

GENERAL SURGERY (CODE:SU)

Teaching & Evaluation Scheme for Faculty of Medicine

Semester/Year: Third Year M.B.B.S. Part-II

Program Name: Bachelor of Medicine and Bachelor of Surgery

Effective from Academic Year: 2024-2025

Program Code: MB01

Course Code	Subject Name	Hrs/Week			UA		IA		Total	
		L	P	Total	Max	Min	Max	Min	Max	Min
2SU301	General Surgery-I	1	-	1	100	80	-	-	200	150
2SU302	General Surgery-II	1	-	1	100		-	-		
2SU303	General Surgery Practical	-	18	18	100		-	-	100	
2SU304	General Surgery IA Theory	-	-	-	-	-	200	80	400	200
2SU305	General Surgery IA Practical	-	-	-	-	-	200	80		

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
GENERAL SURGERY (Topics:30, Competencies: 133)							
Topic1: Metabolic response to injury		Number of competencies: (03)		Number of competencies that require certification: (NIL)			
SU1.1	Describe Basic concepts of homeostasis, enumerate the metabolic changes in injury and their mediators.	K	KH	Y	LGT, Bed side clinic, SGT	Written/Viva voce	
SU1.2	Describe the factors that affect the metabolic response to injury.	K	KH	Y	LGT, Bed side clinic,SGT	Written/Viva voce	
SU1.3	Describe basic concepts of perioperative care.	K	KH	Y	LGT, Bed side clinic,SGT	Written/Viva voce	
Topic 2: Shock		Number of competencies: (03)		Number of competencies that require certification: (NIL)			
SU2.1	Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring.	K	KH	Y	LGT,SGT	Written/Viva voce	
SU2.2	Describe the clinical features of shock and its appropriate treatment.	K	KH	Y	LGT,SGT	Written/Viva voce	
SU2.3	Communicate and counsel patients and families about the treatment and prognosis of shock demonstrating empathy and care	A/C	SH	Y	DOAP	Skill assessment	
Topic 3: Blood and blood components		Number of competencies: (03)		Number of competencies that require certification: (NIL)			
SU3.1	Describe the Indications and appropriate use of blood and blood products and complications of blood transfusion.	K	KH	Y	LGT,SGT	Written/Viva voce	
SU3.2	Observe blood transfusions.	S	SH	Y	SGT,DOAP	Skill assessment, Log book	
SU3.3	Counsel patients and family/friends for blood transfusion and blood donation.	A/C	SH	Y	DOAP	Skill assessment	
Topic 4: Burns Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU4.1	Elicit document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns.	K	KH	Y	LGT,SGT	Written/Viva voce	
SU4.2	Describe Clinical features, Diagnose type and extent of burns and plan appropriate treatment.	K	KH	Y	LGT,SGT	Written/Viva voce	

SU4.3	Discuss the Medico legal aspects in burn injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU4.4	Communicate and counsel patients and families on the outcome and rehabilitation demonstrating empathy and care.	A/C	SH	Y	SGT,Roleplay, Skills assessment	Vivavoce	
Topic 5: Wound healing and wound care Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU5.1	Describe normal wound healing and factors affecting healing.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU5.2	Elicit, document and present a history in a patient presenting with wounds.	C	SH	Y	LGT,SGT	Written/Vivavoce	
SU5.3	Differentiate the various types of wounds,plan and observe management of wounds.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU5.4	Discuss medico legal aspects of wounds	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 6: Surgical infections Number of competencies: (02) Number of competencies that require certification: (NIL)							
SU6.1	Define and describe the aetiology and pathogenesis of surgical Infections	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU6.2	Enumerate Prophylactic and therapeutic antibiotics Plan appropriate management	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 7: Surgical Audit and Research Number of competencies: (02) Number of competencies that require certification: (NIL)							
SU7.1	Describe the Planning and conduct of Surgical audit	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU7.2	Describe the principles and steps of clinical research in General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 8: Ethics Number of competencies: (03) Number of competencies that require certification: (NIL)							
SU8.1	Describe the principles of Ethics as it pertains to General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	-
SU8.2	Demonstrate Professionalism and empathy to the patient undergoing General Surgery	A/C	SH	Y	LGT,SGT, DOAP	Written/Vivavoce/ Skill assessment	
SU8.3	Discuss Medico-legal issues in surgical practice	A/C	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
Topic 9: Investigation of surgical patient Number of competencies (03) Number of competencies that require certification: (NIL)							
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	C	KH	Y	LGT,SGT	Written/Vivavoce	

SU9.2	Biological basis for early detection of cancer and multi disciplinary approach in management of cancer	C	KH	Y	LGT,SGT	Written/Vivavoce	
SU9.3	Communicate the results of surgical investigations and counsel the patient appropriately	C	SH	Y	DOAP	Skillassessment	
Topic 10: Pre, intra and post- operative management. Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU10.1	Describe the principles of perioperative management of common surgical competencies	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU10.2	Describe the steps and obtain informed consent in a simulated environment	S/A/C	SH	Y	DOAP	Skillassessment/Log book	
SU10.3	Observe common surgical competencies and assist in minor surgical competencies; Observe emergency lifesaving surgical competencies.	S	KH	Y	DOAPs	Logbook	
SU10.4	Perform basic surgical Skills such as First aid including suturing and minor surgical competencies in simulated environment	S	P	Y	DOAP	Skillassessment	
Topic 11: Anaesthesia and pain management Number of competencies: (06) Number of competencies that require certification: (NIL)							
SU11.1	Describe principles of Preoperative assessment.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.2	Enumerate the principles of general, regional, and local Anaesthesia.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.3	Demonstrate maintenance of an airway in a mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
SU11.4	Enumerate the indications and principles of daycare General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.5	Describe principles of providing post-operative pain relief and management of chronic pain.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.6	Describe Principles of safe General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 12: Nutrition and fluid therapy Number of competencies: (03) Number of competencies that require certification: (NIL)							
SU12.1	Enumerate the causes and consequences of malnutrition in the surgical patient	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	
SU12.2	Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patient	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	
SU12.3	Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	

Topic 13: Transplantation Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU13.1	Describe the immunological basis of organ transplantation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.2	Discuss the Principles of immunosuppressive therapy. Enumerate Indications, describe surgical principles, management of organ Transplantation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.3	Discuss the legal and ethical issues concerning organ donation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.4	Counsel patients and relatives on organ donation in a simulated environment	S	SH	Y	DOAP	Skillassessment	
Topic 14: Basic Surgical Skills Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU14.1	Describe Aseptic techniques, sterilization and disinfection.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.2	Describe Surgical approaches,incisions and the use of appropriate instruments in Surgery in general.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.3	Describe the materials and methods used for surgical wound closure and anastomosis (sutures, knots and needles)	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.4	Demonstrate the techniques of asepsis and suturing in a simulated environment	S	SH	Y	DOAP	Skillassessment/Log book	
Topic 15: Biohazard disposal Number of competencies: (01) Number of competencies that require certification: (NIL)							
SU15.1	Describe classification of hospital waste and appropriate methods of disposal.	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 16: Minimally invasive General Surgery Number of competencies: (01) Number of competencies that require certification: (NIL)							
SU16.1	Minimally invasive General Surgery: Describe indications advantages and disadvantages of Minimally invasive General Surgery	K	K	Y	LGT, Demonstration, Bedside clinic, Discussion	Theory/ Practical / Orals/Written/Viva voce	
Topic 17: Trauma Number of competencies: (10) Number of competencies that require certification: (NIL)							
SU17.1	Describe the Principles of FIRSTAID	S	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.2	Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment	S	SH	Y	DOAP	Skill assessment	

SU17.3	Describe the Principles in management of mass casualties	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.4	Describe Pathophysiology, mechanism of head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.5	Describe clinical features for neurological assessment and GCS in head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.6	Chose appropriate investigations and discuss the principles of management of head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.7	Describe the clinical features of soft tissue injuries. Chose appropriate investigations and discuss the principles of management.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.8	Describe the pathophysiology of chest injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.9	Describe the clinical features and principles of management of chest injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.10	Demonstrate Airway maintenance. Recognizeand manage tension pneumothorax, hemothorax and flailchest in simulated environment.	S	SH	Y	DOAP	Skill assessment/Log book	
Topic 18: Skin and subcutaneous tissue Number of competencies: (03) Number of competencies that require certification: (NIL)							
SU18.1	Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections.	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
SU18.2	Classify skin tumors Differentiate different skin tumors and discuss their management.	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU18.3	Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan.	S	SH	Y	Bedside clinic,SGT, DOAP	Skillassessment	
Topic 19: Developmental anomalies of face, mouth and jaws Number of competencies: (02) Number of competencies that require certification: (NIL)							
SU19.1	Describe the etiology and classification of cleftlip and palate	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
SU19.2	Describe the Principles of reconstruction of cleftlip and palate	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
Topic 20: Oropharyngeal cancer Number of competencies: (02) Number of competencies that require certification: (NIL)							
SU20.1	Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer.	K	KH	Y	LGT,SGT	Written/Vivavoce	

SU20.2	Enumerate the appropriate investigations and discuss the Principles of treatment.	K	K	Y	LGT,SGT	Written/Vivavoce	
Topic 21: Disorders of salivary glands Number of competencies: (02) Number of competencies that require certification: (NIL)							
SU21.1	Describe surgical anatomy of the salivary glands, pathology, and clinical presentation of disorders of salivary glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU21.2	Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 22: Endocrine General Surgery: Thyroid and parathyroid Number of competencies: (06) Number of competencies that require certification: (NIL)							
SU22.1	Describe the applied anatomy and physiology of thyroid	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.2	Describe the etiopathogenesis of thyroidal swellings	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.3	Demonstrate and document the correct clinical examination of thyroid swellings and discuss the differential diagnosis and their Management	S	SH	Y	Bedsideclinic	Skillassessment	
SU22.4	Describe the clinical features, classification and principles of management of thyroid cancer	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.5	Describe the applied anatomy of parathyroid	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.6	Describe and discuss the clinical features of hypo - and Hyperparathyroidism and the principles of their management	K	KH	Y	LGT,SGT	Written/Vivavoce	
Topic 23: Adrenal glands Number of competencies: (03) Number of competencies that require certification: (NIL)							
SU23.1	Describe the applied anatomy of adrenal glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU23.2	Describe the etiology, clinical features and principles of management of disorders of adrenal gland	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU23.3	Describe the clinical features, principles of investigation and management of Adrenal tumors	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU24.1	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU24.2	Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumours	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	

SU24.3	Describe the principles of investigation and management of Pancreatic disorders including pancreatitis and endocrine tumors.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
Topic 25: Breast Number of competencies: (05) Number of competencies that require certification: (NIL)							
SU25.1	Describe applied anatomy and appropriate investigations for breast disease	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU25.2	Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the Breast	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skillassessment	
SU25.3	Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU25.4	Counsel the patient and obtain informed consent for treatment of malignant conditions of the breast	A/C	SH	Y	DOAP	Skillassessment	
SU25.5	Demonstrate the correct technique to palpate the breast for breast swelling in a mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
Topic 26: Cardio-thoracic General Surgery- Chest - Heart and Lungs Number of competencies: (04) Number of competencies that require certification: (NIL)							
SU26.1	Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases	K	K	Y	LGT,SGT	Written/Vivavoce	
SU26.3	Describe the clinical features of mediastinal diseases and the principles of management	K	K	Y	LGT,SGT	Written/Vivavoce	
SU26.4	Describe the etiology, pathogenesis, clinical features of tumors of lung and the principles of management	K	K	Y	LGT,SGT	Written/Vivavoce	
SU27.1	Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skillassessment	
SU27.2	Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease	S	SH	Y	DOAP	Skillassessment	
SU27.3	Describe clinical features, investigations and principles of management of vasospastic disorders	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU27.4	Describe the types of gangrene and principles of amputation	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU27.5	Describe the applied anatomy of venous system of lower limb	K	K	Y	LGT,SGT	Written/Vivavoce	

SU27.6	Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU27.7	Describe pathophysiology, clinical features, investigations and principles of management of Lymphedema, lymphangitis and Lymphomas	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU27.8	Demonstrate the correct examination of the lymphatic system	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
Topic 28: Abdomen Number of competencies: (18) Number of competencies that require certification: (NIL)							
SU28.1	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU28.2	Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias.	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
SU28.3	Describe causes, clinical features, complications and principles of management of peritonitis	K	K	Y	LGT,SGT, Bedsideclinic	Written/Vivavoce	
SU28.4	Describe pathophysiology, clinical features, investigations and principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.5	Describe the applied Anatomy and physiology of esophagus	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.6	Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.7	Describe the applied anatomy and physiology of stomach	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU28.8	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophicpyloricstenosis, Peptic ulcer disease, Carcinoma stomach	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU28.9	Demonstrate the correct technique of examination of a patient with disorders of the stomach	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
SU28.10	Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumors of the liver	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.11	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis - prophylaxis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	

SU28.12	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.13	Describe the applied anatomy of small and large intestine	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.14	Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.15	Describe the clinical features, investigations and principles of management of diseases of Appendix including appendicitis and its complications.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.16	Describe applied anatomy including congenital anomalies of the rectum and anal canal	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.17	Describe the clinical features, investigations and principles of management of common anorectal diseases	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.18	Describe and demonstrate clinical examination of abdomen. Order relevant investigations. Describe and discuss appropriate treatment plan	S	SH	Y	Bedside clinic, DOAP, SGT	Skill assessment	
Topic 29: Urinary System Number of competencies: (11) Number of competencies that require certification: (NIL)							
SU29.1	Describe the causes, investigations and principles of management of Hematuria	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.2	Describe the clinical features, investigations and principles of management of congenital anomalies of genito urinary system	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.4	Describe the clinical features, investigations and principles of management of hydronephrosis	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.5	Describe the clinical features, investigations and principles of management of renal calculi	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.6	Describe the clinical features, investigations and principles of management of renal tumours	K	KH	Y	LGT,SGT	Written/Vivavoce	

SU29.7	Describe the principles of management of acute and chronic retention of urine	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.8	Describe the clinical features, investigations and principles of management of bladder cancer	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.9	Describe the clinical features, investigations and principles of management of disorders of prostate	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU29.10	Demonstrate a digital rectal examination of the prostateina mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
SU29.11	Describe clinical features, investigations and management of urethral strictures	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
Topic 30: Penis, Testis and scrotum Number of competencies: (06) Number of competencies that require certification: (NIL)							
SU30.1	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis and carcinoma penis.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.2	Describe the applied anatomy clinical features, investigations and principles of management of undescended testis.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.3	Describe the applied anatomy clinical features, investigations and principles of management of epididymo-orchitis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.4	Describe the applied anatomy clinical features, investigations and principles of management of varicocele	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.5	Describe the applied anatomy, clinical features, investigations and principles of management of Hydrocele	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.6	Describe classification, clinical features, investigations and principles of management of tumours of testis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	

ORTHOPEDICS(CODE:OR)

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
ORTHOPEDICS (Topics:14, Competencies: 40)							
Topic 1: Skeletal Trauma, Poly trauma Number of competencies : (06) Number of competencies that require certification: (NIL)							
OR1.1	Describe and discuss the Principles of pre-hospital care and Emergency room management of a trauma victim including principles of triage and advance trauma life support.	K/S/A/C	K/KH	Y	LGT with video, SGT	Written/Viva voce/ OSCE/ Simulation	
OR1.2	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of shock	K/S	K/KH	Y	LGT	Written/Viva voce/ OSCE/ Simulation	
OR1.3	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries	K	KH/SH	Y	LGT,SGT	Written/OSCE	
OR1.4	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of dislocation of common joints, shoulder, knee, hip and fingers.	K	K/KH	Y	LGT,SGT,Bedside clinic	Written/Viva voce/ OSCE/ Simulation	
OR1.5	Participate as a member in the team for closed reduction of shoulder dislocation / hip dislocation / knee dislocation and dislocation of finger joints,	K/S/A/C	SH	Y	Simulation,DOAP	OSCE/Simulation	
OR1.6	Discuss the recent advances in the management of various orthopaedic conditions like trauma, sports injuries, arthroplasty and spine pathologies.	K	K/KH	N	SGT,bedside clinic	Viva voce/OSCE	
Topic 2: Fractures Number of competencies : (16) Number of competencies that require certification: (NIL)							
OR2.1	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle	K/S	KH/SH	Y	LGT,SGT,Bedside clinic	Written/Viva voce/ OSCE	

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OR2.2	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus	K	K/KH/ SH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.3	Select, prescribe and communicate appropriate medications for relief of joint pain	K	KH/SH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.4	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit	K/S	K/KH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.5	Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.6	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.7	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic Pelvi-Acetabular injuries with emphasis on hemodynamic instability	K	K/KH/ SH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.8	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.2.9	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur including neck of femur and intertrochanteric fractures.	K/S/A/C	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR2.10	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b)Fracture distal femur(c)Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.11	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.12	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot (d) Lisfranc fracture dislocation	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.13	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures	K/S/C	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.14	Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union and infection.	K/S	SH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.15	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management.	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.16	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of following orthopaedic injuries in children: a) Fracture supracondylar humerus with emphasis on neurovascular injury and compartment syndrome. b) Forearm and distal end radius fractures, pulled elbow. c) Epiphyseal injuries	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
	d) Fracture shaft femur, tibia/ both bones of the leg e) Non-accidental injuries / child abuse						
Topic 3: Musculoskeletal Infection Number of competencies:(03) Number of Procedures that require certification:(NIL)							
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Septic arthritis & HIV infection d) Chronic osteomyelitis	K/S	K/KH/ SH	Y	LGT,SGT,Video assistedlecture	Written/Vivavoce/ OSCE	
OR3.2	Participate as a member in team for aspiration of joints under supervision	K/S/A/C	SH	Y	Small group Discussion.DOAP	Vivavoce/OSCE/ Skills assessment	
OR3.3	Participateasamemberinteamforcompetencieslikedrainageof abscess, sequestrectomy/ saucerisation and arthrotomy	K/S/A/C	SH	Y	DOAP,Video demonstration	Vivavoce/OSCE/ Skills assessment	
Topic 4: Skeletal Tuberculosis Number of competencies : (01) Number of competencies that require certification: NIL							
OR4.1	Describe and discuss the clinical features, Investigation and principlesofmanagementofTuberculosisaffectingmajorjoints (Hip, Knee) including cold abscess and caries spine	K	K/KH	Y	LGT,SGT,Case discussion	Written/Vivavoce/ OSCE	
Topic 5:Rheumatoid Arthritis and associated inflammatory disorders Number of competencies:(01) Number of competencies that require certification:(NIL)							
OR5.1	Describe how to approach to a case of poly arthritis discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints like rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis.	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
Topic 6: Degenerative disorders Number of competencies:(01) Number of competencies that require certification:(NIL)							

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR6.1	Enumerate the causes of low back pain, Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID)	K	K/KH	Y	LGT,SGT,Case discussion	Written/Vivavoce/ OSCE	
Topic 7: Metabolic bone disorders Number of competencies:(01) Number of competencies that require certification:(NIL)							
OR7.1	Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease. Discuss the deformities in rickets and their management.	K	K/KH	Y	LGT,SGT, Case discussion	Written/Vivavoce/ OSCE	
Topic 8: Poliomyelitis Number of competencies:(01) Number of competencies that require certification:(NIL)							
OR8.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post-Polio Residual Paralysis	K	K/KH	Y	LGT,SGT, Case discussion	Written/Vivavoce/ OSCE	
Topic 9: Cerebral Palsy Number of competencies:(01) Number of competencies that require certification:(NIL)							
OR9.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient	K	K/KH	Y	LGT,SGT	Written/Vivavoce/ OSCE	
Topic 10: Bone Tumors Number of competencies:(01) Number of competencies that require certification:(NIL)							
OR10.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumors and pathological fractures	K	K/KH	Y	LGT,SGT, Video assisted interactive lecture	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
Topic 11: Peripheral nerve injuries		Number of competencies:(01)		Number of competencies that require certification:(NIL)			
OR11.1	Describe the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries. Discuss the management of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerve injuries. Demonstrate splints used in footdrop, wristdrop and clawhand.	K	K/H	Y	LGT,SGT, case discussion	Written/Vivavoce/ OSCE	
Topic 12: Congenital lesions		Number of competencies:(01)		Number of competencies that require certification:(NIL)			
OR12.1	Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. Limbs and spine-Scoliosis and spinal bifida b. Congenital dislocation of Hip, Torticollis, c. Congenital talipes equinovarus	K	KH	Y	LGT,SGT	Written/Vivavoce/ OSCE	
Topic 13: Procedural Skills		Number of competencies:(02)		Number of competencies that require certification:(NIL)			
OR13.1	Participate in a team for competencies in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. Splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma	S/A	KH/ SH	Y	Case discussion, Video assisted LGT,SGT, Teaching, Skill lab sessions	OSCE with Simulation based assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR13.2	Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following: (a) I.V. access central-peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage	S/A	KH/ SH	Y	Case discussion, Video assisted LGT,SGT, Teaching, Skill lab sessions	OSCE with Simulation based assessment	
Topic 14: CounsellingSkills Number of competencies:(03) Number of competencies that require certification:(NIL)							
OR14.1	Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. Fractures with disabilities b. Fractures that require prolonged bed stay c. Bone tumors d. Congenital disabilities	K/S/A/C	KH/ SH	Y	Case discussion, Video assisted lecture, SGT, Teaching, Skills lab sessions	OSCE withSimulation based assessment	
OR14.2	Demonstrate the ability to counsel patients to obtain consent for various orthopedic competencies like limb amputation, permanent fixations etc..	K/S/A/C	KH/ SH	Y	Case discussion, Video assisted LGT,SGT, Teaching, Skills lab sessions	OSCE with Simulation based assessment	
OR14.3	Demonstrate the ability to convince the patient for referral to a higher center in various orthopedic illnesses like acute osteomyelitis. septic arthritis, neurovascular injuries and low back pain with red flags, based on the detection of warning signals and need for appropriate management	K/S/A/C	KH/ SH	Y	Case discussion, Video assistedLGT,SGT, Teaching, Skills lab sessions	OSCE with Simulation based assessment	
OR14.4	Describe various amputations of the lower limb. Discuss the ideal stump and various prosthesis used in rehabilitation of patient with below knee amputation.	K/A	K/KH	Y	LGT, small group discussion/ bed side clinic	OSCE, Clinical case presentation	

ANAESTHESIOLOGY (CODE: AS)

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
ANAESTHESIOLOGY (Topics:11, Competencies: 52)							
Topic 1: Anaesthesiology as a specialty		Number of competencies: (04)		Number of competencies that require certification: (NIL)			
AS1.1	Describe the evolution of Anaesthesiology as a modern specialty	K	K	N	LGT	Written/ Viva voce	
AS1.2	Describe the roles of Anaesthesiologist in the medical profession (including as a peri-operative physician, in the intensive care and high dependency units, in the management of acute and chronic pain, including labour analgesia, in the resuscitation of acutely ill)	K	K	N	LGT	Written/ Viva voce	
AS1.3	Enumerate and describe the principle of ethics as it relates to Anaesthesiology	K	K	N	LGT	Written/ Viva voce	
AS1.4	Describe the prospects of Anaesthesiology as a career	K	K	N	LGT	Written/ Viva voce	
Topic 2: Cardiopulmonary resuscitation		Number of competencies: (02)		Number of competencies that require certification : (02)			
AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates	K/S	SH	N	DOAP	Skill assessment	2
AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children	S	SH	N	DOAP	Skill assessment	2
Topic 3: Preoperative evaluation and medication		Number of competencies: (06)		Number of competencies that require certification : (02)			
AS3.1	Describe the principles of preoperative evaluation	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	S	SH	Y	DOAP, Bedside clinic	Skill station	2
AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	2

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	
AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	S	SH	Y	DOAP, Bedside clinic	Skill station	
AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	
Topic 4: General Anaesthesia		Number of competencies:(07)		Number of competencies that require certification : (NIL)			
AS4.1	Describe and discuss the pharmacology of drugs used in induction and maintenance of general anaesthesia (including intravenous and inhalation induction agents, opiate and non-opiate analgesics, depolarising and non depolarising muscle relaxants, anticholinesterases)	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS4.2	Describe the anatomy of the airway and its implications for general Anaesthesia	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.4	Observe and describe the principles and the steps/ techniques in maintenance of vital organ functions in patients undergoing surgical competencies	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.5	Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.6	Observe and describe the principles and the steps/ techniques involved in day care anesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.7	Observe and describe the principles and the steps/ techniques involved in anaesthesia outside the operating room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 5: Regional anaesthesia		Number of competencies:(06)		Number of competencies that require certification: (NIL)			
AS5.1	Enumerate the indications for and describe the principles of regional anaesthesia (including spinal, epidural and combined)	K	KH	Y	LGT, SGT	Written/ Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS5.2	Describe the correlative anatomy of the brachial plexus, subarachnoid and epidural spaces	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS5.3	Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.4	Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.5	Observe and describe the principles and steps/ techniques involved in caudal epidural in adults and children	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks)	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 6: Post-anaesthesia recovery		Number of competencies: (03)		Number of competencies that require certification: (NIL)			
AS6.1	Describe the principles of monitoring and resuscitation in the recovery room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS6.2	Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS6.3	Describe the common complications encountered by patients in the recovery room, their recognition and principles of management	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 7: Intensive Care Management		Number of competencies: (05)		Number of competencies that require certification: (NIL)			
AS7.1	Visit, enumerate and describe the functions of an Intensive Care Unit	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.2	Enumerate and describe the criteria for admission and discharge of a patient to an ICU	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.3	Observe and describe the management of an unconscious patient	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.4	Observe and describe the basic setup process of a ventilator	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.5	Observe and describe the principles of monitoring in an ICU	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 8: Pain and its management		Number of competencies: (05)		Number of competencies that require certification: (NIL)			
AS8.1	Describe the anatomical correlates and physiologic principles of Pain	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.2	Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS8.3	Describe the pharmacology and use of drugs in the management of pain	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.4	Describe the principles of pain management in palliative care	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.5	Describe the principles of pain management in the terminally ill	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 9: Fluids		Number of competencies: (04)		Number of competencies that require certification: (NIL)			
AS9.1	Establish intravenous access in a simulated environment	S	KH	Y	SGT, DOAP	Skill assessment	
AS9.2	Establish central venous access in a simulated environment	S	KH	Y	SGT, DOAP	Skill assessment	
AS9.3	Describe the principles of fluid therapy in the preoperative period	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 10: Patient safety		Number of competencies:(04)		Number of competencies that require certification: (NIL)			
AS10.1	Enumerate the hazards of incorrect patient positioning	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.2	Enumerate the hazards encountered in the perioperative period and steps/techniques taken to prevent them	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.3	Describe the role of communication in patient safety	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.4	Define and describe common medical and medication errors in anaesthesia	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
Topic 11: Oxygen Delivery Devices, Oxygen Therapy and Airway Management		Number of Competencies: 06		Number of competencies that require certification:0 6			
AS11.1	Describe oxygen delivery devices - nasal cannulas, simple face masks, Venturi masks non-rebreathing masks, BVM, and HFNC. Understand the indications in accordance with clinical scenarios. Demonstrate correct setup and usage of oxygen delivery devices ensuring patient safety and device efficiency.	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	
AS11.2	Describe the principles of oxygen therapy, importance of FiO2, flow rate adjustment, monitoring and safety precautions during oxygen therapy.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.3	Describe and demonstrate the techniques of opening the airway (head tilt, chin lift, jaw thrust) in a simulated environment.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.4	Observe and demonstrate correct insertion of oropharyngeal and nasopharyngeal airways.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.5	Enumerate the indications of advanced airway management. Describe the steps and demonstrate in a simulated environment -	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
	manual ventilation by BVM, Endotracheal intubation, and LMA insertion.						
AS11.6	Ventilation Techniques Explain the principle and settings of mechanical ventilation.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	

RADIODIAGNOSIS (CODE: RD)

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
RADIODIAGNOSIS (Topics:7, Competencies: 21)							
Topic 1: General principles of imaging equipment		Number of competencies:(01)		Number of competencies that require certification: (NIL)			
RD1.1	Knowledgeable about the general principles of functioning of imaging modalities such as Plain Xray, Fluoroscopy, CT, Ultrasound, Nuclear medicine modalities (bone scan, PET) and MRI, to the extent that they would be able to (a) exhibit mindful behavior regarding the potential hazards associated with each imaging modality (b) make rational choices about the appropriateness of the modality for a particular purpose, such as what will be seen better in which modality (E.g.: air containing structures would be imaged better in x-ray than in ultrasound)	K,A	SH	Y	Hospital rounds demonstrating equipment and signages, Case based interactive lecture or case-based discussion for modality selection	Written, viva voce	
Topic 2: Rational choice of modality for a patient		Number of competencies:(02)		Number of competencies that require certification: (NIL)			
RD2.1	Obtain relevant clinical history to select patients for imaging modalities, in order to determine suitability for radiation exposure/contrast administration/exposure to magnetic fields (including allergies, renal function, pregnancy, implanted devices)	K,C	SH	Y	Case scenario-based discussions in lecture, SGT for history taking	Direct observation, OSCE	
RD2.2	Select the correct imaging modality and procedure for broad pathology type (infections, tumour, trauma, congenital), body part/system (CNS, head and neck, chest, abdomen and extremities) in adults, children and pregnancy women, mindful of unique needs of pediatric patients with respect to radiation and sedation.	K,A	SH	Y	Case scenario-based discussion in lecture, SGT	Written, viva voce	
Topic 3: Safety and legal requirements		Number of competencies:(04)		Number of competencies that require certification: (NIL)			
RD3.1	Awareness of different types of radiation and the stochastic and	K,A	K	Y	Flipped classroom, SDL	Written, viva voce	

	non-stochastic hazards of radiation in human beings (acute and long-term)						
RD3.2	Knowledgeable about best practices (time, distance and shielding) and provisions to keep x-ray exposure ALARA (as low as reasonably achievable) in clinical practice of radiology and general principles to be followed as per AERB regulatory guidelines	K,A	KH	Y	LGT	Written, viva voce	
RD3.3	Knowledgeable about monitoring radiation exposure in health care workers with dosimeter such as thermoluminescent dosimeter and awareness of the units to measure radiation exposure in human Beings	K,A	K	N	Demonstration of TLD badge, SDL	Written, viva voce	
RD3.4	Knowledgeable about the purpose and components of the PC-PNDT act relevant to a primary care physician	K,A	K	Y	LGT	Viva voce	
Topic 4: Interdisciplinary communication and interaction		Number of competencies:(03)			Number of competencies that require certification: (NIL)		
RD4.1	Collaborate with imaging specialists for optimum patient care - provide relevant and clear clinical information in requisitions for imaging, convey appropriate clinical urgency to facilitate correct scheduling of patients for imaging, clarify from imaging specialists when in doubt about appropriateness of imaging procedure	K,A,C	SH	Y	SGT	Written, viva voce	
RD4.2	Apply appropriate safety measures when transporting critically ill patients for imaging competencies such as checking adequacy of oxygen cylinder, following correct precautions in MRI room.	K,A	SH	Y	SGT	Viva voce, Written	
RD4.3	For diseases that can be encountered by primary care physician such as osteoarthritis (x-ray), deep vein thrombosis, cholecystitis, apply anatomical-radiological-pathophysiology correlations as a basis of clinical reasoning and inter-disciplinary communication	K,C	KH	N	SGT	Viva voce	
Topic 5: Image interpretation		Number of competencies:(04)			Number of competencies that require certification: (NIL)		
RD5.1	Interpretation of normal X-ray images of the Chest, Abdomen, Musculoskeletal system by identifying normal structures in Chest X-ray, Abdominal X-ray, Musculoskeletal X-ray (upper limbs, lower limbs, spine), PNS – Water's view in adults; normal neonatal Chest x-ray (thymic shadow identification); normal joint x-ray in children (epiphysis and growth plate identification)	K	P	Y	Image based LGT	Written, OSCE	
RD5.2	Age estimation from X-rays by selecting and using appropriate reference standards	K	SH	Y	SDL	Written, OSCE	
RD5.3	Image interpretation of emergency conditions in Chest Xray, Abdominal Xray and skeletal X-rays such as pneumoperitoneum,	K	P	Y	SGT, Clinics	Written, viva voce, OSCE	

	acute fracture, differentiating acute from chronic fracture etc.						
RD5.4	Image interpretation of normal/abnormal position of devices in the Chest X-ray of adult and pediatric ICU patients	K	P	Y	SGT, Clinics	Written, OSCE/OSPE	
Topic 6: Patient preparation for imaging competencies		Number of competencies (01)		Number of competencies that require certification: (NIL)			
RD6.1	Ability to provide written and verbal instructions tailored to the patient and imaging procedure such as fasting requirement, medication adjustments, bowel preparation	K,C,A	SH	Y	LGT, SGT	Viva voce, case-based questions	
Topic 7: Role of imaging in hospital specialties		Number of competencies:(06)		Number of competencies that require certification: (NIL)			
RD7.1	Integrate provided imaging findings and description of appearances in the management of PCOD, ectopic pregnancy, evaluation of infertility in the Obstetrics and Gynecology Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.2	Integrate provided imaging findings and description of appearances in the management of ASOM/CSOM, evaluation of sensorineural hearing loss in the ENT Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.3	Integrate provided imaging findings and description of appearances in the management of stroke (CT brain), pulmonary embolism, findings associated with cardiac failure and liver parenchymal diseases in the Internal Medicine Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.4	Integrate provided imaging findings and description of appearances in the management of head injuries, hernia with strangulation, appendicitis and intestinal obstruction in the Surgery Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.5	Integrate provided imaging findings and description of appearances in the management chest infections, foreign body aspiration, Urinary Tract Infection in the Paediatrics Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.6	Integrate provided imaging findings and description of appearances in the screening for breast cancer and management of breast cancer patients.	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	