26.4	Describe morphological features of mandible	K/S	SH	Y	Lecture, DOAP session	1. Name the parts of mandible 2. Locate medial and lateral surface of mandible 3. Locate mylohyoid line and structure attached to it 4. Locate condylar process and coronoid process of mandible	Viva voce/ skill assessment			
AN26.5	Describe features of typical and atypical cervical vertebrae (atlas and axis)	K/S	SH	Y	Lecture, DOAP session	1. Locate the parts of the vertebrae 2. Differentiate typical and atypical cervical vertebrae 3. Locate the salient feature of cervical vertebrae 4. Name the atypical cervical vertebrae 5. Identify the parts of atlas 6. Identify the parts of axis	Viva voce/ skill assessment			
AN26.6	Explain the concept of bones that ossify in membrane	K	KH	N	Lecture	1. Correlate ossification of skull bone by type of its ossification	Viva voce			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN26.7	Describe the features of the 7 th cervical vertebra	K/S	SH	N	DOAP session	1. Name atypical cervical vertebrae 2. Justify with 7 th atypical cervical vertebrae	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	K	KH	Y	Practical, Lecture	1. Describe the extent of the scalp 2. Describe the layers of the Scalp with its Clinical Importance 3. Name the arteries supplying the Scalp 4. Venous drainage and lymphatic drainage 5. List the nerves Supplying the scalp	Written/ Viva voce		General Surgery	

AN27.2	Describe emissary veins with its role in spread of infection from extracranial route to intracranial venous sinuses	K	KH	Y	Lecture	1.Explain anatomical basis for cavernous sinus thrombosis	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.List the muscles of facial expression. 2. Describe the attachments, nerve supply & actions of the muscles facial expression in detail. 3. Identify all the muscles of facial expression and demonstrate their attachments, nerve supply and actions in a cadaver.	Written/ Viva voce/ skill assessment			
AN28.2	Describe sensory innervation of face	K	KH	Y	Practical, Lecture	1.Describe the sensory innervation of face. 2. Identify the sensory nerves of face in a cadaver and demonstrate their origin and areas of face supplied by them.	Written/ Viva voce			
AN28.3	Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.List the arteries supplying the face. 2. Describe the origin/formation, course, termination and branches/tributaries of facial vessels. 3. Identify the facial vessels and demonstrate their origin, course, termination and branches/tributaries in a cadaver.	Written/ Viva voce/ skill assessment			
AN28.4	Describe & demonstrate branches of facial nerve with distribution	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the branches and distribution of extracranial part of facial nerve. 2. Demonstrate the branches and distribution of facial nerve in a cadaver	Written/ Viva voce/ skill assessment			
AN28.5	Describe cervical lymph nodes and lymphatic drainage of head, face and neck	K	KH	Y	Practical, Lecture	1.Classify the lymph nodes draining the head, face and neck. 2. Describe the lymphatic drainage of head, neck and face 3. Describe the lymphatic drainage of head, neck and face	Written/ Viva voce			

AN28.6	Identify superficial muscles of face, their nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Demonstrate the superficial muscles of face and their nerve supply in a cadaver.	Written/ Viva voce/ skill assessment			
AN28.7	Explain the anatomical basis of facial nerve palsy	K	KH	Y	Lecture	1. Describe the anatomical basis of facial nerve palsy.	Written		General Medicine	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN28.8	Explain surgical importance of deep facial vein	K	KH	Y	Lecture	1. Describe the surgical importance of deep facial vein	Written		General Surgery	
AN28.9	Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance. 2. Demonstrate the relations, contents and nerve supply of parotid gland and the course of parotid duct in a cadaver.	Written/ Viva voce/ skill assessment		General Surgery	
AN28.10	Explain the anatomical basis of Frey's syndrome	K	KH	N	Lecture	1. Explain the anatomical basis of Frey's syndrome.	Written		General Surgery	
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe attachment nerves supply, action of sternocleidomastoid	Written/ Viva voce/ skill assessment			

AN29.2	Explain anatomical basis of Erb's & Klumpke's palsy	K	KH	Y	Lecture	1. Anatomical basis of Erb's & Klumpke's palsy	Written		General Surgery	
AN29.3	Explain anatomical basis of wry neck	K	KH	N	Lecture	1. Describe anatomical basis of wry neck 2. Describe boundaries and content of posterior triangle of neck 3. Explain the structure that divides the posterior triangle of neck correctly 4. Name the two subdivisions posterior triangle of neck	Written		General Surgery	
AN29.4	Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2) scalenus anterior, 3) scalenus medius & 4) levator scapulae	K/S	SH	N	Lecture, Practical	1. Describe attachment, nerve supply scalenus anterior, scalenus medius levator scapulae	Written/ Viva voce			
<p>Topic: Cranial cavity Number of competencies: (5) Number of procedures for certification: (NIL)</p>										
AN30.1	Describe the cranial fossae & identify related structures	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Locate the boundaries of anterior cranial fossa 2. Locate the boundary of middle cranial fossa 3. Locate the boundaries of posterior cranial fossa	Written/ Viva voce/ skill assessment		General Surgery	
AN30.2	Describe & identify major foramina with structures passing through them	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Locate optic canal and its content 2. Locate Superior orbital fissure and cranial nerve present in it 3. Locate foramen ovale and all content 4. Locate foramen rotundum and its content Locate foramen spinosum and all its content	Written/ Viva voce/ skill assessment		General Surgery	
AN30.3	Describe & identify dural folds & dural venous sinuses	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Locate falx cerebri and sinus present in it 2. Locate falx cerebelli and sinus present in it 3. Locate Tentorium cerebelli 4. Locate confluence of sinus	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integratio n	Horizontal Integration
AN30.4	Describe clinical importance of dural venous sinuses	K	KH	Y	Lecture	1.Locate falxcerebri and sinus present in it 2.Locate falx cerebelli and sinus present in it 3.Locate Tentorium cerebelli 4. Locate confluence of sinus	Written			
AN30.5	Explain effect of pituitary tumours on visual pathway	K	KH	N	Lecture	1. Describe the relation of optic nerve and pituitary gland	Written		Ophthalmology	
Topic: Orbit Number of competencies: (5) Number of procedures for certification: (NIL)										
AN31.1	Describe & identify extra ocular muscles of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1.Name the Extraocular muscles of Eye 2.Mention the attachment of Extra ocular muscles 3.Enumerate movements of extra ocular muscles	Written/ Viva voce/ skill assessment			
AN31.2	Describe & demonstrate nerves and vessels in the orbit	K/S	SH	Y	Practical, Lecture, Small group discussion ,DOAP session	1.Mention course and branches of ophthalmic artery 2. Mention the origin and branches of occulo-motor nerve	Written/ Viva voce/ skill assessment			
AN31.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	1.Mention the features of Horner's syndrome	Written		Ophthalmology	
AN31.4	Enumerate components of lacrimal apparatus	K	KH	Y	Lecture	1.Name the muscle surrounding lacrimal sac 2.Mention the meatus at which naso lacrimal duct opens	Written			
AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	1.Mention the nerve supply of extraocular muscles 2.Mention the most common cranial nerve that supplies extraocular muscles getting affected 3.Name one clinical features related to paralysis of extraocular muscles	Written		Ophthalmology	

Topic: Anterior Triangle		Number of competencies: (2)				Number of procedures for certification: (NIL)				
AN32.1	Describe boundaries and subdivisions of anterior triangle	K	KH	Y	Practical, Lecture	1.Name the subdivisions of Anterior triangle	Written/ Viva voce			
AN32.2	Describe & demonstrate boundaries and contents of muscular, carotid, digastric and submental triangles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe boundaries and content of carotid triangle 2. Describe boundaries and content of digastrics 3. Describe boundaries and content of muscular triangle 4. Describe boundaries and content of submental triangle	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the extent, boundaries and contents of temporal and infratemporal fossae accurately. 2. Describe the origin, course, parts and branches of maxillary artery. 3. Identify the boundaries of temporal and infratemporal fossae and parts and branches of maxillary artery correctly.	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN33.2	Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the origin, insertion, nerve supply and actions of muscles of mastication accurately. 2. Describe the origin, course and branches of mandibular nerve. 3. Describe the situation, connections, fibres and distribution of otic ganglion 4. Identify the muscles of mastication, branches of mandibular nerve and otic ganglion correctly.	Written/ Viva voce/ skill assessment		General Surgery	
AN33.3	Describe & demonstrate articulating surface, type & movements of temporomandibular joint	K/S	SH	Y	Practical, Lecture, Small group	1. Describe the articulating surfaces, type, relations and movements and muscles producing the movements of temporomandibular joint accurately. 2. Demonstrate the articulating surfaces and the	Written/ Viva voce/ skill assessment			

					discussion , DOAP session	movements of the temporomandibular joint.				
AN33.4	Explain the clinical significance of pterygoid venous plexus	K	KH	Y	Lecture	1. Describe the formation, communications and clinical correlations of pterygoid venous plexus.	Written		General Surgery	
AN33.5	Describe the features of dislocation of temporomandibular joint	K	KH	N	Lecture	1. Describe the signs, symptoms and causes of dislocation of temporomandibular joint.	Written		General Surgery	
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	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Describe the formation, communications and clinical correlations of pterygoid venous plexus.	Written/ Viva voce/ skill assessment		General Surgery	
AN34.2	Describe the basis of formation of submandibular stones	K	KH	N	Lecture	1. Describe the signs, symptoms and causes of dislocation of temporomandibular joint.	Written		General Surgery	
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	K	KH	Y	Lecture	1. Describe the parts, extent, attachments of deep cervical fasciacorrectly. 2. Describe the modifications special features of deep cervical fascia correctly.	Written			
AN35.2	Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Describe the location, presenting parts and coverings of thyroid gland correctly 2. Describe the surfaces, borders and relations of the thyroid gland correctly 3. Describe the blood supply of thyroid gland and relation of the vessels with other structures correctly 4. Identify the presenting parts, arteries supplying the thyroid gland, veins draining the gland and nerves in relation to the arteries accurately.	Written/ Viva voce/ skill assessment		General Surgery	
AN35.3	Demonstrate & describe the origin, parts, course & branches subclavian artery	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP	1. Describe the origin, parts, course and branches of the subclavian artery correctly. 2. Demonstrate the origin, course and branches of the subclavian artery accurately.	Written/ Viva voce/ skill assessment			

					session					
AN35.4	Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins 2. Demonstrate the course, relations, tributaries and termination of internal jugular & brachiocephalic veins	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN35.5	Describe and demonstrate extent, drainage & applied anatomy of cervical lymph nodes	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the extent, drainage & applied anatomy of cervical lymph node correctly 2. Demonstrate arrangement and location of cervical lymph nodes accurately	Written/ Viva voce/ skill assessment		General Surgery	
AN35.6	Describe and demonstrate the extent, formation, relation & branches of cervical sympathetic chain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the extent, formation, relation & branches of cervical sympathetic correctly. 2. Demonstrate the extent, formation, relation & branches of cervical sympathetic accurately.	Written/ Viva voce/ skill assessment			
AN35.7	Describe the course and branches of IX, X, XI & XII nerve in the neck	K	KH	Y	Lecture	1. Describe the course and branches of IX nerve in the neck 2. Describe the course and branches of X nerve in the neck 3. Describe the course and branches of XI nerve in the neck 4. Describe the course and branches of XII nerve in the neck	Written			

AN35.8	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	1. Describe the anatomically relevant clinical features of thyroid swellings	Written		General Surgery		
AN35.9	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH	N	Lecture	1. Describe clinical features of compression of Subclavian artery and lower trunk of brachial plexus by cervical rib correctly	Written		General Surgery		
AN35.10	Describe the fascial spaces of neck	K	KH	N	Lecture	1. Describe the fascial spaces of neck correctly	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 of palatine tonsil 2) composition of soft palate	K	KH	Y	Lecture	1.Mention the boundaries of tonsillar fossa 2.Enumerate all the structures forming tonsillar bed 3.Describe the blood supply of palatine tonsil 4. Name the muscles forming soft palate	Written		ENT		
AN36.2	Describe the components and functions of Waldeyer's lymphatic ring	K	KH	Y	Lecture	1.Name the four lymphatics Waldeyer's ring	Written		ENT		
AN36.3	Describe the boundaries and clinical significance of pyriform fossa	K	KH	N	Lecture	1.Name all the boundaries of pyriform fossa 2.Name two structures related to pyriform fossa 3.Mention its clinical significance	Written		ENT		
AN36.4	Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess	K	KH	N	Lecture	1.Anatomical basis of tonsillitis, 2. Anatomical basis of adenoids 3.Name all the structures forming tonsillar bed	Written		ENT		
AN36.5	Describe the clinical significance of Killian's dehiscence	K	KH	N	Lecture	1.Name two components of muscle forming inferior constrictor of pharynx 2.Name the nerve supplying inferior constrictor of pharynx 3.Mention the anatomical basis for formation of Killian's dehiscence	Written		ENT		
		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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Demonstrate the features of nasal septum 2. Describe the features of lateral wall of nose 3. Enumerate the blood supply and nerve supply of nasal septum and lateral wall of nose 4. Demonstrate nasal septum in CT and MRI images	Written/ Viva voce/ skill assessment		ENT		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Ass ess men t Met hod s	Number required to certify P	Vertical Integratio n	Horizontal Integration
AN37.2	Describe location and functional anatomy of paranasal sinuses	K	KH	Y	Lecture	1. Define paranasal air sinuses and its types 2. Describe the location and functional anatomy of paranasal sinuses 3. Describe the blood supply and nerve supply of paranasal sinuses 4. Demonstrate paranasal sinuses in CT and MRI images	Written		ENT	
AN37.3	Describe anatomical basis of sinusitis & maxillary sinus tumours	K	KH	N	Lecture	1. Define sinusitis 2. Describe anatomical basis of maxillary sinusitis 3. Enumerate the complications of maxillary sinus tumors	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the cavity of larynx 2. Mention the nerve supply of larynx 3. Mention the blood supply of larynx 4. Name the extrinsic and intrinsic muscle of larynx	Written/ Viva voce/ skill assessment		ENT	
AN38.2	Describe the anatomical aspects of laryngitis	K	KH	N	Lecture	1. Describe the anatomical aspects of laryngitis	Written		ENT	
AN38.3	Describe anatomical basis of recurrent laryngeal nerve injury	K	KH	N	Lecture	1. Locate cricothyroid joint 2. Locate recurrent laryngeal nerve in trachea-esophageal groove	Written		ENT	
Topic: Tongue Number of competencies: (2) Number of procedures for certification: (NIL)										
AN39.1	Describe & demonstrate the morphology, nerve supply, embryological basis of nerve supply, blood supply, lymphatic drainage and actions of extrinsic and intrinsic muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	1. Describe the gross structure of the tongue including the parts, location, macroscopic features, blood supply, lymphatic drainage and clinical importance of lymphatic drainage 2. Describe microscopic structure of the tongue 3. Demonstrate the structure of the tongue under the	Written/ Viva voce/ skill assessment			

	of tongue				session	microscope				
AN39.2	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	1. Describe the origin & insertion of intrinsic & extrinsic muscles of tongue, actions of muscles, development & developmental anomalies, correlate sensory & motor nerve supply with development & explain the anatomical basis of hypoglossal nerve palsy 2. Identify the extrinsic muscles of tongue & Demonstrate movements of tongue	Written		ENT	
Topic: Organs of hearing and equilibrium										
					Number of competencies: (5)			Number of procedures for certification: (NIL)		
AN40.1	Describe & identify the parts, blood supply and nerve supply of external ear	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Explain the surfaces, parts, sensory innervation of Auricle/Pinna and clinical importance correctly. 2. Explain the differences in adult and newborn, parts, constrictions, blood supply, nerve supply, lymphatic drainage, development and clinical importance of External Auditory Meatus correctly. 3. Identify the Pharyngeal opening of auditory tube in Sagittal section of Head and neck accurately. 4. Identify the different parts of pinna in a human cadaver correctly	Written/ Viva voce/ skill assessment		ENT	
AN40.2	Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Explain the walls, contents and clinical importance of Middle ear correctly. 2. Explain the features, joints, muscles and clinical importance of Ear Ossicles correctly. 3. Explain the external features, parts, differences in newborn and muscles of Auditory tube correctly. 4. Explain the Intrapetrous course of Facial nerve correctly. 5. Identify the Sulcus tubae in Norma Basalis correctly.	Written/ Viva voce/ skill assessment		ENT	
AN40.3	Describe the features of internal ear	K	KH	N	Lecture	1. Explain the Subdivisions: Bony Labyrinth, cochlea, Membranous Labyrinth and clinical importance of Internal Ear correctly 2. Identify the petrous part of temporal bone in Normal basalis correctly.	Written		ENT	

						3. Identify the internal acoustic meatus in Norma Basalis correctly.				
AN40.4	Explain anatomical basis of otitis externa and otitis media	K	KH	N	Lecture	1. Explain the differences in adult and newborn, parts, constrictions, blood supply, nerve supply, lymphatic drainage, development and clinical importance of External Auditory Meatus correctly. 2. Explain the walls, contents and clinical importance of Middle ear correctly.	Written		ENT	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN40.5	Explain anatomical basis of myringotomy	K	KH	N	Lecture	1. Explain the structure, parts, quadrants, surfaces, blood supply, nerve supply, lymphatic drainage and clinical importance of Tympanic Membrane correctly.	Written		ENT	
Topic: Eyeball Number of competencies: (3) Number of procedures for certification: (NIL)										
AN41.1	Describe & demonstrate parts and layers of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List parts and layers of eyeball 2. Describe outer fibrous coat, middle vascular coat & inner nervous coat in detail 3. Describe Anterior chamber, Irido corneal angle 4. Production and drainage of Aqueous humor & Glaucoma	Written/ Viva voce/ skill assessment		Ophthalmology	
AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	K	KH	N	Lecture	1. Describe structure of lens, Anatomical basis of cataract 2. Central retinal artery – course and area of supply, Anatomical basis & effects of central retinal artery occlusion	Written		Ophthalmology	
AN41.3	Describe the position, nerve supply and actions of intraocular muscles	K	KH	N	Lecture	1. Enumerate intra ocular muscles 2. Describe position, nerve supply and action of intra ocular muscles with applied aspects	Written		Ophthalmology	
Topic: Back Region Number of competencies: (3) Number of procedures for certification: (NIL)										

AN42.1	Describe the contents of the vertebral canal	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List the contents in the vertebral triangle 2. Describe the spinal meninges and their special features 3. Identify the meninges and parts of the spinal cord correctly in a cadaver. 4. Describe the vertebral venous system accurately. 5. Discuss the clinical anatomy of the spinal meninges and spinal nerves accurately.	Written/ Viva voce/ skill assessment			
AN42.2	Describe & demonstrate the boundaries and contents of Suboccipital triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Define the suboccipital triangle correctly. 2. Describe the boundaries of the suboccipital triangle accurately. 3. Enumerate the contents correctly. 4. Identify the boundaries of suboccipital triangle in a cadaver correctly. 5. Describe the course of the vertebral artery in the triangle correctly. 6. Discuss the clinical anatomy of the spinal meninges and spinal nerves accurately.	Written/ Viva voce/ skill assessment			
AN42.3	Describe the position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis	K	KH	N	Lecture	1. Enumerate the position, direction of fibres, relations, Semispinalis capitis and splenius capitis 2. Discuss the actions of Semispinalis capitis and Splenius capitis and their nerve supply correctly.	Written			
Topic: Head & neck Joints, Histology, Development, Radiography & Surface marking Number of competencies: (9) Number of procedures for certification: (NIL)										
AN43.1	Describe & demonstrate the movements with muscles producing the movements of atlantooccipital joint & atlantoaxial joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify the Atlas, Axis, Occipital bone and their articulating surfaces 2. Demonstrate the articulations of these bones to form atlanto-occipital joint and atlanto-axial joint 3. Enlist the joints formed by the above said bones and mention the type of joint 4. Name the ligaments supporting the atlanto-occipital joint and atlanto-axial joints 5. Demonstrate the movements possible and list the muscles producing these movements at the atlanto-occipital joint and atlanto-axial joints 6. Discuss the clinical implications of understanding the atlanto-occipital joint and atlanto-axial joints	Written/ Viva voce/ skill assessment			
AN43.2	Identify, describe and draw the microanatomy of pituitary gland, thyroid, parathyroid gland, tongue, salivary glands, tonsil, epiglottis,	K/S	SH	Y	Lecture, Practical	1. Describe the parts of the pituitary gland and mention the cell types with their pattern of arrangement in each part 2.. Mention the functions of each cell type	Written/ skill asses			

	cornea, retina				<p>and correlate it with their functions</p> <ol style="list-style-type: none"> 3. Enlist the disorders caused by derangement of the secretions 4. Describe the secretory units of thyroid and parathyroid gland and mention their secretions 5. Describe the changes in appearance of secretory units based on their level of activity 6. Enlist the disorders caused by derangement of the secretions 7. Discuss the microanatomy of Pineal gland 8. Identify the features, draw and label the microscopic anatomy of Pituitary gland, Thyroid gland and parathyroid gland 9. Describe the mucosa of the tongue 10. Describe and distinguish between the different types of papilla correlate it with their functions 11. Describe the ultra structure of the taste bud and mention its distribution 12. Describe the microanatomy of salivary glands 13. Describe the microanatomy of Tonsil 14. Identify the features, draw and label the microscopic anatomy of Serous, mucous and mixed salivary glands, Tongue 15. Describe the layers of the cornea and mention their functional significance 16. Mention the cells present in the Retina 17. Describe the arrangement of the cells as the various layers of the Retina 18. Describe role of each layer in the perception of Light 19. Describe the formation of the Optic nerve 20. Discuss the coverings of the optic nerve and mention their clinical significance 21. Describe the arrangement of nerve fibres and vessels within the substance of the nerve 	smen t			
--	----------------	--	--	--	---	-----------	--	--	--

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
						22. Discuss the clinical significance of the vessels present here 23. Identify the features, draw and label the microscopic anatomy of Cornea, Retina and optic nerve				
AN43.3	Identify, describe and draw microanatomy of olfactory epithelium, eyelid, lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland	K/S	SH	N	Lecture, Practical	1. Micro anatomy of olfactory epithelium 2. Micro anatomy of Eyelid 3. Micro anatomy of Sclero corneal junction 4. Micro anatomy of cochlea- Organ of Corti	Written/ skill assessment			
AN43.4	Describe the development and developmental basis of congenital anomalies of face, palate, tongue, branchial apparatus, pituitary gland, thyroid gland & eye	K	KH	Y	Lecture	1. Describe the formation of pharyngeal arches, clefts, pouches and their derivatives 2. List the derivatives of pharyngeal clefts, pouches 3. Enumerate the components formed from each of these arches 4. Explain the basis of the congenital anomalies 5. Demonstration of models 6. Describe the formation of the facial process 7. List the derivatives of facial processes 8. Correlate the end derivatives and their nerve supply 9. Describe the formation of the palate from these facial process 10. Explain the basis of the congenital anomalies 11. Demonstration of models 12. Describe the formation of structures from which the tongue is developed 13. Correlate the end derivatives and their nerve supply 14. Describe the formation of the thyroid gland 15. Explain the basis of the congenital anomalies with special reference to the thyroglossal duct 16. Demonstration of models 17. Describe the formation of the Pituitary gland 18. Describe the formation of the Eye	Written/ Viva voce			

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	K/S	SH	Y	Practical	1. List the muscles of facial expression, extraocular muscles, muscles of mastication, their nerve supply and action 2. Demonstrate the testing of muscles of facial expression, extraocular muscles, muscles of mastication 3. Discuss the clinical significance of testing of muscles of facial expression, extraocular muscles, muscles of mastication 4. Describe the surface marking of carotid artery, facial artery, superficial temporal artery, internal and external Jugular veins , Subclavian vein 5. Demonstrate the palpation of carotid artery, facial artery, superficial temporal artery 6. Discuss the clinical significance of knowing the location of internal and external Jugular veins 7.Enumerate the midline structures of the neck with their vertebral levels 8. Palpate the midline structures with special emphasis on hyoid bone, thyroid cartilage and cricoid cartilage	Viva voce/ skill assessment		General Surgery	
AN43.6	Demonstrate surface projection of Thyroid gland, Parotid gland and duct, Pterion, Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & accessory nerve	K/S	SH	N	Practical	1. Describe the surface marking of Thyroid gland, Parotid gland and duct, Pterion, accessory nerve 2. Demonstrate the surface projection of Thyroid gland, Parotid gland and duct, Pterion, accessory nerve 3. Discuss the clinical significance of knowing the surface projection of Thyroid gland, Parotid gland and duct, Pterion, accessory nerve	Viva voce/ skill assessment		General Surgery	
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 x- ray of paranasal sinuses	K/S	SH	Y	Practical	1. Identify the anatomical structures in 1) Plain X-ray skull : AP view and lateral view 2) Plain X-Ray cervical spine- AP and lateral view 3) Plain X-Ray of paranasal sinuses 2. Discuss carotid and vertebral angiogram	Viva voce/ skill assessment		Radiodiagnosis	
AN43.8	Describe the anatomical route used for carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	1. Identify the anatomical route used for carotid angiogram and vertebral angiogram	Viva voce/ skill assessment		Radiodiagnosis	

AN43.9	Identify anatomical structures in carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	1. Identify anatomical structures in carotid angiogram and vertebral angiogram	Viva voce/ skill assessment		Radiodiagnosis	
Topic: Anterior abdominal wall Number of competencies: (7) Number of procedures for certification: (NIL)										
AN44.1	Describe & demonstrate the Planes (transpyloric, transtuberular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List the surface landmarks. Planes, regions in abdomen. 2. Define the planes:(Transpyloric, Transtuberular, Subcostal, Lateral vertical, Linea alba, Linea semilunaris), regions and quadrants of abdomen. 3. Describe umbilicus, its embryology and applied. 4. Demonstrate various planes and regions and quadrants of abdomen.	Written/ Viva voce/ skill assessment		General Surgery	
AN44.2	Describe & identify the Fascia, nerves & blood vessels of anterior abdominal wall	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List the various fascia and Anterior Abdominal Wall, Nerves and Vessels. 2. Describe attachment, reflection and continuation of various fascia of Anterior Abdominal Wall. Describe Origin, course, relation, branches and area of supply of nerves and blood vessels. 3. Discuss and Demonstrate various fascia and Anterior Abdominal Wall, Nerves and Vessels.	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN44.3	Describe the formation of rectus sheath and its contents	K	KH	Y	Lecture	1. List the components forming Rectus Sheath. List the contents of Rectus Sheath. 2. Describe the formation of Rectus sheath, contents and its applied anatomy. 3. Discuss the applied anatomy of Rectus Sheath 4. Demonstrate the formation of Rectus Sheath. Identify the components and contents of Rectus sheath.	Written/ Viva voce			
AN44.4	Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's	K/S	SH	Y	Practical, Lecture, Small	1. List the extent, boundaries, contents of inguinal canal List the boundaries, contents Hesselbach's triangle. 2. Describe the extent, boundaries, contents and	Written/ Viva voce/ skill assessment		General Surgery	

	triangle.				group discussion, DOAP session	applied anatomy of inguinal canal and Hesselbach's triangle. Discuss the spermatic cord. 3. Demonstrate the boundaries and contents of inguinal canal and Hesselbach's triangle. Identify the location, extent and contents of the spermatic cord.				
AN44.5	Explain the anatomical basis of inguinal hernia.	K	KH	Y	Lecture	1. Define Hernia. Describe of Inguinal Hernia and its types. Describe the types, anatomical basis and mechanism of inguinal hernias. Discuss the differences between inguinal and femoral hernia. 2. Discuss the types, anatomical basis and mechanism of inguinal hernias. Discuss the differences between inguinal and femoral hernia.	Written/ Viva voce		General Surgery	
AN44.6	Describe & demonstrate attachments of muscles of anterior abdominal wall	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. List the muscles of Anterior Abdominal Wall 2. Describe the Origin, Insertion, Nerve supply, Action of the muscles of Anterior Abdominal Wall 3. Demonstrate the Origin, Insertion, Nerve supply and Action of muscles of anterior abdominal wall. 4. Discuss the applied anatomy of the muscles of Anterior Abdominal Wall.	Written/ Viva voce/ skill assessment		General Surgery	
AN44.7	Enumerate common Abdominal incisions	K	KH	N	Lecture	1. Discuss their continuation with scrotum. Describe common abdominal incisions. 2. Demonstration of abdominal incisions.	Written		General Surgery	
Topic: Posterior abdominal wall										
				Number of competencies: (3)			Number of procedures for certification: (NIL)			
AN45.1	Describe Thoracolumbar fascia	K	KH	Y	Lecture	1. Name the three layers of thoracolumbar fascia, describe the attachments of the three layers and enumerate the muscles enclosed between these three layers. 2. Identify the muscles enclosed between the layers of thoracolumbar fascia in a cadaver.	Written			
AN45.2	Describe & demonstrate Lumbar plexus for its root value, formation & branches	K/S	SH	Y	Practical, Lecture, Small group discussion	1. Describe the root value, formation & branches of Lumbar plexus 2. Identify the branches of the lumbar plexus in a cadaver.	Written/ Viva voce/ skill assessment			

					n, DOAP session					
AN45.3	Mention the major subgroups of back muscles, nerve supply and action	K	KH	N	Lecture	1. Name the three layers of thoracolumbar fascia, 2. describe the attachments of the three layers and 3. enumerate the muscles enclosed between these three layers.	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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the coverings, presenting parts, macroscopic and microscopic structure, blood supply, lymphatic drainage and nerve supply of testis. 2. Describe descent of testis and the factors responsible for its descent. 3. Describe the layers, contents, blood supply, lymphatic drainage and nerve supply of scrotum. 4. Discuss the applied aspects of testis and the anomalies of its descent. 5. Describe the Anatomical basis of hydrocele and congenital inguinal hernia. 6. Identify and demonstrate the parts of testis. Interpret the side of testis.	Written/ Viva voce/ skill assessment		General Surgery	
AN46.2	Describe parts of Epididymis	K	KH	Y	Lecture, Practical	1. Describe the parts and microstructure of epididymis 2. Identify the parts of epididymis.	Written/ Viva voce			
AN46.3	Describe Penis under following headings: (parts, components, blood supply and lymphatic drainage)	K	KH	Y	Lecture, Practical	1. Describe the Parts, components, blood supply, lymphatic drainage and nerve supply of Penis. 2. Describe the anatomical basis of erection and ejaculation. 3. Describe the Applied Anatomy of Penis 4. Demonstrate the parts and components of Penis.	Written/ Viva voce			
AN46.4	Explain the anatomical basis of Varicocele	K	KH	N	Lecture	1. Describe the Anatomical basis of Varicocele.	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN46.5	Explain the anatomical basis of Phimosis & Circumcision	K	KH	N	Lecture	1. Describe the Anatomical basis of Phimosis, Paraphimosis and Circumcision.	Written		General Surgery	
Topic: Abdominal cavity Number of competencies: (14) Number of procedures for certification: (NIL)										
AN47.1	Describe & identify boundaries and recesses of Lesser & Greater sac	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Describe the boundaries of lesser sac 2. Name the recesses of lesser sac	Written/ Viva voce/ skill assessment		General Surgery	
AN47.2	Name & identify various peritoneal folds & pouches with its explanation	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Name the various peritoneal folds 2. Describe hepato-renal pouch 3. Describe pouch of Douglas	Written/ Viva voce/ skill assessment		General Surgery	
AN47.3	Explain anatomical basis of Ascites & Peritonitis	K	KH	N	Lecture	1. Ascites & Peritonitis 2.	Written		General Surgery	
AN47.4	Explain anatomical basis of Subphrenic abscess	K	KH	N	Lecture	1. Subphrenic abscess	Written		General Surgery	
AN47.5	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)	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Describe Anatomical position of stomach 2. Describe the internal & external features of stomach. 3. Name the peritoneal folds attached to stomach 4. Name the stomach bed structures 5. Mention the blood supply of stomach 6. Mention the nerve supply of stomach 7. Mention the lymphatic drainage of stomach 8. Mention the applied importance of stomach	Written/ Viva voce/ skill assessment		General Surgery	

						<ol style="list-style-type: none"> 1. Describe Anatomical position of spleen 2. Describe the internal & external features of spleen 3. Name the peritoneal folds attached to spleen 4. Mention the structure related to visceral surface spleen 5. Mention the blood supply of spleen 6. Mention the nerve supply of spleen 7. Mention the lymphatic drainage of spleen 8. Mention the applied importance of spleen 				
						<ol style="list-style-type: none"> 1. Describe Anatomical position of kidney 2. Describe the internal & external features of kidney 3. Name the peritoneal folds attached to kidney 4. Mention the structure related to visceral surface kidney 5. Mention the blood supply of kidney 6. Mention the nerve supply of kidney 7. Mention the lymphatic drainage of kidney 8. Mention the applied importance of kidney 				
						<ol style="list-style-type: none"> 1. Describe Anatomical position of supra renal gland 2. Describe the internal & external features of supra renal gland 3. Name the peritoneal folds attached to supra renal gland 4. Mention the structure related to visceral surface supra renal gland 5. Mention the blood supply of supra renal gland 6. Mention the nerve supply of supra renal gland 7. Mention the lymphatic drainage of supra renal gland 8. Mention the applied importance of supra renal gland 				
						<ol style="list-style-type: none"> 1. Describe Anatomical position of cecum 2. Describe the internal & external features of cecum 3. Mention the structure related to cecum 4. Mention the blood supply of cecum 5. Mention the nerve supply of cecum 6. Mention the lymphatic drainage of cecum 7. Mention the applied importance of cecum 				
						<ol style="list-style-type: none"> 1. Describe Anatomical position of appendix 2. Describe the internal & external features of appendix 				

						<p>3. Mention the structure related to appendix 4. Mention the blood supply of appendix 5. Mention the nerve supply of appendix 6. Mention the lymphatic drainage of appendix 7. Mention the applied importance of appendix</p> <p>1. Describe Anatomical position of dueodenum 2. Describe the internal & external features of dueodenum 3. Mention the structure related to dueodenum 4. Mention the blood supply of dueodenum 5. Mention the nerve supply of dueodenum 6. Mention the lymphatic drainage of dueodenum 7. Mention the applied importance of dueodenum</p> <p>1. Describe components of extra hepatic biliary apparatus 2. Mention the parts of gall bladder 3. Mention the formation ,course and termination of bile duct 4. Mention the nerve supply of extra hepatic biliary apparatus 5. Mention the lymphatic drainage of extra hepatic biliary apparatus 6. Mention the applied importance of extra hepatic biliary apparatus 7. Mention the blood supply of extra hepatic biliary apparatus</p>				
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	K	KH	N	Lecture	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	Written		General Surgery	
AN47.7	Mention the clinical importance of Calot's triangle	K	KH	N	Lecture	1. Calot's triangle	Written		General Surgery	

AN47.8	Describe & identify the formation, course relations and tributaries of Portal vein, Inferior vena cava & Renal vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the formation of portal vein 2.Describe Course of portal vein 3.Mention the tributaries 4.Name Tributaries of inferior venacava	Written/ Viva voce/ skill assessment			
AN47.9	Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Name the origin of abdominal aorta 2.Enumerate the ventral branches of abdominal aorta 3.Mention the branches of celiac trunk 4. Mention the branches of Superior mesenteric 5.Mention the branches of, Inferior mesenteric	Written/ Viva voce/ skill assessment			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN47.10	Enumerate the sites of portosystemic anastomosis	K	KH	Y	Lecture	1.Sites of portosystemic anastomosis	Written		General Surgery	
AN47.11	Explain the anatomic basis of hematemesis& caput medusae in portal hypertension	K	KH	Y	Lecture,	1.Hematemesis& caput medusae in portal hypertension	Written/ Viva voce		General Surgery	
AN47.12	Describe important nerve plexuses of posterior abdominal wall	K	KH	N	Lecture	1. Nerve plexuses	Written			
AN47.13	Describe & demonstrate the attachments, openings, nerve supply & action of the thoracoabdominal diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Describe the attachment of thoracoabdominal diaphragm 2.Name the major openings in thoracoabdominal diaphragm 3.Mention its innervation 4.Mention its action	Written/ Viva voce/ skill assessment			
AN47.14	Describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia	K	KH	N	Lecture	1. Abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia	Written		General Surgery	
Topic: Pelvic wall and viscera		Number of competencies: (8)				Number of procedures for certification: (NIL)				

AN48.1	Describe & identify the muscles of Pelvic diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Define and name the muscles forming pelvic diaphragm and urogenital diaphragm and the fascial layers covering it. 2. Describe the origin, course, insertion, nerve supply and action of parts of muscles of pelvic diaphragm. 3. Name the viscera supported by pelvic floor and the structures piercing through it in male and female. 4. Identify the muscles forming pelvic floor and the viscera related to it in male and female.	Written/ Viva voce/ skill assessment			
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the position, course, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of pelvic ureter. 2. Describe the position, features, peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of urinary bladder. 3. Name the parts of male urethra and describe the location, extent, features and clinical aspects of prostatic part of urethra. 4. Identify the pelvic ureter, urinary bladder, prostatic urethra and their related structures. 5. Describe the course, important peritoneal and other relations, function, blood supply, nerve supply, lymphatic drainage and clinical aspects of vas deferens 6. Describe the position, features, function, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of seminal vesicle 7. Describe the formation, position, course, termination, relations, blood supply, nerve supply, lymphatic drainage and function of ejaculatory duct 8. Describe the position, features, lobes, function, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of prostate gland 9. Identify the male reproductive organs in the pelvic	Written/ Viva voce/ skill assessment			

						<p>cavity and their relations including the peritoneal pouch.</p> <p>10. Describe the position, features, attachments, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage, age changes and clinical aspects of ovary.</p> <p>11. Describe the position, features/parts attachments, function, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of Fallopian tube.</p> <p>12. Describe the position, features, attachments and support, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage, functions, and clinical aspects of uterus including changes during pregnancy.</p> <p>13. Describe the position, features, function, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of vagina</p> <p>14. Identify the female reproductive organs in the pelvic cavity and their relations including the peritoneal pouches.</p> <p>15. Describe the position, extent, features, peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of rectum.</p> <p>16. Identify the rectum and the structures related to it in male and female including the peritoneal pouch.</p>				
AN48.3	Describe & demonstrate the origin, course, important relations and branches of internal iliac artery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	<p>1. Describe the origin, Course, important relations and branches of internal iliac artery</p> <p>2. Identify the course and branches of internal iliac artery</p>	Written/ Viva voce/ skill assessment			
AN48.4	Describe the branches of sacral plexus	K	KH	Y	Lecture	<p>1. Describe the course, relations and clinical importance of branches of sacral plexus</p> <p>2. Identify the branches of sacral Plexus</p>	Written			

AN48.5	Explain the anatomical basis of suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation	K	KH	N	Lecture	1. Explain the anatomical basis of suprapubic cystostomy. 2. Explain the anatomical basis for Vasectomy 3. Explain the anatomical basis for urinary obstruction in benign prostatic Hypertrophy 4. Retroverted uterus 5.Prolapse of uterus 6.Tubal pregnancy 7.Tubal ligation 8. Explain the anatomical basis of Internal and external hemorrhoids	Written		General Surgery	
AN48.6	Describe the neurological basis of Automatic bladder	K	KH	N	Lecture		Written		General Surgery	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assesment Methods	Number required certify P	Vertical Integratio n	Horizonta l Integratio n
AN48.7	Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer	K	KH	N	Lecture	1.Name the anatomical lobes of prostate gland 2.Name the histological zones of prostate gland 3.Name the lobe involved in benign prostatic hypertrophy 4. Name the lobe involved in prostatic cancer	Written		General Surgery	
AN48.8	Mention the structures palpable during vaginal & rectal examination	K	KH	N	Lecture	1.Mention the structures palpable During per vaginal examination 2. Mention the structures palpable during per rectal examination in male and female.	Written		Obstetrics & Gynaecology General Surgery	
Topic: Perineum		Number of competencies: (5)				Number of procedures for certification: (NIL)				
AN49.1	Describe & demonstrate the superficial & deep perineal pouch (boundaries and contents)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Define the boundaries, subdivisions and the coverings of urogenital triangle 2. Describe the attachments and structures piercing colles's fascia in male and female 3. Demonstrate the attachments, and structures piercing colle's fasciain male and female cadaver 4. Describe the situation, boundaries and contents of superficial perinealpouch in both males and females 5. Describe the situation, boundaries and contents of deep perineal pouch in both males and females	Written/ Viva voce/ skill assessment		Obstetrics & Gynaecology	

AN49.2	Describe & identify Perineal body	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe perineal body, structures attached to it and its functional significance 2. Identify the perineal body and enumerate the muscles attached to it	Written/ Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN49.3	Describe & demonstrate Perineal membrane in male & female	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe attachments, structures piercing perineal membrane in both male & female 2. Identify the perineal membrane and structures piercing it 3. Describe attachments, structures piercing superior layer of urogenital diaphragm in both male & female 4. Describe constituent parts, attachments and actions of muscles of urogenital diaphragm	Written/ Viva voce/ skill assessment			
AN49.4	Describe & demonstrate boundaries, content & applied anatomy of Ischioanal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe boundaries, contents, recesses, subdivisions and applied aspects of ischioanal fossa 2. Demonstrate boundaries, contents of ischioanal fossa 3. Describe boundaries, contents of pudendal canal	Written/ Viva voce/ skill assessment		General Surgery	
AN49.5	Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure	K	KH	N	Lecture	1. Explain the anatomical basis of perineal tear, episiotomy 2. Explain the anatomical basis of perianal abscess & anal fissure	Written		Obstetrics & Gynaecology	
Topic: Vertebral column										
					Number of competencies: (4)			Number of procedures for certification: (NIL)		
AN50.1	Describe the curvatures of the vertebral column	K	KH	Y	Lecture	1. Describe primary and secondary of vertebral column	Written/ Viva voce			
AN50.2	Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Explain formation of inter vertebral disc 2. Explain type, articular ends, ligaments and movements of Intervertebral joints 3. Explain type, articular ends, ligaments and movements of Sacroiliac joints	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integratio n	Horizontal Integratio n
AN50.3	Describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture)	K	KH	Y	Lecture	1. Describe most common site of lumbar puncture 2. Enumerate all the structures pierced during the lumbar puncture	Written/ Viva voce		General Medicine	
AN50.4	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	1. Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	Written		Orthopedics	
<p>Topic: Sectional Anatomy Number of competencies: (2) Number of procedures for certification: (NIL)</p>										
AN51.1	Describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane)	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Enumerate and identify the structures in the cross section of trunk at the level of T8 vertebra in order from anterior to posterior and from right to left (Sternum, Right & Left ventricles, Right & Left lungs, Liver, Stomach, IVC, Oesophagus, Aorta, & Vertebrae) 2. Draw a labeled diagram of cross section of trunk at the level of T8 vertebrae 3. Identify the structures in a CT/MRI section of body at the level of T8 vertebrae 4. Enumerate and identify the structures in the cross section of trunk at the level of T10 vertebrae in order. (Rectus abdominis, Right & Left lobes of liver, right & left crus of diaphragm, Right & Left lungs, Descending colon, Stomach, Gastro esophageal junction, IVC, Aorta, Spleen, Diaphragm, Vertebrae) 5. Draw a labeled diagram of cross section of trunk at the level of T10 vertebrae 6. Identify the structures in a CT/MRI section of body at the level of T10 vertebrae 7. Enumerate and identify the structures in the cross section of trunk at the level of L1 vertebra in order from anterior to posterior and from right to left (Rectus abdominis, linea alba, Liver, Transverse colon, Duodenum, Right & Left kidneys and their hila, coils of small intestine, Psoas major, Erector	Written/ Viva voce/ skill assessment		Radiodiagnosis	

						spinae muscles, vertebra) 8. Draw a labeled diagram of cross section of trunk at the level of L1 vertebrae 9. Identify the structures in a CT/MRI section of body at the level of L1 vertebrae				
AN51.2	Describe & identify the midsagittal section of male and female pelvis	K	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Enumerate and identify the structures in the midsagittal section of a male pelvis (Pubic symphysis, Urinary bladder, Prostate, Seminal vesicles, Prostatic, membranous & spongy urethra, Rectovesicle pouch, Rectum anal canal, External & internal sphinctures of anal canal, Corpus spongiosum, bulbo spongiosus muscle, Deep perineal pouch, Sacrum) 2. Draw a labeled diagram of a mid sagittal section of male pelvis 3. Identify the structures in a CT/MRI in a mid sagittal section of male pelvis 4. Enumerate and identify the structures in the midsagittal section of a female pelvis (Pubic symphysis, Urinary bladder, Ureter, cervix ovary, Vagina, Fornices of vagina, Internal iliac artery, Ovarian vein, Ureter, Rectus & anal canal, sphincters of anal canal, Recto uterine pouch, uterovesical pouch) 5. Draw a labeled diagram of a mid sagittal section of female pelvis 6. Identify the structures in a CT/MRI in a mid sagittal section of female pelvis	Written/ Viva voce/ skill assessment		Radiodiagnosis	
Topic: Histology & Embryology										
					Number of competencies: (8)			Number of procedures for certification: (NIL)		
AN52.1	Describe & identify the microanatomical features of Gastro-intestinal system: Oesophagus, Fundus of stomach, Pylorus of stomach, Duodenum, Jejunum, Ileum,	K/S	SH	Y	Lecture, Practical	1. Describe histology of fundus of stomach 2. Describe histology of pylorus of stomach, Correlation with stomach cancer 3. Describe histology of Oesophagus 4. Describe histology of Duodenum 5. Describe histology of Jejunum, 6. Describe histology of Ileum, 7. Describe histology of Large intestine 8. Describe histology of Appendix 9. Describe histology of Liver 10. Describe histology of Gall bladder, 11. Describe histology of Pancreas	Written/ skill assessment			

	Large intestine, Appendix, Liver, Gall bladder, Pancreas & Suprarenal gland					12. Describe histology of Suprarenal gland				
AN52.2	Describe & identify the microanatomical features of: Urinary system: Kidney, Ureter & Urinary bladder Male Reproductive System: Testis, Epididymis, Vas deferens, Prostate & penis Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta & Umbilical cord	K/S	SH	Y	Lecture, Practical	1. Describe microanatomy of Urinary system: Kidney, 2. Describe microanatomy of Ureter 3. Describe microanatomy of Urinary bladder 4. Describe microanatomy of Male Reproductive System: Testis, Epididymis, Vas deferens, Prostate & penis 5. Describe microanatomy of Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta & Umbilical cord	Written/ skill assessment			
AN52.3	Describe & identify the microanatomical features of Cardiooesophageal junction, Corpus luteum	K/S	SH	N	Lecture, Practical	1. Describe microanatomy of Cardiooesophageal Junction 2. Describe microanatomy of Corpus luteum	Written/ skill assessment			
AN52.4	Describe the development of anterior abdominal wall	K	KH	N	Lecture	1. The development of anterior abdominal wall	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN52.5	Describe the development and congenital anomalies of Diaphragm	K	KH	Y	Lecture	The development and congenital anomalies of Diaphragm	Written/ Viva voce		General Surgery	
AN52.6	Describe the development and congenital anomalies of: Foregut, Midgut & Hindgut	K	KH	Y	Lecture	1. Describe Fore gut derivatives 2. Describe Mid gut derivatives 3. Describe Hind gut derivatives 4. Describe malrotation, Reverse rotation 5. Explain physiological hernia 6. Describe different types of uro- rectal fistula	Written/ Viva voce		General Surgery	

						7.Explain imperforated anus.				
AN52.7	Describe the development of Urinary system	K	KH	Y	Lecture	1.Explain the fate of pronephrons & mesonephrons 2.Describe metanephron and its derivatives. 3.Describe embryological basis of pelvic kidney.	Written/ Viva voce		General Surgery	
AN52.8	Describe the development of male & female reproductive system	K	KH	Y	Lecture	1.Derivatives of mesonephric duct. 2. Derivatives of paramesonephric duct. 3. Describe anomals uterine development	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: Osteology						Number of competencies: (4)	Number of procedures for certification: (NIL)			
AN53.1	Identify & hold the bone in the anatomical position, Describe the salient features, articulations & demonstrate the attachments of muscle groups	K/S	SH	Y	Lecture, DOAP session	1. Identify the parts of the hip bone , Sacrum and to hold it in anatomical position 2. Demonstrate surfaces, significance of highest point of iliac crest . anterior and posterior iliac spines, parts of Ischium, tuberosity and spine of ischium , Pubis and Pubic symphysis 3. Discuss the muscles attached to Ilium, Ischium and Pubis and ligaments attached to ischium 4. Demonstrate ala of sacrum ,the surfaces, borders, foramens, vertebral canal, muscles attachments and articular surfaces for ilium , Lumbar vertebra and coccyx 5. Demonstrate the articulation of sacroiliac joint, Hip joint Symphysis pubis and sacrococcygeal joint. Discuss secondary Cartilagenous joint	Viva voce/ skill assesment		General Surgery, Obstetrics & Gynaecology	
AN53.2	Demonstrate the anatomical position of bony pelvis & show boundaries of pelvic inlet, pelvic cavity, pelvic outlet	K/S	SH	Y	Lecture, DOAP session	1. Demonstrate the anatomical position of bony pelvis by keeping the anterior superior iliac spine , upper margin of pubic Symphysis in coronal plane 2. Identify the boundaries of pelvic cavity and demonstrate the false pelvis and true pelvis 3. Demonstrate - sacral promontory, anterior margin of ala of sacralis, arcuate line of ilium, ilio-pubic eminence, pecten pubis , pubic crest and upper end of pubic symphysis	Viva voce/ skill assesment		Obstetrics & Gynaecology	

						(boundaries of pelvic inlet) 4. Demonstrate the Anatomical conjugate, , oblique, transverse diameter, obstetrical, diagonal and external conjugate of inlet of pelvis. Discuss cephalopelvicdisproportion 5. Demonstrate the boundaries of pelvic outlet, its anteroposterior, oblique and transverse diameter					
AN53.3	Define true pelvis and false pelvis and demonstrate sex determination in male & female bony pelvis	K/S	SH	Y	Lecture, DOAP session	1. Demonstrate the greater or false pelvis-contributed by iliac fossa and by ala of sacrum and Lesser or true pelvis having inlet, pelvic cavity and pelvic outlet 2. Compare and discuss the features of Iliac fossa, acetabular cavity, shape and size of obturator foramen, shape and diameters of pelvic inlet, shape of pelvic cavity, Sub pubic angle,, diameters of pelvic outlet Sacral index and Coccyx of male and female pelvis	Viva voce/skill asses sment		Obstetrics & Gynaecology		
AN53.4	Explain and demonstrate clinical importance of bones of abdominopelvic region (sacralization of lumbar vertebra, Lumbarization of 1st sacral vertebra, types of bony pelvis & Coccyx)	K/S	SH	N	Lecture, DOAP session	1. Identify the lumbosacraljoint,sacroiliac joint, Pubic symphysis , sacrococcygeal joint. Explain the joints stretched during pregnancy and parturation. 2. Explain Lumbarization, partial or complete Sacralization and nerve compression 3. Discuss based on the anteroposterior and transverse diameter how pelvis are classified into android, Gynaecoid, Anthropoid and Platypelloid	Viva voce/skill asses sment				
		Topic: Radiodiagnosis				Number of competencies: (3)			Number of procedures for certification: (NIL)		
AN54.1	Describe & identify features of plain X ray abdomen	K/S	SH	Y	Lecture, DOAP session	1.Describe the features of plain X ray abdomen 2.Identify features of plain X ray abdomen	Viva voce/skill asses sment		Radiodiagnosis		
AN54.2	Describe & identify the special radiographs of abdominopelvic region (contrast X ray Barium swallow, Barium meal, Barium enema, Cholecystography,	K/S	SH	Y	Lecture, DOAP session	1.Contrast X ray Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography &Hysterosalpingography	Viva voce/skill asses sment		Radiodiagnosis		

	Intravenous pyelography & Hysterosalpingography)									
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integratio n	Horizontal Integratio n
AN54.3	Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen	K	KH	N	Lecture	ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen	Viva voce		Radiodiagnosis	
Topic: Surface marking		Number of competencies: (2)				Number of procedures for certification: (NIL)				
AN55.1	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	Practical, Lecture, Small group discussion , DOAP session		Viva voce/skill assessment		General Surgery	
AN55.2	Demonstrate the surface projections of: Stomach, Liver, Fundus of gall bladder, Spleen, Duodenum, Pancreas, Ileocaecal junction, Kidneys & Root of mesentery	K/S	SH	Y	Practical, Lecture, Small group discussion , DOAP session	1. Identify the bony landmarks : Anterior Superior Iliac Spine, Pubic Tubercle, Pubic Symphysis, Xyphisternum. Subcoastal Margin, Lumbar Spines (L1 to L5) 2. Identify the soft tissue landmarks : Umblicus, Linea Alba, Linea Semilunaris 3. Draw the Planes : Umbilical, Transpyloric, Supratubercular, Subcoastal, Midinguinal/Midclavicular 4. Draw the Organs and their parts : Stomach (Cardiac and Pyloric Openings, Lesser and Greater Curvatures), Duodenum, Liver boorders, Appendix base (McBurney,s Point), Caecum, Kidneys (Right and Left on Posterior Wall (Morris Parallaalgram), Renal Angle, Ureters, Inguinal Canal, Superficial and Deep Inguinal Rings, Abdominal Arota, Common Iliac Arteries, Inferior Vena Cava, Inguinal Canal, Openings	Viva voce/skill assessment		General Surgery	

Topic: Meninges & CSF		Number of competencies: (2)				Number of procedures for certification: (NIL)					
AN56.1	Describe & identify various layers of meninges with its extent & modifications	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe all the layers of meninges. 2. Name the modifications of Piamater	Written/ Viva voce/ skill assessment			General Medicine	
AN56.2	Describe circulation of CSF with its applied anatomy	K	KH	Y	Lecture	1. Circulation of CSF with its applied anatomy	Written/ Viva voce			General Medicine	Physiology
Topic: Spinal Cord		Number of competencies: (5)				Number of procedures for certification: (NIL)					
AN57.1	Identify external features of spinal cord	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Extent, external features and blood supply of spinal cord	Written/ Viva voce/ skill assessment				
AN57.2	Describe extent of spinal cord in child & adult with its clinical implication	K	KH	Y	Lecture	1. Compare Cranial & spinal meninges	Written/ Viva voce				
AN57.3	Draw & label transverse section of spinal cord at mid-cervical & mid-thoracic level	K	KH	Y	Lecture	1. Draw and label T/S of spinal cord at cervical, thoracic & lumbar	Written/ Viva voce				
AN57.4	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	1. Correlate spinal and vertebral segment to localize spinal cord	Written/ Viva voce			General Medicine	Physiology
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	to	Vertical Integration	Horizontal Integration

AN57.5	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	1. Describe location Ascending and descending tracts	Written		General Medicine	Physiology
Topic: Medulla Oblongata Number of competencies: (4) Number of procedures for certification: (NIL)										
AN58.1	Identify external features of medulla oblongata	K/S	SH	Y	Lecture, DOAP session	1. Describe the external features of medulla oblongata with the cranial nerves emerging from it correctly. 2. Identify the external features of medulla oblongata with the cranial nerves emerging from it correctly.	Written/ Viva voce/ skill assessment			
AN58.2	Describe transverse section of medulla oblongata at the level of 1) pyramidal decussation, 2) sensory decussation 3) ION	K	KH	Y	Lecture	1. Describe the nuclear group and tracts at the level of pyramidal decussation accurately. 2. Describe the nuclear group and tracts at the level of sensory decussation accurately. 3. Describe the nuclear group and tracts at the level of ION accurately.	Written/ Viva voce			
AN58.3	Enumerate cranial nerve nuclei in medulla oblongata with their functional group	K	KH	Y	Lecture	1. Enumerate cranial nerve nuclei in medulla oblongata correctly 2. Enumerate the functional group of cranial nerves emerging from medulla oblongata correctly.	Written/ Viva voce			Physiology
AN58.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	1. Describe the blood supply to medulla oblongata correctly. 2. Describe the anatomical basis and clinical features of medial medullary syndrome accurately. 3. Describe the anatomical basis and clinical features of lateral medullary syndrome accurately.	Written		General Medicine	Physiology
Topic: Pons Number of competencies: (3) Number of procedures for certification: (NIL)										
AN59.1	Identify external features of pons	K/S	SH	Y	Lecture, DOAP session	1. Name the cranial nerves arising from pons	Written/ Viva voce/ skill assessment			Physiology
AN59.2	Draw & label transverse section of pons at the upper and lower level	K	KH	Y	Lecture	1. Draw transverse section of pons at facial colliculus 2. Draw transverse section of pons at trigeminal nerve nuclei	Written/ Viva voce			
AN59.3	Enumerate cranial nerve nuclei in pons with their functional group	K	KH	Y	Lecture	1. Name the cranial nerve nuclei in pons 2. Name the functional components of cranial nerve nuclei in pons	Written/ Viva voce			
Topic: Cerebellum Number of competencies: (3) Number of procedures for certification: (NIL)										

AN60.1	Describe & demonstrate external & internal features of cerebellum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe Location, Surfaces Fissures Lobes – Anatomical, Functional, Phylogenetical lobes Cortex & Medulla – cerebellar nuclei Cerebellar peduncles	Written/ Viva voce/ skill assessment			
AN60.2	Describe connections of cerebellar cortex and intracerebellar nuclei	K	KH	Y	Lecture	1. Describe Neuronal connection Functions of cerebellum	Written/ Viva voce			
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses sment Metho ds	Number required certify P	Vertical Integra tion	Horizontal Integration
AN60.3	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	1. Explain Blood supply 2.Explain cerebellar syndrome	Written		Gene ral Medi cine	Physiology
Topic: Midbrain		Number of competencies: (3)				Number of procedures for certification: (NIL)				
AN61.1	Identify external & internal features of midbrain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Identify external & internal features of midbrain	Written/ Viva voce/ skill assessment			
AN61.2	Describe internal features of midbrain at the level of superior & inferior colliculus	K	KH	Y	Lecture	1.Describe internal features of midbrain at the level of superior & 2. Describe internal features of midbrain at the level of inferior colliculus	Written/ Viva voce			
AN61.3	Describe anatomical basis & effects of Benedikt's and Weber's syndrome	K	KH	N	Lecture	1. Describe anatomical basis & effects of Benedikt's and Weber's syndrome	Written		Gen eral Medi cine	Physiology
Topic: Cranial nerve nuclei & Cerebral hemispheres		Number of competencies: (6)				Number of procedures for certification: (NIL)				

AN62.1	Enumerate cranial nerve nuclei with its functional component	K	KH	Y	Lecture	1.Enumerate the cranial nerve nuclei 2.Mention their location 3.Mention the different functional components of each cranial nerve nucleus	Written/ Viva voce			
AN62.2	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Name the lobes of cerebral hemisphere 2.Poles of cerebral hemisphere 3.Different surfaces of cerebral hemisphere- superolateral medial inferior 4.Sulci & gyri on different surfaces of cerebral hemisphere 5.Different functional areas of cerebral hemisphere	Written/ Viva voce/ skill assessment		General Medicine	Physiology
AN62.3	Describe the white matter of cerebrum	K	KH	Y	Lecture	1.Classify the white matter of cerebrum 2.Give examples of each type of fibers 3.Describe each type of fibers in detail. 4.Location 5.Function with their clinical correlation	Written/ Viva voce		General Medicine	Physiology
AN62.4	Enumerate parts & major connections of basal ganglia & limbic lobe	K	KH	Y	Lecture	1.Define basal ganglia 2.location of basal ganglia 3.Parts of basal ganglia 4.Clinical co-relation 5.Parts of limbic lobe 6.Connections of limbic lobe 7.With their clinical co-relation	Written/ Viva voce			Physiology
AN62.5	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	K	KH	Y	Lecture	1.Important parts of thalamus, hypothalamus epithalamus, metathalamus & subthalamus 2.Location 3.Gross relations of thalamus, hypothalamus epithalamus,metathalamus & subthalamus 4.Major nuclei of thalamus, hypothalamus epithalamus,metathalamus & subthalamus 5.Important connections of thalamus, hypothalamus epithalamus,metathalamus & subthalamus 6.Applied – thalamus & hypothalamus	Written/ Viva voce		General Medicine	Physiology
AN62.6	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1.Location of circle of willis 2.Formation of circle of willis 3.Branches of circle of willis 4.Areas of distribution of branches of circle of willis 5.Related clinical co-relation.	Written/ Viva voce/ skill assessment		General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Asses sment Metho ds	Number required to certify P	Vertical Integra tion	Horizontal Integration
Topic: Ventricular System Number of competencies: (2) Number of procedures for certification: (NIL)										
AN63.1	Describe & demonstrate parts, boundaries & features of IIIrd, IVth & lateral ventricle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	1. Describe the parts, boundaries and features of lateral ventricle correctly. 2. Describe boundaries and features of third ventricle accurately. 3. Describe the boundaries and features of floor of fourth ventricle correctly 4. Demonstrate the parts, boundaries and features of lateral, third and fourth ventricle accurately.	Written/ Viva voce/ skill assessment			Physiology
AN63.2	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	1. Describe the formation, circulation and functions of cerebrospinal fluid accurately. 2. Describe the coverings of brain, subarachnoid space and subarachnoid cisterns correctly. 3. Describe the blood brain barrier and blood csf barrier accurately	Written		Pediatrics	Physiology
Topic: Histology & Embryology Number of competencies: (3) Number of procedures for certification: (NIL)										
AN64.1	Describe & identify the microanatomical features of Spinal cord, Cerebellum & Cerebrum	K/S	SH	Y	Lecture, Practical	1. Describe the classification of nervous tissue. 2. Identify and draw the microscopic structure of spinal cord, cerebral cortex and cerebellar cortex as observed under the microscope 3. Differentiate the distribution of grey matter and white matter in the spinal cord, cerebellum, cerebrum 4. Enumerate the layers and arrangement of cells in the microscopic sections of cerebral cortex and cerebellar cortex correctly with their functional correlation	Writt en/ skill asse ssme nt			
AN64.2	Describe the development of neural tube, spinal cord, medulla oblongata, pons, midbrain, cerebral hemisphere & cerebellum	K	KH	Y	Lecture	1. Describe the formation of neural tube and its subdivisions. 2. Describe the formation of various layers in the wall of neural tube and their reorganization in various subdivisions of neural tube 3. Describe the formation of Neural crest cells and list the structures derived from them	Written/ Viva voce			

						4. Describe the formation of spinal cord, its extent during different phases of development, formation of grey and white matter, functional components of nerve cells of spinal cord 5. Describe the development and subdivisions of Brain stem 6. Draw a neat labelled diagram showing the functional components of nuclei of brain stem 7. Describe the development of Cerebellum 8. Describe the development of Cerebral Hemisphere, white matter, deep nuclei 9. Describe the development of ventricles 10. Describe the development of Autonomic nervous system				
AN64.3	Describe various types of open neural tube defects with its embryological basis	K	KH	N	Lecture	1. Classify the Neural tube defects 2. Provide the embryological basis for various neural tube defects	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
Topic: Epithelium histology Number of competencies: (2) Number of competencies for certification: (01)										
AN65.1	Identify epithelium under the microscope & describe the various types that correlate to its function	K/S	P	Y	Lecture, Practical	1. Describe the structure of simple and stratified epithelium 2. Draw a neat labelled histological picture of simple columnar epithelium, simple cuboidal epithelium and simple squamous epithelium 3. Draw a neat labelled histological picture of stratified columnar epithelium, stratified cuboidal epithelium, stratified squamous epithelium and transitional epithelium	Written/ skill assessment	1		
AN65.2	Describe the ultrastructure of epithelium	K	KH	N	Lecture, Practical	1. Enumerate the classification of Epithelium with examples 2. Describe the structure of different types of simple epithelium 3. Describe the structure of different types of stratified epithelium 4. Describe the ultrastructure of epithelium	Written			
Topic: Connective tissue histology Number of competencies: (2) Number of procedures for certification: (NIL)										

AN66.1	Describe & identify various types of connective tissue with functional correlation	K/S	SH	Y	Lecture, Practical	1. Define connective tissue correctly 2. Describe the cells and extra cellular matrix in connective tissue 3. Describe different types of connective tissue with examples 4. Correctly identify and show the type and different components of connective tissue	Written/skill assessment			Physiology
AN66.2	Describe the ultrastructure of connective tissue	K	KH	N	Lecture, Practical	1. Describe the ultrastructure of the cells of connective tissue 2. Describe the ultrastructure of the fibres in the connective tissue 3. Identify the ultrastructural differences between the cells and fibres	Written		Pathology	
Topic: Muscle histology Number of competencies: (3) Number of procedures for certification: (NIL)										
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integrat ion	Horizontal Integration
AN67.1	Describe & identify various types of muscle under the microscope	K/S	SH	Y	Lecture, Practical	1. Describe the microscopy of skeletal muscle, cardiac muscle and smooth muscle 2. Enumerate the microscopic difference between skeletal, cardiac and smooth muscle	Written/skill assessment			
AN67.2	Classify muscle and describe the structure-function correlation of the same	K	KH	Y	Lecture, Practical	1. Classify muscles with examples 2. Identify and Draw a neat labelled histological picture of skeletal muscle, cardiac muscle and smooth muscle 3. Describe the structure of muscles with its function correlation.	Written			Physiology
AN67.3	Describe the ultrastructure of muscular tissue	K	KH	N	Lecture, Practical	1. Describe the ultramicroscopic structure of skeletal muscle .	Written			
Topic: Nervous tissue histology Number of competencies: (3) Number of procedures for certification: (NIL)										
AN68.1	Describe & Identify multipolar & unipolar neuron, ganglia, peripheral nerve	K/S	SH	Y	Lecture, Practical	1. Review of general introduction to nervous system with specific review on components of nervous tissue and their function. 2. Discuss the basis for classification of neurons and classify neurons	Written/skill assessment			

						<p>3. List the types of neurons</p> <p>4. Describe the structure and identify the unipolar and multipolar neurons in microscopic sections of nervous tissue</p> <p>Draw the different types of neurons.</p> <p>5. List the types of ganglia (motor and sensory)</p> <p>6. Describe and identify the dorsal root ganglion and sympathetic ganglion in a histological section</p> <p>Draw and label the dorsal root ganglion and sympathetic ganglion</p> <p>7. Describe and identify the coverings and structure of a peripheral nerve in the microscopic slide – H&E stain and special stain</p> <p>Draw and label the coverings of a transverse section of a peripheral nerve</p> <p>8. Classification and description of neuroglia and identification of their location in nervous tissue in a H&E stained section or a special stained section</p>	ssment			
AN68.2	Describe the structure-function correlation of neuron	K	KH	Y	Lecture, Practical	<p>1. Review of general introduction to nervous system with specific review on parts of a neuron.</p> <p>2. Describe the structure of cell body of a neuron and identify it in a microscopic section</p> <p>3. Describe the structure of processes of neuron especially the axon and their identification in a microscopic section</p> <p>4. Discuss in detail about the Axon</p> <p>5. Differentiate the Myelinated and unmyelinated Axons</p> <p>6. Explain the process of Myelination and its functional importance and clinical application</p> <p>Draw the diagram showing the myelinated and non-myelinated nerve fibers</p> <p>7. Correlate the structure and function of neuron</p>	Written			Physiology
AN68.3	Describe the ultrastructure of nervous tissue	K	KH	N	Lecture, Practical	<p>1. Identify the ultrastructural components nervous tissue in a photomicrograph</p>	Written			
<p>Topic: Blood Vessels Number of competencies: (3) Number of procedures for certification: (NIL)</p>										
AN69.1	Identify elastic & muscular blood vessels, capillaries under the microscope	K/S	SH	Y	Lecture, Practical	<p>1. Describe the structure of elastic artery, muscular artery, large and medium sized vein</p> <p>2. Draw a neat labelled histological picture of elastic artery, muscular artery, large and medium sized vein</p>	Skill assessment			

AN69.2	Describe the various types and structure-function correlation of blood vessel	K	KH	Y	Lecture, Practical	1. Enumerate the classification of blood vessels, differences in their structure and their functional correlation 2. Describe the structure of resistance vessels and conducting vessels, end arteries along with functional correlation	Written			Physiology
AN69.3	Describe the ultrastructure of blood vessels	K	KH	Y	Lecture, Practical	1. Describe the ultrastructure of blood vessels	Written			
Topic: Glands & Lymphoid tissue Number of competencies: (2) Number of procedures for certification: (NIL)										
AN70.1	Identify exocrine gland under the microscope & distinguish between serous, mucous and mixed acini	K/S	SH	Y	Lecture, Practical	1. Define gland and differentiate between exocrine and endocrine gland. 2. Classify exocrine glands based on number of cells, number of ducts and shape of secretory end piece, mode of secretion and nature of secretion. 3. Describe the histological features of Serous Acini ,Mucous Acini and Mixed acini with example. 4. Distinguish between Serous Acini ,Mucous Acini and Mixed acini with examples accurately. 5. Identify Serous Acini ,Mucous Acini and Mixed acini under the microscope correctly. 6. Draw a neat labelled diagram of. Serous Acini Mucous Acini and Mixed acini.	Written/ skill assessment			Pathology
AN70.2	Identify the lymphoid tissue under the microscope & describe microanatomy of lymph node, spleen, thymus, tonsil and correlate the structure with function	K/S	SH	Y	Lecture, Practical	1. List the primary and secondary lymphoid organs and differentiate between them 2. Describe the histological features of lymph node, spleen, thymus and tonsil . 3. Correlate the Histological structure of lymph node, spleen, thymus and tonsil with their function 4. Distinguish between open and closed circulation of spleen. 5. Identify the importance of Mucosa associated lymphatic tissue (MALT)in the immune function of the body. 6. Identify lymph node, spleen, thymus and tonsil under the microscope correctly. 7. Draw a neat labelled diagram of. lymph	Written/ skill assessment			Pathology

						node, spleen, thymus and tonsil .				
--	--	--	--	--	--	-----------------------------------	--	--	--	--

Topic: Bone & Cartilage	Number of competencies: (2)	Number of procedures for certification: (NIL)
------------------------------------	------------------------------------	--

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN71.1	Identify bone under the microscope; classify various types and describe the structure-function correlation of the same	K/S	SH	Y	Lecture, Practical	1. 1. Identify compact bone 2. Draw a neat labelled diagram of transverse section of compact bone 3. Draw a neat labelled diagram of longitudinal section of compact bone	Written/ skill assessment		Pathology	
AN71.2	Identify cartilage under the microscope & describe various types and structure-function correlation of the same	K/S	SH	Y	Lecture, Practical	1. Identify hyaline cartilage 2. Draw a neat labelled diagram showing microanatomy of elastic cartilage.	Written/ skill assessment		Pathology	

Topic: Integumentary System	Number of competencies: (1)	Number of procedures for certification: (NIL)
------------------------------------	------------------------------------	--

AN72.1	Identify the skin and its appendages under the microscope and correlate the structure with function	K/S	SH	Y	Lecture, Practical	1. Describe the layers of the skin correctly 2. Differentiate between thick skin and thin skin correctly 3. List the appendages of integumentary system accurately 4. Correlate the functions of the integumentary system with different layers 5. Should be able to draw a neat labelled diagram of thick and thin skin	Written/ skill assessment			
--------	---	-----	----	---	-----------------------	--	---------------------------------	--	--	--

Topic: Chromosomes	Number of competencies: (3)	Number of procedures for certification: (NIL)
---------------------------	------------------------------------	--

AN73.1	Describe the structure of chromosomes with classification	K	KH	Y	Lecture	1. describe Denver's classification of chromosome 2. Explain satellite bodies	Written			
AN73.2	Describe technique of karyotyping with its applications	K	KH	Y	Lecture	1. Describe Giemsa staining of chromosomes	Written			

AN73.3	Describe the Lyon's hypothesis	K	KH	Y	Lecture	1.Explain Barr bodies	Written			
Topic: Patterns of Inheritance		Number of competencies: (4)				Number of procedures for certification: (NIL)				
AN74.1	Describe the various modes of inheritance with examples	K	KH	Y	Lecture	1. Mention the various modes of inheritance 2. Describe the various modes of inheritance 3. Describe the characteristics of various modes of inheritance 4. Mention examples for each mode of inheritance	Written		General Medicine, Pediatrics	
AN74.2	Draw pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance	K	KH	Y	Lecture	1. Describe the basic pedigree structure & notations used 2. Draw the pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance 3. Describe multifactorial inheritance with examples 4. Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	Written		General Medicine, Pediatrics	
AN74.3	Describe multifactorial inheritance with examples	K	KH	Y	Lecture	1. Describe multifactorial inheritance 2. Mention examples for multifactorial inheritance	Written		General Medicine	
AN74.4	Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	K	KH	N	Lecture	1. Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	Written		General Medicine, Pediatrics	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
		Topic: Principle of Genetics, Chromosomal Aberrations & Clinical Genetics				Number of competencies: (5)		Number of procedures for certification: (NIL)		
AN75.1	Describe the structural and numerical chromosomal	K	KH	Y	Lecture	1.Explain Anaphase lag 2. Describe numerical chromosomal defect	Written		Pediatrics	

	aberrations									
AN75.2	Explain the terms mosaics and chimeras with example	K	KH	N	Lecture	1. Mosaics and chimeras with example	Written			Pediatrics
AN75.3	Describe the genetic basis & clinical features of Prader Willi syndrome, Edward syndrome & Patau syndrome	K	KH	N	Lecture	1. Prader Willi syndrome, Edward syndrome & Patau syndrome	Written			Pediatrics
AN75.4	Describe genetic basis of variation: polymorphism and mutation	K	KH	Y	Lecture	1. Polymorphism and mutation	Written			Pediatrics
AN75.5	Describe the principles of genetic counselling	K	KH	Y	Lecture	1. Principles of genetic counselling	Written			Pediatrics, Obstetrics & Gynaecology
Topic: Introduction to embryology						Number of competencies: (2)	Number of procedures for certification: (NIL)			
AN76.1	Describe the stages of human life	K	KH	Y	Lecture	1. Explain the stages of human life	Written			
AN76.2	Explain the terms- phylogeny, ontogeny, trimester, viability	K	KH	Y	Lecture	1. Explain Phylogeny 2. Explain Ontogeny 3. Explain Trimester 4. Explain viability	written			
Topic: Gametogenesis and fertilization						Number of competencies: (6)	Number of procedures for certification: (NIL)			
AN77.1	Describe the uterine changes occurring during the menstrual cycle	K	KH	Y	Lecture	1. Define menstrual cycle 2. Specify the purpose of the menstrual cycle 3. Enumerate the phases of the menstrual cycle 4. Enumerate the changes occurring in the endometrium of the uterus during the menstrual cycle 5. Describe the changes occurring in the proliferative phase of the menstrual cycle 6. Describe the changes occurring in the secretory phase of the menstrual cycle 7. Describe the changes occurring in the menstrual phase of the menstrual cycle 8. Explain the mechanism of onset of menstrual bleed	Written			Obstetrics & Gynaecology

AN77.2	Describe the synchrony between the ovarian and menstrual cycles	K	KH	Y	Lecture	<ol style="list-style-type: none"> 1. Define ovarian cycle 2. Enumerate the phases of the ovarian cycle 3. Describe the changes occurring in the preovulatory phase of the ovarian cycle 4. Draw and label diagrams depicting folliculogenesis 5. Describe the changes occurring in the ovulatory phase of the ovarian cycle 6. Describe the changes occurring in the post-ovulatory phase of the ovarian cycle 7. Define ovulation 8. Describe the sequence of events occurring during ovulation 9. Explain the factors responsible for ovulation 10. Describe the hormonal control of ovarian and uterine cycles 11. Correlate the phases of the menstrual cycle with the various phases of ovarian cycle 	Written		Obstetrics & Gynaecology	
AN77.3	Describe spermatogenesis and oogenesis along with diagrams	K	KH	Y	Lecture	<ol style="list-style-type: none"> 1. Define gametogenesis 2. Enlist the processes occurring during gametogenesis 3. Define spermatogenesis 4. Enumerate the stages of spermatogenesis 5. Define spermatocytosis 6. Describe the changes occurring during spermatocytosis 7. Describe the meiotic divisions in spermatogenesis 8. Define spermiogenesis 9. Describe the changes occurring during spermiogenesis 10. Draw and label a diagram depicting the structure of the normal human sperm 11. Describe the structure of the normal human sperm 12. Explain the process of maturation of a spermatozoon 13. Define oogenesis 14. Describe the process of oogenesis before birth 15. Describe the process of oogenesis after birth till puberty 16. Describe the process of oogenesis after puberty 17. Enumerate the differences between spermatogenesis and oogenesis 18. Draw and label a diagram depicting structure of an ovum during ovulation 	Written		Obstetrics & Gynaecology	

AN77.4	Describe the stages and consequences of fertilisation	K	KH	Y	Lecture	1. Draw and label a diagram depicting structure of an ovum during ovulation 2. Enlist the stages of fertilization 3. Explain the process of approximation of gametes 4. Explain the process of capacitation of sperms 5. Enlist the barriers penetrated by the sperm before fusion with the ovum 6. Explain acrosome reaction 7. Enlist the effects of fertilization 8. Describe the process of contact and fusion of gametes during fertilization	Written		Obstetrics & Gynaecology	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Teaching-Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN77.5	Enumerate and describe the anatomical principles underlying contraception	K	KH	Y	Lecture	1. Enumerate the techniques of permanent contraception 2. Enumerate the techniques of temporary contraception 3. Explain the anatomical basis of barrier techniques of contraception in both the sexes 4. Describe the effects of contraceptive hormonal pills on phases of the ovarian cycle	Written		Obstetrics & Gynaecology	
AN77.6	Describe teratogenic influences; fertility and sterility, surrogate motherhood, social significance of "sex-ratio".	K	KH	N	Lecture	1. Define teratology 2. Distinguish malformation, disruption, deformation and dysplasia 3. Explain the principles of teratology 4. Classify teratogens giving examples 5. Define infertility 6. Explain the anatomical basis of male infertility 7. Explain the anatomical basis of female infertility 8. Enlist the assisted reproductive techniques 9. Define in vitro fertilization 10. Describe the steps in in vitro fertilization 11. List the reasons for using in vitro fertilization 12. Explain intracytoplasmic sperm injection 13. Explain gamete intrafallopian transfer 14. Explain surrogate motherhood 15. Discuss the social significance of sex ratio	Written		Obstetrics & Gynaecology	
Topic: Second week of development		Number of competencies: (5)				Number of procedures for certification: (NIL)				

AN78.1	Describe cleavage and formation of blastocyst	K	KH	Y	Lecture	1.Explain blastomeres	Written			
AN78.2	Describe the development of trophoblast	K	KH	Y	Lecture	1.Name 2 types of trophoblast 2.Describe the morphological difference between of syncytio and cytotrophoblast	Written			
AN78.3	Describe the process of implantation & common abnormal sites of implantation	K	KH	Y	Lecture	1.Name the normal site of implantation 2.Name the common site of ectopic implantation	Written		Obstetrics & Gynaecology	
AN78.4	Describe the formation of extra-embryonic mesoderm and coelom, bilaminar disc and prochordal plate	K	KH	Y	Lecture	1.Explain blastulation 2.Explain formation of prochordal plate	Written			
AN78.5	Describe in brief abortion; decidual reaction, pregnancy test	K	KH	Y	Lecture	1.Explain decidual reaction 2.Name the hormone used to confirm pregnancy	Written		Obstetrics & Gynaecology	
Toic: 3rd to 8th week of development Number of competencies: (6) Number of procedures for certification: (NIL)										
AN79.1	Describe the formation & fate of the primitive streak	K	KH	Y	Lecture	1.Describe the formation of Primitive streak 2. Explain fate of the primitive streak	Written			
AN79.2	Describe formation & fate of notochord	K	KH	Y	Lecture	1. Explain the Fate of notochord 2.Name one remenant of notochord in adult life	Written			
AN79.3	Describe the process of neurulation	K	KH	Y	Lecture	1.Name the stages of neurulation 2.Name five derivative of neural crest cell 3.Mention the closure of cranial and caudal neuro pore	Written			
AN79.4	Describe the development of somites and intra-embryonic coelom	K	KH	Y	Lecture	1.Explain neuomere and somitomeres 2.Name three derivatives of paraxial mesoderm	Written		Obstetrics & Gynaecology	
AN79.5	Explain embryological basis of congenital malformations, nucleus pulposus, sacrococcygeal teratomas, neural tube defects	K	KH	N	Lecture	1.Explain Neural tube defects	Written		Obstetrics & Gynaecology	
AN79.6	Describe the diagnosis of pregnancy in first trimester and role of teratogens, alpha-fetoprotein	K	KH	N	Lecture	1.Explain the hormonal investigation for the diagnosis of pregnancy in first trimester 2. Name triple test in ffirst trimester 3.Name three common teratogens during pregnancy	Written		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Fetal membranes Number of competencies: (7) Number of procedures for certification: (NIL)										
AN80.1	Describe formation, functions & fate of-chorion: amnion; yolk sac; allantois & decidua	K	KH	Y	Lecture	1. Describe formation of chorion, amnion, yolk sac, allantois and deciduas 2. Enumerate the function and fate of chorion, amnion, yolk sac, allantois and decidua.	Written			
AN80.2	Describe formation & structure of umbilical cord	K	KH	Y	Lecture	1. Describe formation of umbilical cord. 2. Enumerate the contents, function and clinical correlations of Umbilical cord.	Written			
AN80.3	Describe formation of placenta, its physiological functions, foetomaternal circulation & placental barrier	K	KH	Y	Lecture	1. Describe development of placenta and formation of chorionic villi. 2. List out the differences in the composition of primary, secondary and tertiary villus. 3. Describe the structure of a full term placenta. 4. Enumerate the physiological functions of Placenta. 5. Describe the constituents of placental barrier. 6. Describe the foeto placental circulation. 7. Describe the congenital anomalies of Placenta according to its shape and its abnormal attachment to uterus.	Written		Obstetrics & Gynaecology	
AN80.4	Describe embryological basis of twinning in monozygotic & dizygotic twins	K	KH	Y	Lecture	1. Name the two types of twinning. 2. Describe the embryologic basis of monozygotic and dizygotic twins. 3. List out the difference between monozygotic and dizygotic twins. 4. Describe the congenital anomalies associated with twinning.	Written		Obstetrics & Gynaecology	
AN80.5	Describe role of placental hormones in uterine growth & parturition	K	KH	Y	Lecture	1. List the various placental hormones and enumerate its function.	Written		Obstetrics & Gynaecology	
AN80.6	Explain embryological basis of estimation of fetal age.	K	KH	N	Lecture	1. Differentiate embryonic and foetal period. 2. Describe key developmental events during embryonic and foetal period. 3. Describe the criteria for estimation of gestational	Written		Obstetrics & Gynaecology	

						age in days and weeks. 4. Describe the milestones in each trimester of pregnancy.				
AN80.7	Describe various types of umbilical cord attachments	K	KH	N	Lecture	1. Describe the different types of umbilical cord attachment to placenta.	Written		Obstetrics & Gynaecology	
Topic: Prenatal Diagnosis Number of competencies: (3) Number of procedures for certification: (NIL)										
AN81.1	Describe various methods of prenatal diagnosis	K	KH	Y	Lecture	1.Name one invasive and one non-invasive methods of prenatal diagnosis	Written		Obstetrics & Gynaecology	
AN81.2	Describe indications, process and disadvantages of amniocentesis	K	KH	Y	Lecture	1.Name the gestational age at which amniocentesis is being done 2. Name one common complication with amniocentesis 3.Give three indication for amniocentesis	Written		Obstetrics & Gynaecology	
AN81.3	Describe indications, process and disadvantages of chorion villus biopsy	K	KH	Y	Lecture	1.Name the gestational age at which chorion villus biopsy is being done 2. Name one common complication with chorion villus biopsy 3.Give three indication for chorion villus biopsy	Written		Obstetrics & Gynaecology	
Topic: Ethics in Anatomy Number of competencies: (1) Number of procedures for certification: (NIL)										
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching- Learning Methods	Objectives	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN 82.1	Demonstrate respect and follow the correct procedure when handling cadavers and other biologic tissue	S	SH	Y	Group Activity	1. At the end of this session the I MBBS student should be able to demonstrate Universal precautions while handling cadavers & biological tissues effectively 2. At the end of this session the I MBBS student should be able to demonstrate respect while following prescribed procedures in handling cadavers effectively	NIL		AETCOM	

	<p>Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation</p>
--	--

□