Subject: General Surgery
Clinical Postings

Learner -Doctor Programme (clinical clerkship)

Phase II

- History taking
- General Examination
- Local Examination with demonstration of signs.
- Psychomotor Skills
- AETCOM of Phase II

Phase III/ I

- All of Phase II plus
- Psychomotor Skills
- Differential diagnosis
- Investigations
- AETCOM of Phase III Part I

Phase III/ II

- All of Phase III Part I plus
- Psychomotor Skills
- Management
- Counselling
- AETCOM Phase III/ Part II

-There shall be end post exam at the end of 1st, 2nd and 3rd clinical posting which will be added to internal assessment for practicals.
-At the end of 4th clinical posting of 4 weeks there will be only formative assessment.

Subject: General Surgery
Lectures

MBBS Phase II-
Total Teaching hours: 25 hours

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
			Lecture: 1		
1.	**Introductory Lecture**		Welcome History of surgery Introduction to surgery and allied subjects Teaching, Learning & Assessment -CBME		1
2.	**Metabolic Response to Injury**		**Lecture**: 2		
		SU 1.1			1
			Describe basic concepts of homeostasis, enumerate the metabolic changes in injury and their mediators.	Physiology and Biochemistry	
		SU 1.2	**Lecture**: 3		1
			Describe the factors that affect the metabolic responses to injury.	Biochemistry	
3.	**Shock**				
		SU 2.1	**Lecture**: 4		1
		PA6.3	Describe Pathophysiology of shock, types of shock and principles of resuscitation including fluid replacement and monitoring. Define and describe shock, its pathogenesis and its stages	Pathology and Physiology	
		SU 2.2	**Lecture**: 5		1
			Describe the clinical features of shock and its appropriate treatment		

4.	**Blood and blood components**				
		SU 3.1	**Lecture**: 6		1
		PA22.4	Describe the indications and appropriate use of blood and blood products and complications of blood transfusion. Enumerate blood components and describe their clinical uses	Pathology	
5.	**Burns**				
		SU 4.1	**Lecture**: 7		1
			Describe pathophysiology of burns. Describe clinical features, diagnose type and extent of burns.	Physiology	
		SU 4.2, 4.3	**Lecture**: 8		1
			Plan appropriate treatment of burns. Discuss medicolegal aspect in burns injuries.		
6.	**Wound healing and wound care**				
		SU 5.1	**Lecture**: 9		1
		PA5.1 PA4.1 PA4.2	Describe normal wound healing and factors affecting healing. Define and describe the process of repair and regeneration including wound healing and its types Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events Enumerate and describe the mediators of acute inflammation	Pathology	
		SU 5.3	**Lecture**: 10		1
			Differentiate the various types of wounds, plan and observe management of wounds.		
7.	**Surgical Infections**				
		SU 6.1	**Lecture**: 11		1
			Define and describe the etiology and pathogenesis of surgical infections	Microbiology	

		SU 6.1	**Lecture**: 12		1
			Define and describe the etiology and pathogenesis of surgical infections- HIV-AIDS, Hepatitis, Gas Gangrene etc.	Microbiology	
		SU 6.2	**Lecture**: 13		1
			Enumerate prophylactic and therapeutic antibiotics. Plan appropriate management.		
8.	**Investigations of a surgical patient**				
		SU 9.1	**Lecture**: 14		1
		PA8.1 PA8.2 MI7.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient. Describe the diagnostic role of cytology and its application in clinical care. Describe the basis of exfoliative cytology including the technique, stains used Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	Biochemistry, Microbiology and Pathology	
9.	**Nutrition and fluid therapy**				
		SU 12.1	**Lecture**:15		1
			Enumerate the causes and consequences of malnutrition in the surgical patient.	Physiology	
		SU 12.2	**Lecture**:16		1
			Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patients.	Physiology	
		SU 12.3	**Lecture**:17		1

			Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications.	Biochemistry	
10.	**Transplantation**				
		SU 13.1	**Lecture**: 18		1
			Describe the immunological basis of organ transplantation.	Microbiology	
		SU 13.2	**Lecture**: 19		1
			Discuss the principles of immunosuppressive therapy. Enumerate Indications, describe surgical principles, management of organ transplantation	Microbiology, Pharmacology	
11.	**Basic surgical skills**				
		SU 14.1	**Lecture**: 20		1
		MI1.4 MI1.5	Describe Aseptic techniques, sterilisation and disinfection. Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	Microbiology	
12.	**Biohazard disposal**				
		SU 15.1	**Lecture**: 21		1
		MI8.7	Describe classification of hospital waste and appropriate methods of disposal. Demonstrate Infection control practices and use of Personal Protective Equipment (PPE)	Microbiology	
13.	**Trauma**				
		SU 17.1	**Lecture**: 22		1
			Describe the principles of first aid.		
		SU 17.2	**Lecture**: 23		1

			Basic Life Support	Anaesthesiology	
14.	**Skin and Subcutaneous tissue**				
		SU 18.1, SU 18.2, 18.3	**Lecture**: 24		1
			Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections. Describe clinical examination of surgical patient including swelling and discuss investigations for diagnosis and treatment plan. Classify skin tumours. Differentiate different skin tumours and discuss their management.		
15.	**Vascular diseases**				
		SU27.1	**Lecture**: 25		1
			Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.		

MBBS Phase III- Part I
Total Teaching hours: 25 hours

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Metabolic response to injury**				
		SU1.3	**Lecture**: 1		1
			Describe basic concepts of postoperative care.		
2.	**Surgical Audit and Research**				
		SU7.1.7.2	**Lecture**: 2		1
			Describe the planning and conduct of surgical audit Describe the principles and steps of clinical research in General Surgery	Community Medicine	
3.	**Ethics**				
		SU8.1, 8.2	**Lecture**: 3		1
		AS10.3	Describe the principles of Ethics as it pertains to General Surgery and demonstrate professionalism and empathy to the patient undergoing general surgery Describe the role of communication in patient safety	Forensic Medicine, AETCOM	
		SU9.2	**Lecture**: 4		1
			Biological basis for early detection of cancer and multidisciplinary approach in management of cancer		
4.	**Pre, intra and post-operative management**.				
		SU10.1	**Lecture**: 5		1
			Describe the principles of perioperative management of common	AETCOM	
			surgical procedures and Describe the steps and obtain informed consent in a simulated environment		

		IM5.13, IM15.9	Enumerate the indications for ultrasound and other imaging studies including MRCP and ERCP and describe the findings in liver disease. Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, PT and PTT, stool examination, occult blood, liver function tests, H.pylori test.		
5.	**Anaesthesia and pain management**				
		SU11.1, 11.5	**Lecture**: 6		1
		AS3.1, AS5.6	Describe principles of Preoperative assessment. Describe principles of providing post-operative pain relief and management of chronic pain. Describe the principles of preoperative evaluation. Observe and describe the principles and steps/ techniques involved S in common blocks used in Surgery(including brachial plexus blocks)	Anaesthesiology	
		SU11.6	**Lecture**: 7		1
		AS3.2	Describe Principles of safe General Surgery Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	Anaesthesiology	
6.	**Transplantation**				
		SU13.4	**Lecture**: 9		1
			Counsel patients and relatives on organ donation in a simulated Environment Enumerate the indications for hepatic transplantation	AETCOM	
7.	**Basic Surgical Skills**				
		SU14.2	**Lecture**: 10		1
			Describe Surgical approaches, incisions and the use of appropriate instruments in Surgery in general.		
		SU14.3	**Lecture**: 11		1
			Describe the materials and methods used for surgical wound closure and anastomosis (sutures, knots and needles)		

8.	**Trauma**				
		SU17.2	**Lecture**: 12		1
			Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment	Anaesthesiology	
9.	**Developmental anomalies of face, mouth and jaws**				
		SU19.1, 19.2	**Lecture**: 13		1
			Describe the etiology and classification of cleft lip and palate. Describe the Principles of reconstruction of cleft lip and palate.	Human Anatomy	
10.	**Oropharyngeal cancer**				
		SU20.1, SU20.2	**Lecture**: 14		1
			Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer. Enumerate the appropriate investigations and discuss the Principles of treatment and reconstructive flap	ENT	
		DE 4.1, DE 4.2, DE 4.3, DE 4.4	**Lecture**: 15		1
			Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity. Discuss the role of etiological factors in the formation of precancerous /cancerous lesions. Identify potential pre-cancerous /cancerous lesions. Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors.		
11.	**Disorders of salivary glands**				
		SU21.1	**Lecture**: 16		1
		AN28.9 , AN34.1 ,	Describe surgical anatomy of the salivary glands, pathology clinical presentation of disorders of salivary glands Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct		

			and surgical importance. Describe & demonstrate the morphology, relations and nerve supply		
		SU21.2	**Lecture**: 17		1
			Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands		
12.	**Thyroid and Parathyroid Glands**				
		SU22.1, 22.2	**Lecture**: 18		1
		AN35.2 PA32.1, IM12.13, IM12.15	Describe the applied anatomy and physiology of thyroid. Describe the etiopathogenesis of thyroidal swellings. Describe the etiopathogenesis of thyroidal swellings. Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings, Describe the pharmacology, indications, adverse reaction, interactions of thyroxine and antithyroid drugs. Describe and discuss the indications of thionamide therapy, radio iodine therapy and Surgery in the management of thyrotoxicosis	Human Anatomy, Pathology	
		SU22.4	**Lecture**: 19		1
			Describe the clinical features, classification and principles of management of thyroid cancer		
		SU22.5	**Lecture**: 20		1
		IM22.2	Describe the applied anatomy of parathyroid. Describe and discuss the clinical features of hypo - and hyperparathyroidism and the principles of their management Describe the aetiology, clinical manifestations, diagnosis and clinical approach to primary hyperparathyroidism	Human Anatomy	
13.	**Adrenal Glands**				
		SU23.1, 23.2, 23.3	**Lecture**: 21		1

			Describe the applied anatomy of adrenal glands. Describe the etiology, clinical features and principles of management of disorders of adrenal gland. Describe the clinical features, principles of investigation and management of Adrenal tumours	Human Anatomy	
14.	**Breast**				
		SU25.1	**Lecture**: 22		1
		PA31.1	Describe applied anatomy and appropriate investigations for breast disease Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	Human Anatomy	
		SU25.2	**Lecture**: 23		1
		PA31.2	Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the breast. Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast		
		SU 25.3	**Lecture**: 24		1
			Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	Radiodiagnosis	
15.	**Vascular diseases**				
		SU 27.1	**Lecture**: 25		
		AN19.3, AN20.5 AN20.9	Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease. Explain the concept of "Peripheral heart. Explain anatomical basis of varicose veins and deep vein thrombosis. 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		

MBBS Phase III- Part II
Total Teaching hours: 70 hours

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Anaesthesia and Pain Management**				
		SU 11.2	**Lecture**: 1		1
		AS5.6	Enumerate the principles of general, regional and local anaesthesia. Observe and describe the principles and steps/ techniques involved in common blocks used in Surgery (including brachial plexus blocks)	Anaesthesiology	
		SU 11.4	**Lecture**: 2		1
			Enumerate the indications and principles of day care General Surgery.	Anaesthesiology	
		SU 16.1	**Lecture**: 3		1
			Minimal Invasive General Surgery: Describe indications, advantages and disadvantages of Minimally Invasive General Surgery.		
2.	**Trauma**				
		SU 17.4, 17.5, 17.6	**Lecture**: 4		1
			Describe pathophysiology, mechanism of head injuries. Describe clinical features for neurological assessment and GCS in head injuries. Choose appropriate investigations and discuss the principles of management of head injuries.		

		SU 17.7	**Lecture**: 5		1
			Describe the clinical features of soft tissue injuries. Choose appropriate investigations and discuss the principles of management.		
		SU 17.8, 17.9	**Lecture**: 6		1
			Describe pathophysiology of chest injuries. Describe the clinical features and principles of management of chest injuries.		
		SU17.3	**Lecture**: 7		1
			Describe pathophysiology of Abdominal injuries. Describe the clinical features and principles of management of Abdominal injuries.		
3.	**Pancreas**				
		SU 24.1	**Lecture**: 8		1
		AN55.2	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis. Demonstrate the surface projections of: stomach, liver, fundus of gall bladder, spleen, duodenum, pancreas, ileocecal junction, kidneys & root of mesentery	Human Anatomy	
		SU 24.2	**Lecture**: 9		1
			Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumours.		
		SU 24.3	**Lecture**: 10		1
			Describe the principles of investigation and management of pancreatic disorders including pancreatitis and endocrine tumours.		
4.	**Cardio-thoracic General Surgery- Chest- Heart and Lungs**				
		SU 26.1, 26.2	**Lecture**: 11		1

			Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases, diseases of Thorax and Diaphragm		
		SU 26.3	**Lecture**: 12		1
			Describe the clinical features of mediastinal diseases and the principles of management.		
		SU 26.4	**Lecture**: 13		1
			Describe the etiology, pathogenesis, clinical features of tumors of the lung and the principles of management.		
5.	**Vascular Diseases**				
		SU 27.1	**Lecture**: 14		1
			Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.		
		SU 27.2, 27.3, 27.4	**Lecture**: 15		1
			Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease. Describe clinical features, investigations and principles of management of vasospastic disorders. Describe the types of gangrene and principles of amputation.		
		SU 27.5, 27.6	**Lecture**: 16		1
		AN20.5	Describe the applied anatomy of the venous system of lower limb. Explain anatomical basis of varicose veins and deep vein thrombosis	Human Anatomy	
		SU 27.7	**Lecture**: 17		1
			Describe pathophysiology, clinical features, Investigations and principles of management of lymph edema, lymphangitis and lymphomas. Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system		
6.	**Abdomen**				

		SU 28.1	**Lecture**: 18		1
		AN44.4 AN44.5	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle. Explain the anatomical basis of inguinal hernia.	Human Anatomy	
		SU 28.1	**Lecture**: 19		1
			Describe pathophysiology, clinical features, Investigations and principles of management of Hernias	Human Anatomy	
		SU 28.1	**Lecture**: 20		1
		AN44.6	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias Describe & demonstrate attachments of muscles of anterior abdominal wall	Human Anatomy	
		SU 28.1	**Lecture**:21		1
		AN44.7	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias Enumerate common Abdominal incisions	Human Anatomy	
		SU 28.3	**Lecture**: 22		1
		AN47.2 AN47.3 AN47.4	Describe causes, clinical features, complications and principles of management of peritonitis and omental pathologies Name & identify various peritoneal folds & pouches with its explanation. Explain anatomical basis of Ascites & Peritonitis Explain anatomical basis of Subphrenic abscess	Human Anatomy	
		SU 28.4	**Lecture**: 23		1
		AN47.4	Describe pathophysiology, clinical features, investigations and K principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors Explain anatomical basis of Subphrenic abscess		
		SU 28.5	**Lecture**: 24		1
		AN23.1	Describe the applied Anatomy and physiology of esophagus Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of	Human Anatomy, Physiology	

			oesophagus		
		SU 28.6	**Lecture**: 25		1
			Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus		
		SU 28.7	**Lecture**: 26		1
		AN47.6 AN47.1	Describe the applied anatomy and physiology of stomach 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 Describe & identify boundaries and recesses of Lesser & Greater sac	Human Anatomy	
		SU 28.8	**Lecture**: 27		1
			Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophic pyloric stenosis, Peptic ulcer disease, Carcinoma stomach		
		SU 28.10	**Lecture**: 28		1
		   AN47.4 AN47.6	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 Explain anatomical basis of Subphrenic abscess Liver biopsy (site of needle puncture), referred pain in cholecystitis, Obstructive jaundice	Human Anatomy	
		SU 28.10	**Lecture**: 29		1
			Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumours of the liver	Human Anatomy	

		SU 28.10	**Lecture**: 30		1
		AN47.3	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 Explain anatomical basis of Ascites & Peritonitis	Human Anatomy	
		SU 28.11	**Lecture**: 31		1
		AN47.6	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis – prophylaxis Explain the anatomical basis of Splenic notch, accessory spleens, Kehr's sign	Human Anatomy	
		SU 28.12	**Lecture**: 32		1
		AN47.7	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system Mention the clinical importance of Calot's triangle	Human Anatomy	
		SU 28.12	**Lecture**: 33		1
			Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system	Human Anatomy	
		SU 28.12	**Lecture**: 34		1
		AN47.10 AN47.11	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system Enumerate the sites of portosystemic anastomosis Explain the anatomic basis of hematemesis & caput medusae in portal hypertension	Human Anatomy	

		SU 28.13, 28.14	**Lecture**: 35		1
		AN52.6	Describe the applied anatomy of small and large intestine Describe the development and congenital anomalies of foregut, midgut & hindgut	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 36		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 37		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 38		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 39		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 40		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.13, 28.14	**Lecture**: 41		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	Human Anatomy	
		SU 28.15	**Lecture**: 42		1

			Describe the clinical features, investigations and principles of management of diseases of Appendix including appendicitis and its complications.		
		SU 28.16	**Lecture**: 43		1
		AN49.4	Describe applied anatomy including congenital anomalies of the rectum and anal canal Describe & demonstrate boundaries, content & applied anatomy of Ischiorectal fossa	Human Anatomy	
		SU 28.16	**Lecture**: 44		1
		AN48.8	Describe applied anatomy including congenital anomalies of the rectum and anal canal Mention the structures palpable during vaginal & rectal examination	Human Anatomy	
		SU 28.17	**Lecture**: 45		1
			Describe the clinical features, investigations and principles of management of common anorectal diseases		
		SU 28.17	**Lecture**: 46		1
			Describe the clinical features, investigations and principles of management of common anorectal diseases		
7.	**Urinary System**				
		SU 29.1	**Lecture**: 47		1
			Describe the causes, investigations and principles of management of Hematuria		
		SU 29.2	**Lecture**: 48		1
		AN52.7	Describe the clinical features, investigations and principles of management of congenital anomalies of genitourinary system Describe the development of urinary system	Human Anatomy	
		SU 29.3	**Lecture**: 49		1
		MI7.1	Describe the Clinical features, Investigations and principles of management of urinary tract infections Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	Microbiology	
		SU 29.4	**Lecture**: 50		1

			Describe the clinical features, investigations and principles of management of hydronephrosis		
		SU 29.5	**Lecture**: 51		1
			Describe the clinical features, investigations and principles of management of renal calculi		
		SU 29.5	**Lecture**: 52		1
			Describe the clinical features, investigations and principles of management of renal calculi		
		SU 29.6	**Lecture**: 53		1
			Describe the clinical features, investigations and principles of management of renal tumours		
		SU 29.7	**Lecture**: 54		1
			Describe the principles of management of acute and chronic retention of urine		
		SU 29.8	**Lecture**: 55		1
			Describe the clinical features, investigations and principles of management of bladder cancer		
		SU 29.9	**Lecture**: 56		1
		AN48.7	Describe the clinical features, investigations and principles of management of disorders of prostate Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer	Human Anatomy	
		SU 29.10	**Lecture**: 57		1
			Describe clinical features, investigations and management of urethral strictures and urethral injuries		
8.	**Penis, Testis and scrotum**				
		SU 30.1	**Lecture**: 58		1
		AN46.5	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis. Explain the anatomical basis of Phimosis & Circumcision	Human Anatomy	
		SU 30.1	**Lecture**: 59		1

			Describe the clinical features, investigations and principles of management of carcinoma penis.		
		SU 30.2, 30.3	**Lecture**: 60		1
		AN46.1	Describe the applied anatomy clinical features, investigations and principles of management of undescended testis. Describe the applied anatomy clinical features, investigations and principles of management of epidydimo-orchitis Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy	Human Anatomy	
		SU 30.4, 30.5	**Lecture**: 61		1
		AN46.4	Describe the applied anatomy clinical features, investigations and principles of management of varicocele and hydrocoele Explain the anatomical basis of varicocele	Human Anatomy	
		SU 30.6	**Lecture**: 62		1
			Describe classification, clinical features, investigations and principles of management of benign tumours of testis.		
		SU 30.6	**Lecture**: 63		1
			Describe classification, clinical features, investigations and principles of management of malignant tumours of testis.		
9.			**Lecture**: 64		1
			Revision **Lecture** 1		
10.			**Lecture**: 65		1
			Revision **Lecture** 2		
11.			**Lecture**: 66		1
			Revision **Lecture** 3		
12.			**Lecture**: 67		1
			Revision **Lecture** 4		
13.			**Lecture**: 68		1
			Revision **Lecture**5		

14.			**Lecture**: 69		1
			Revision **Lecture** 6		
15.			**Lecture**: 70		1
			Revision **Lecture** 7		

Subject: General Surgery
Self-Directed Learning

MBBS phase III/I
Total Teaching hours : 5 hours
***These are suggested topics which can be modified at institutional level**

Sr. No.	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Ethics**				
		SU8.1	SDL:1		3
			Describe the principles of Ethics as it pertains to General Surgery. Demonstrate Professionalism and empathy to the patient.		
2.	**Transplantation**				
		SU13.3	SDL:2		2
			Discuss the legal and ethical issues concerning organ donation. Counsel patients and relatives on organ donation in a simulated.		

MBBS phase III/II

Total Teaching hours : 15 hours

***These are suggested topics which can be modified at institutional level**

Sr. No	TOPICS	COMPETENCIES	SUBTOPICS	HOURS
1.	**Thyroid**			
		SU 22.2, SU 22.3, SU22.4	SDL:1	4
			Describe the etiopathogenesis of thyroidal swellings. Demonstrate and document the correct clinical examination of thyroid swellings and discus the differential diagnosis and their management. Describe the clinical features, classification and principles of management of thyroid cancer	
2.	**Breast**			
		SU 25.2, SU 25.3	SDL:2	4
			Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the breast. Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	
3.	**Oral malignancy**			
		SU 20.1, SU 20.2	SDL:3	3
			Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer. Enumerate the appropriate investigations and discuss the Principles of treatment.	
4.	**Communication skills – Role play**			
		AETCOM	SDL:4	4

Subject: General Surgery
Small Group Discussion

MBBS phase III/I -

Small group teachings/ Tutorials/ Integrated teaching/ Practical's: 35 hours

- Competencies written in red (horizontal) and green (vertical) are of alignment and integration.
- 25 % of allotted time of the third professional shall be utilised for integrated learning with pre- and para-clinical subjects and shall be assessed during the clinical subject's examination.
- This allotted time will be utilised as integrated teaching by para- clinical subjects with clinical subjects (as Applied Anatomy, Clinical Pathology, Clinical Pharmacology, Clinical Microbiology, Radio diagnosis, Instruments, Operative Surgery, Communication skills etc.).

S. NO	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Metabolic response to injury**				
		SU1.3	SGD: 1		1
		AS3.1, AS9.3, AS9.4	Describe basic concepts of perioperative care- preoperative Describe the principles of preoperative evaluation Describe the principles of fluid therapy in the preoperative period	Anaesthesiology	

			Enumerate blood products and describe the use of blood products in the preoperative period		
		SU1.3	SGD: 2		1
			Describe basic concepts of perioperative care.- intraoperative	Anaesthesiology	
		SU1.3,	SGD: 3		1
		AS6.3	Describe basic concepts of perioperative care- postoperative Describe the common complications encountered by patients in the recovery room, their recognition and principles of management	Anaesthesiology	
2.	**Shock**				
		SU2.1,	SGD: 4		1
		PA6.3	Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring. Define and describe shock, its pathogenesis and its stages	Pathology, Physiology	
		SU2.2,	SGD: 5		1
		IM15.3	Describe the clinical features of shock and its appropriate treatment Describe and discuss the physiologic effects of acute blood and volume loss	General Medicine	
3.	**Blood and blood components**				
		SU3.2	SGD: 6		1
		PA22.4	Observe blood transfusions Enumerate blood components and describe their clinical uses	Pathology	
4.	**Burns**				

		SU4.1, SU4.2	SGD: 7		1
			Elicit document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns. Describe Clinical features, Diagnose type and extent of burns and plan appropriate treatment.	Physiology	
		SU4.3	SGD: 8		1
		FM2.25	Discuss the Medicolegal aspects in burn injuries. Describe types of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations		
					1
				Forensic Medicine	
5.	**Wound healing and wound care**				
		SU5.2, SU5.3	SGD: 9		1
			Elicit, document and present a history in a patient presenting with wounds. Differentiate the various types of wounds, plan and observe management of wounds.		
		SU5.4	SGD:10		1
			Discuss medico legal aspects of wounds		
					1
		FM3.3 , FM3.4	Mechanical injuries and wounds: Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/fabricated wounds and their	Forensic Medicine	

		, FM3.6	medico-legal aspects. Mechanical injuries and wounds: define injury, assault & hurt. Describe IPC pertaining to injuries Mechanical injuries and wounds:Describe healing of injury and fracture of bones with its medico-legal importance		
6.	**Surgical infections**				
		SU6.1	SGD:11		1
			Define and describe the aetiology and pathogenesis of surgical	Microbiology	
		MI7.1	Infections Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system		
		SU6.2	SGD:12		1
			Enumerate Prophylactic and therapeutic antibiotics		
			Plan appropriate management		
7.	**Surgical Audit and Research**				
		SU7.1, SU7.2	SGD:13		1
			Describe the Planning and conduct of Surgical audit Describe the principles and steps of clinical research in General Surgery	Community Medicine	
8.	**Ethics**				
		SU8.1 ,SU8.2	SGD:14		1
			Describe the principles of Ethics as it pertains to General Surgery Demonstrate Professionalism and empathy to the patient undergoing general surgery	Forensic Medicine, AETCOM	

9.	**Investigation of surgical patient**				
		SU9.1	SGD:15		1
			Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	Biochemistry,microbiology,pathology	
		SU9.2	SGD 16		
			Biological basis for early detection of cancer and multidisciplinary approach in management of cancer		
10.	**Pre, intra and post-operative management**.				
		SU10.1	SGD:17		1
			Describe the principles of perioperative management of common		
			surgical procedures		
11.	**Nutrition and fluid therapy**				
		SU12.1	SGD:18	Physiology,Biochemistry	1
			Enumerate the causes and consequences of malnutrition in the surgical patient		
		SU12.2	Describe and discuss the methods of estimation and replacement Of the fluid and electrolyte requirements in the surgical patient		

		SU12.3	Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications		
12.	**Transplantation**				
		SU13.3	SGD: 19	AETCOM	1
			Discuss the legal and ethical issues concerning organ donation		
13.	**Basic Surgical Skills**				
		SU14.2	SGD: 20		1
			Describe Surgical approaches, incisions and the use of appropriate instruments in Surgery in general.		
		SU14.3	SGD: 21		1
			Describe the materials and methods used for surgical wound		
			closure and anastomosis (sutures, knots and needles)		
14	**Biohazard Disposal**	SU15.1	SGD 22	Microbiology, Community medicine	1
		MI8.7	Describe **c**lassification of hospital waste and appropriate methods of disposal Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)		
15.	**Trauma**				
		SU17.3	SGD:23		1
			Describe the Principles in management of mass casualties		
16.	**Skin and Subcutaneous Tissue**		SGD 24		1
		SU18.1 SU18.2	Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections. Classify skin tumors		

		SU18.3	Differentiate different skin tumors and discuss their management. Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan.		
17.	**Developmental anomalies of face, mouth and jaws**				
		SU19.1, 19.2	SGD:25	Human Anatomy	1
			Describe the etiology and classification of cleft lip and palate. Describe the Principles of reconstruction of cleft lip and palate		
18	**Oropharyngeal carcinoma**		SGD 26	ENT	1
		SU20.1 SU20.2	Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer Enumerate the appropriate investigations and discuss the Principles of treatment		
19.	**Disorders of salivary glands**				
		SU21.1	SGD:27	Human Anatomy	1
		AN34.1 AN28.9	Describe surgical anatomy of the salivary glands, pathology, and clinical presentation of disorders of salivary glands Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion		

			Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance		
		SU21.2	SGD:28		1
			Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands		
20.	**Thyroid and Parathyroid Glands**				
		SU22.1, 22.2	SGD:29	Human anatomy, Pathology	1
		AN35.2	Describe the applied anatomy and physiology of thyroid. Describe the etiopathogenesis of thyroidal swellings. Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland		
		SU22.3	SGD:30		1
		PA32.1	Demonstrate and document the correct clinical examination of thyroid swellings and discus the differential diagnosis and their management Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings		
		SU22.4, SU22.5	SGD:31		1
		AN35.8	Describe the clinical features, classification and principles of management of thyroid cancer		

			Describe the applied anatomy of parathyroid Describe and discuss the clinical features of hypo - and hyperparathyroidism and the principles of their management Describe the anatomically relevant clinical features of Thyroid swellings		
21.	**Breast**				
		SU 25.1	SGD:32	Human anatomy, Radiodiagnosis	1
		AN9.2	Describe applied anatomy and appropriate investigations for breast disease Breast-Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast		
		SU 25.2	SGD:33		1
			Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the breast.		
22.	**Vascular diseases**				
		SU 27.1, 27.2, 27.3, 27.4	SGD:34	Human Anatomy	1
		AN20.9	Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease. Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease. Describe clinical features, investigations and principles of management of vasospastic disorders. Describe the types of gangrene and principles of amputation.		

			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		
		SU 27.5, 27.6, 27.7	SGD:35		1
		AN6.3 AN23.7	Describe the applied anatomy of venous system of lower limb. Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins. Describe pathophysiology, clinical features, investigations and principles of management of Lymph edema, lymphangitis and Lymphomas. Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system Mention the extent, relations and applied anatomy of lymphatic duct		

MBBS Phase III/II-

Small group teachings/ Tutorials/ Integrated teaching/ Practical's: 125 hours

- Competencies written in red (horizontal) and green (vertical) are of alignment and integration.
- 25 % of allotted time of the third professional shall be utilised for integrated learning with pre- and para-clinical subjects and shall be assessed during the clinical subject's examination.
- This allotted time will be utilised as integrated teaching by para- clinical subjects with clinical subjects (as Applied Anatomy, Clinical Pathology, Clinical Pharmacology, Clinical Microbiology, Radio diagnosis, Instruments, Operative Surgery, Communication skills etc.).

SR. NO.	TOPICS	COMPETENCIES	SUBTOPICS	AIT	HOURS
1.	**Shock**				
		SU 2.3	SGD: 1		1
		PA6.3	Communicate and counsel patients and families about the treatment and prognosis of shock demonstrating empathy and care. Define and describe shock, its pathogenesis and its stages	AETCOM	
2	**Blood and blood components**				
		SU 3.3	SGD: 2		1
		PA22.4	Councell patients and family/friend for blood transfusion and blood donation. Enumerate blood components and describe their clinical uses	Pathology	
3.	**Burns**				
		SU 4.4	SGD: 3		1
			Communicate and counsel patients and families on the outcome and rehabilitating demonstrating empathy and care.		

4.	**Surgical infections**				
		SU 6.1, 6.2,	SGD: 4		1
		OR3.1,OR3.3,OR4.1	Communicate and counsel patients and families on the outcome and rehabilitating demonstrating empathy and care. Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of Bone and Joint infections. Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abcess and caries spine a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis. Participate as a member in team for procedures like drainage of abscess, sequestrectomy/ saucerisation and arthrotomy	Orthopaedics	
5.	**Ethics**				
		SU 8.3	SGD: 5		1
			Discuss Medico-legal issues in surgical practice	Forensic Medicine, AETCOM	
6.	**Investigation of surgical patient**				
		SU 9.2	SGD: 6		1

			Biological basis for early detection of cancer and multidisciplinary approach in management of cancer		
		SU 9.3	SGD: 7		1
			Communicate the results of surgical investigations and counsel the patient appropriately.		
7.	**Pre, intra and post operative management.**				
		SU 10.2	SGD: 8		1
		IM24.11	Describe the steps and obtain informed consent in a simulated environment. Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of the elderly undergoing surgery	AETCOM	
		SU 10.3	SGD: 9		1
			Observe common surgical procedures and assist in minor surgical procedures; observe emergency life saving surgical procedures.		
		SU 10.4	SGD: 10		1
			Perform basic surgical skills such as first aid including suturing and minor surgical procedures in simulated environment.		
8.	**Anaesthesia and Pain Management**				
		SU 11.3	SGD: 11		1
			Demonstrate maintenance of an airway in a mannequin or equivalent.	Anaesthesiology	
		SU 11.1, 11.2	SGD: 12		1

			Describe principles of preoperative assessment. Enumerate the principles of general, regional and local anaesthesia.	Anaesthesiology	
		SU 11.3, 11.4, 11.5	SGD: 13		1
			Enumerate the indications and principles of day care general surgery. Describe principles of providing post-operative pain relief and management of chronic pain. Describe principles of safe General surgery.	Anaesthesiology	
9.	**Nutrition and fluid therapy**				
		SU 12.1, 12.2	SGD: 14		1
			Enumerate the causes and consequnces of malnutrition in the surgical patient. Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patient.	Physiology	
		SU 12.3	SGD: 15		1
			Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications.	Biochemistry	
10.	**Transplantation**				
		SU 13.3	SGD: 16		1
			Discuss the legal and ethical issues concerning organ donation.	AETCOM	
11.	**Biohazard disposal**				
		SU 15.1	SGD: 17		1
			Describe classification of hospital waste and appropriate methods of disposal.	Microbiology	
12.	**Minimally invasive General surgery**				

		SU 16.1	SGD: 18		1
			Minimally invasive General surgery: Describe indications advantages and disadvantages of minimally invasive General surgery.		
13.	**Trauma**				
		SU 17.4	SGD: 19		1
			Describe pathophysiology, mechanism of head injuries.		
		SU 17.5	SGD: 20		1
			Describe clinical features for neurological assessment and GCS in head injuries.		
		SU 17.6,	SGD: 21		1
		PM8.1	Choose appropriate investigations and discuss the principles of management of head injuries. Describe the clinical features, evaluation, diagnosis and management of disability following traumatic brain injury	Physical Medicine & Rehabilitation	
		SU 17.7	SGD: 22		1
		OR11.1	Describe the clinical features of soft tissue injuries. Choose appropriate investigations and discuss the principles of management. Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of benign and malignant bone tumours and pathological fractures	Orthopaedics	
		SU 17.8	SGD: 23		1
			Describe pathophysiology of chest injuries.		
		SU 17.9	SGD: 24		1

			Describe the clinical features and principles of management of chest injuries.		
		SU 17.10	SGD: 25		1
			Demonstrate Airway maintenance. Recognise and manage tension pneumothorax, hemothorax and flail chest in simulated environment.	Anaesthesiology	
14.	**Skin and subcutaneous tissue**				
		SU 18.3.	SGD: 26		1
		PM7.9	Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan. Enumerate the indications of debridement, and Split thickness skin grafting.	Physical Medicine & Rehabilitation	
15.	**Oropharyngeal cancer**				
		SU 20.1	SGD: 27		1
			Describe etiopathogenesis of oral cancer. Symptoms and signs of oropharyngeal cancer.	ENT	
		SU 20.2	SGD: 28		1
			Enumerate the appropriate investigations for oropharyngeal cancer.		
		SU 20.2	SGD: 29		1
			Enumerate the appropriate investigations for oropharyngeal cancer.		
		SU 20.3	SGD: 30		1
			Enumerate the principles of treatment for oropharyngeal cancer.		
		SU 20.3	SGD: 31		1

			Enumerate the principles of treatment for oropharyngeal cancer.		
16.	**Adrenal Glands**				
		SU 23.1, 23.2	SGD: 32		1
			Describe the applied anatomy of adrenal glands. Describe the etiology, clinical features and principles of management of disorders of adrenal glands.	Human Anatomy,General Medicine	
		SU 23.3	SGD: 33		1
			Describe the clinical features, principles of investigation and management of adrenal tumors.		
17.	**Pancreas**				
		SU 24.1,	SGD: 34		1
		PA32.6	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis. Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer	Human Anatomy	
		SU 24.2	SGD: 35		1
			Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumors.		
		SU 24.3	SGD: 36		1
			Describe the principles of investigation and management of pancreatic disorders including pancreatitis and endocrine tumors.		

18.	**Breast**				
		SU 25.3	SGD: 37		1
			Describe the etiopathogenesis, clinical features, investigations and principles of treatment of benign and malignant tumors of breast.	Radiodiagnosis	
		SU 25.3	SGD: 38		1
			Describe the etiopathogenesis, clinical features, investigations and principles of treatment of benign and malignant tumors of breast.	Radiodiagnosis	
		SU 25.4	SGD: 39		1
			Counsel the patient and obtain informed consent for treatment of malignant conditions of the breast.		
		SU 25.5	SGD: 40		1
			Demonstrate the correct technique to palpate the breast for breast swelling in a mannequin or equivalent.		
19.	**Cardio-thoracic General Surgery-Chest- Heart and Lungs**				
		SU 26.1	SGD: 41		1
			Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases.		
		SU 26.2	SGD: 42		1
			Outline the role of surgery in the management of diseases of Thorax and Diaphragm		
		SU 26.3	SGD: 43		1

			Describe the clinical features of mediasitnal diseases and the principles of management.		
		SU 26.4	SGD: 44		1
			Describe the etiology, pathogenesis, clinical features of tumors of the lung and the principles of management.		
20.	**Vascular Diseases**				
		SU 27.1	SGD: 45		1
			Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.		
		SU 27.2	SGD: 46		1
			Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease.		
		SU 27.3	SGD: 47		1
			Describe clinical features, investigations and principles of management of vasospastic disorders.		
		SU 27.4	SGD: 48		1
			Describe the types of gangrene and principles of amputation.		
		SU 27.5	SGD: 49		1
			Describe the applied anatomy of the venous system of lower limb.		
		SU 27.6	SGD: 50		1
			Describe pathophysiology , clinical features, investigations and principles of management of DVT and varicose veins.		
		SU 27.7	SGD: 51		1

			Describe pathophysiology, clinical features, Investigations and principles of management of lymph edema, lymphangitis and lymphomas.		
		SU 27.8	SGD: 52		1
			Demonstrate the correct examination of the lymphatic system.		
21.	**Abdomen**				
		SU 28.1 .	SGD: 53 .		1
		AN44.1.	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias . Describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen .	Human Anatomy	
		SU 28.1 .	SGD: 54		1
		AN44.4 . AN44.5	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias . Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle.	Human Anatomy	
		SU 28.1	SGD: 55		1
			Describe pathophysiology, clinical features, Investigations and principles of management of Hernias		
		SU 28.1	SGD: 56		1
		AN44.4 . AN44.5	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias .	Human Anatomy	

			Explain the anatomical basis of inguinal hernia.		
		SU 28.1	SGD: 57		1
		AN15.3	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias . Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	Human Anatomy	
		SU 28.1,AN44.6,	SGD: 58		1
			Describe pathophysiology, clinical features, Investigations and principles of management of Hernias. Describe & demonstrate attachments of muscles of anterior abdominal wall	Human Anatomy	
		SU 28.3	SGD: 59		1
			Describe causes, clinical features, complications and principles of mangament of peritonitis		
		SU 28.3	SGD: 60		1
			Describe causes, clinical features, complications and principles of managament of peritonitis		
		SU 28.3	SGD: 61		1
		AN47.5	Describe causes, clinical features, complications and principles of mangament of omental pathologies. 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)	Human Anatomy	

		SU 28.4	SGD: 62		1
			Describe pathophysiology, clinical features, investigations and K principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors		
		SU 28.5	SGD: 63		1
		IM19.9	Describe the applied Anatomy and physiology of esophagus. Enumerate the indications for use of Surgery and botulinum toxin in the treatment of movement disorders	Human Anatomy, Physiology	
		SU 28.5,	SGD: 64		1
		IM15.4, IM15.6	Describe the applied Anatomy and physiology of esophagus. Elicit document and present an appropriate history that identifies the route of bleeding, quantity, grade, volume loss, duration, etiology, comorbid illnesses and risk factors. Distinguish between upper and lower gastrointestinal bleeding based on the clinical features	Human Anatomy, Physiology	
		SU 28.6,	SGD: 65		1
			Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus.		
		SU 28.6	SGD: 66		1
			Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus		
		SU 28.7	SGD: 67		1

			Describe the applied anatomy and physiology of stomach	Human Anatomy	
		SU 28.8,	SGD: 68		1
		IM15.15	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophic pyloric stenosis, Peptic ulcer disease, Carcinoma stomach. Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori		
		SU 28.9	SGD: 69		1
		IM15.2	Demonstrate the correct technique of examination of a patient with disorders of the stomach. Enumerate describe and discuss the evaluation and steps involved in stabilizing a patient who presents with acute volume loss and GI bleed		
		SU 28.10	SGD: 70		1
		IM5.16	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. Describe and discuss the management of hepatitis, cirrhosis, portal hypertension, ascites, spontaneous, bacterial peritonitis and hepatic encephalopathy	Human Anatomy	
		SU 28.10	SGD: 71		1

			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	Human Anatomy	
		SU 28.10	SGD: 72		1
			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	Human Anatomy	
		SU 28.11	SGD: 73		1
			Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis - prophylaxis	Human Anatomy	
		SU 28.11	SGD: 74		1
		PA24.5	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis – prophylaxis Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine		
		SU 28.12	SGD: 75		1
			Describe the applied anatomy of biliary system. Describe the clinical features,		

			investigations and principles of management of diseases of biliary system		
		SU 28.12	SGD: 76		1
			Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system		
		SU 28.12	SGD: 77		1
			Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system		
		SU 28.12	SGD: 78		1
		AN47.2,PA24.6	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system. Discuss Paediatric surgery biliary disorders. Name & identify various peritoneal folds & pouches with its explanation. Describe and etiology and pathogenesis and pathologic and distinguishing features of inflammatory bowel disease	Human Anatomy	
		SU 28.12	SGD: 79		1
		AN47.1	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system. Discuss Choledochal cyst. Describe & identify boundaries and recesses of Lesser & Greater sac	Human Anatomy	

		SU 28.13, 28.14	SGD: 80		1
		PA24.7	Describe the applied anatomy of small and large intestine Describe the etiology and pathogenesis and pathologic and distinguishing features of carcinoma of the colon	Human Anatomy, Physiology	
		SU 28.13, 28.14	SGD: 81		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 82		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 83		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 84		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 85		1

			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 86		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 87		1
		AN55.2	Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome Demonstrate the surface projections of: stomach, liver, fundus of gall bladder, spleen, duodenum, pancreas, ileocaecal junction, kidneys & root of mesentery	Human Anatomy	
		SU 28.13, 28.14	SGD: 88		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome		
		SU 28.13, 28.14	SGD: 89		1
			Describe the clinical features, investigations and principles of management of disorders of small and large intestine including		

			neonatal obstruction and Short gut syndrome		
		SU 28.15	SGD: 90		1
			Describe the clinical features, investigations of diseases of Appendix including appendicitis and its complications.		
		SU 28.15	SGD: 91		1
		AN55.1	Describe the principles of management diseases of Appendix including appendicitis and its complications. Demonstrate the surface marking of regions and planes of abdomen, superficial inguinal ring, deep inguinal ring , McBurney's point, Renal Angle & Murphy's point	Human Anatomy	
		SU 28.16	SGD: 92		1
			Describe applied anatomy including congenital anomalies of the rectum and anal canal	Human Anatomy	
		SU 28.16	SGD: 93		1
			Describe applied anatomy including congenital anomalies of the rectum and anal canal	Human Anatomy	
		SU 28.16	SGD: 94		1
			Describe applied anatomy including congenital anomalies of the rectum and anal canal		
		SU 28.17	SGD: 95		1
			Describe the clinical features, investigations and principles of management of common anorectal diseases		
		SU 28.17	SGD: 96		1

			Describe the clinical features, investigations and principles of management of common anorectal diseases		
		SU 28.17	SGD: 97		1
			Describe the clinical features, investigations and principles of management of common anorectal diseases		
22.	**Urinary System**				
		SU 29.1	SGD: 98		1
			Describe the causes, investigations and principles of management of Hematuria		
		SU 29.2	SGD: 99		1
			Describe the clinical features, investigations and principles of management of congenital anomalies of genitourinary system	Human Anatomy	
		SU 29.2	SGD: 100		1
			Describe the clinical features, investigations and principles of management of congenital anomalies of genitourinary system	Human Anatomy	
		SU 29.3	SGD: 101		1
			Describe the Clinical features, Investigations and principles of management of urinary tract infections	Microbiology	
		SU 29.3	SGD: 102		1
		PA28.10	Describe the Clinical features, Investigations and principles of management of urinary tract infections including renal TB and abscess. Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	Microbiology, Pathology	

		SU 29.4	SGD: 103		1
			Describe the clinical features, investigations and principles of management of hydronephrosis		
		SU 29.4	SGD: 104		1
			Describe the clinical features, investigations and principles of management of hydronephrosis		
		SU 29.5	SGD: 105		1
		PA28.13	Describe the clinical features,investigations and principles of management of renal calculi. Define, classify and describe the etiology, pathogenesis, pathology, laboratory urinary findings, distinguishing features, progression and complications of renal stone disease and obstructive uropathy	Pathology	
		SU 29.5	SGD: 106		1
			Describe the clinical features,investigations and principles of management of renal calculi		
		SU 29.6	SGD: 107		1
			Describe the clinical features, investigations and principles of management of renal tumours		
		SU 29.7	SGD: 108		1
			Describe the principles of management of acute and chronic retention of urine		
		SU 29.7	SGD: 109		1
		PA28.16	Describe the principles of management of acute and chronic retention of urine.	Pathology	

			Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors		
		SU 29.8	SGD: 110		1
			Describe the clinical features, investigations and principles of management of bladder cancer		
		SU 29.8	SGD: 111		1
			Describe the clinical features, investigations and principles of management of bladder cancer		
		SU 29.9	SGD: 112		1
			Describe the clinical features, investigations and principles of management of disorders of prostate		
		SU 29.9	SGD: 113		1
			Describe the clinical features, investigations and principles of management of disorders of prostate		
		SU 29.10	SGD: 114		1
			Demonstrate a digital rectal examination of the prostate in a mannequin or equivalent		
		SU 29.10	SGD: 115		1
			Describe clinical features, investigations and management of urethral strictures		
		SU 29.10	SGD: 116		1
		OG26.2	Describe clinical features, investigations and management of urethral strictures and urethral injuries.	Obstetrics and gynaecology	

			Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae		
23.	**Penis, Testis and scrotum**				
		SU 30.1	SGD: 117		1
		AN46.1	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis. Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy	Human Anatomy	
		SU 30.1	SGD: 118		1
		PA29.1 PE21.14	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis. Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors. Recognize common surgical conditions of the abdomen and genitourinary system and enumerate the indications for referral including acute and subacute intestinal obstruction, appendicitis, pancreatitis, perforation, intussusception, Phimosis, undescended testis, Chordee, hypospadiasis,Torsion testis, hernia Hydrocele, Vulval Synechiae	Pathology	
		SU 30.1,	SGD: 119		1

		PA29.2	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis. Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis	Pathology	
		SU 30.1	SGD: 120		1
		PA29.4	Describe the clinical features, investigations and principles of management of carcinoma penis. Describe the pathogenesis, pathology, hormonal dependency, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate	Pathology	
		SU 30.2	SGD: 121		1
			Describe the applied anatomy clinical features, investigations and principles of management of undescended testis.	Human Anatomy	
		SU 30.3	SGD: 122		1
			Describe the applied anatomy clinical features, investigations and principles of management of epidydimo-orchitis	Human Anatomy	
		SU 30.4	SGD: 123		1
			Describe the applied anatomy clinical features, investigations and principles of management of varicocele	Human Anatomy	
		SU 30.5	SGD: 124		1
			Describe the applied anatomy clinical features, investigations and principles of management of hydrocoele	Human Anatomy	

		SU 30.4	SGD: 125		1
			Describe classification, clinical features, investigations and principles of management of tumours of testis		

Internal Assessment

Subject: General surgery and allied including Orthopedics

Applicable for batches admitted from 2019 and onwards

Phase	IA – 1 -Exam			IA – 2 -Exam		
	Theory General Surgery Only (January)	**Practical EOP**	Total Marks	**Theory General Surgery Only (May)**	**Practical of Allied EOP**	Total Marks
Second MBBS	50	50	100	50	Orthopedics = 25 Radiodiagnosis = 25	100

Phase	IA – 3 -Exam			IA – 4 -Exam		
	Theory General Surgery + allied) (January)	**Practical EOP**	Total Marks	**Theory General Surgery + allied) (April)**	**Practical of Allied EOP**	Total Marks
III MBBS Part I	50	50	100	50	Orthopaedics =25 Anaesthesia =25	100

Phase	IA – 5 - Exam			Prelim Exam (As per university pattern)		
	Theory Gen Surgery + Allied (May)	**Practical End of** 8 Weeks posting	Total Marks	**Theory (November)**	**Practical (November)**	Total Marks
III MBBS Part II	100	100	200	100 x 2 papers = 200	200	400

(There will be FORMATIVE ASSESSMENT at the End of four weeks Clinical Posting of General Surgery NOT to be added to INTERNAL ASSESSMENT)**.**

Assessment in CBME is **ONGOING PRCESS**,

No Preparatory leave is permitted.

1. There shall be 6 internal assessment examinations in General Surgery including allied.

2. The suggested pattern of question paper for internal assessment internal examinations, except prelim examination is attached at the end. Pattern of the prelims examinations should be similar to the University examinations.

3. Internal assessment marks for theory and practical will be converted to out of 50 (theory) +50 (practical). Internal assessment marks, after conversion, should be submitted to university within the stipulated time as per directives from the University.

4. **Conversion Formula for calculation of marks in internal assessment examinations**

	Theory	**Practical**
Phase II	100	100
Phase III/I	100	100
Phase III/II	300	300
Total	**500**	**500**
Conversion out of	**50**	**50**
Conversion formula	**Total marks in 6 IA theory examinations /10**	**Total marks in 6 IA Practical examinations /10**
Eligibility criteria after conversion	**20**	**20**
	Combined theory + Practical = 50	

5. While preparing Final Marks of Internal Assessment, the rounding-off marks shall done as illustrated in following table.

Total Internal Assessment Marks	Final rounded marks
33.01 to 33.49	33
33.50 to 33.99	34

6. Students must secure at least 50% marks of the total marks (combined in theory and practical / clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in order to be eligible for appearing at the final University examination of that subject.
7. Internal assessment marks will not to be added to marks of the University examinations and will be shown separately in mark list.

8. Remedial measures

A. Remedial measures for non-eligible students

i) At the end of each internal assessment examination, students securing less than 50% marks shall be identified. Such students should be counseled at the earliest and periodically. Extra classes for such students may be conducted, if needed.
ii) If majority of the students found to be weak in a particular area then extra classes must be scheduled for all such students.
iii) Even after these measures, if a student is failed to secure 50% marks combined in theory and practical (40% separately in theory and practical) after prelim examination, the student shall not be eligible for final examination.
iv) Non eligible candidates are offered to reappear for repeat internal assessment examination/s, which must be conducted 2 months before next University examination. Extra classes for such students may be conducted for such students. The pattern for this repeat internal assessment examination shall be similar to the final University examination. Only the marks in this examination shall be considered for deciding the eligibility criteria. Following conversion formula shall be used for converting the marks.

	Theory	Practical
Remedial examination (as per final examination)	**200**	**200**
Conversion out of	**50**	**50**
Conversion formula	**Marks in remedial theory examinations /4**	**Marks in remedial Practical examinations /4**
Eligibility criteria after conversion	**20**	**20**
	Combined theory + Practical = 50	

B. Remedial measures for absent students:

i. If any of the students is absent for any of the 6 IA examinations due to any reasons, following measures shall be taken.
ii. The student is asked to apply to the academic committee of the college for reexamination, through HOD, to ascertain the genuineness of the reason for absentee.
iii. If permitted by academic committee, an additional examination for such students is to be conducted after prelims examination. Marks for such additional examination shall be equal to the missed examination.
iv. Even if a student has missed more than one IA examination, he/she can appear for only one additional IA examination. In such scenario, eligibility should be determined by marks obtained in internal assessment examinations for which the candidate has appeared, without changing the denominator of 500.

Internal Assessment Practical Examinations

II MBBS

Internal Assessment - 1

General Surgery

Clinical A (30)			OSCE & Viva B (20)		
Long Case	Demonstration of clinical signs	Communication skills	OSCE & Table viva (20)		Grand Total A +B= 50
			OSCE of Psychomotor Skills	Table viva [Surgical pathology, X rays, Instruments, Logbook, Journal]	
20	5	5	10	10	50

Internal Assessment - 2

Orthopaedics and Radiodiagnosis (to be conducted at the end of respective clinical postings)

Subject: General Surgery Allied Practical (IA – 2) Examination in Orthopaedics			
Case	OSCE 1	Viva (Surgical Pathology, Radiology, Instruments and Surgical Procedure, Journal / log book)	Practical Total
10	5	10	25

Subject: General Surgery Allied Practical (IA – 2) Examination in Radiodiagnosis			
X-Ray and other diagnostic modalities - Basics	Viva (Knowledge of legal aspects, radiation protection etc)	Journal / log book	Practical Total
15	5	5	25

* The marks for internal assessment – 2 shall be communicated by orthopedics / Radiology department to General Surgery department immediately after completion of examination and assessment.

III MBBS Part I

Internal Assessment - 3

General Surgery

Clinical A (30)			OSCE & Viva B (20)		
Long Case	Demonstration of clinical signs	Communication skills	OSCE & Table viva		Grand Total A +B= 50
			OSCE of Psychomotor Skills	Table viva [Surgical pathology, X rays, Instruments, Logbook, Journal]	
20	5	5	10	10	50

Internal Assessment - 4

Orthopaedics and Anaesthesia

Subject: General Surgery Allied Practical (IA – 2) Examination in Orthopaedics			
Case	OSCE 1	Viva (Surgical Pathology, Radiology, Instruments and Surgical Procedure, Journal / log book)	Practical Total
10	5	10	25

Subject: General Surgery Allied Practical (IA – 2) Examination in Anesthesia			
OSCE	Drugs, Instruments	Viva	Practical Total
10	8	7	25

* The marks for internal assessment – 4 shall be communicated by orthopedics / Anaesthesia department to General Surgery department immediately after completion of examination and assessment.

III MBBS Part II

Internal Assessment - 5

General Surgery

Clinical A (60)			OSCE & Viva B (40)		
Long Case	Demonstration of clinical signs	Communication skills	OSCE & Table viva (40)		Grand Total A +B= 100
			OSCE of Psychomotor Skills	Table viva [Surgical pathology, X rays, Instruments, Logbook, Journal]	
40	10	10	20	20	100

MUHS final practical examination

General Surgery

Seat No.	**Long Case General Surgery including communication skill (60)**		**Short Case 1 General Surgery (30)**		**Short Case 2 Ortho (30)**		**General Surgery (60) OSCE # & Table viva**			**Ortho (20)**	**Grand Total**
	Long case	Communication skills *	Short case	Clinical signs demo	Short case	Clinical signs demo	Instruments +Procedure+ Log book	X rays + Surgical Pathology +Journal	OSCE	OSCE (10) + Table (10)	
	50	10	20	10	20	10	20	20	20	20	200

OSCE Stations may include General examinations, Local examinations, psychomotor skills, Communication skills, AETCOM etc.

*Communication skills to be assessed by Kalamazoo Consensus, clinical signs to be assessed by either GLOBAL Rating Scale or OSCE, Psychomotor Skills to be assessed by OSCE with checklist. If the skills are small, 2 or 3 skills may be combined.

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES, NASHIK

Format / Skeleton of question paper for 1st & 2nd internal

Assessment Theory Examinations.

Instructions:

SECTION "A" MCQ

1) *Put ☒ in the appropriate box below the question number once only.*
2) *Use blue ball point pen only.*
3) *Each question carries **one mark.***
4) *Students will not be allotted mark if he/she overwrites strikes or put white ink on the cross once marked.*

SECTION "A" MCQ (10Marks)

1. Multiple Choice Questions (Total -10 MCQ of One mark each from General surgery) (1x10=10)

a) b) c) d) e) f) g) h) i) j)

Instructions:

1) *Use **blue/black** ball point pen only.*
2) ***Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*
3) ***All** questions are **compulsory**.*
4) *The number to the **right** indicates **full** marks.*
5) *Draw diagrams **wherever** necessary.*

2. Long Answer Question (Any 2 out of 3) (General surgery) (2 x 10 = 20)

a) b) c)

3. Short answer questions (Any 4 out of 5) (At least2 Clinical reasoning question) (General surgery) (4 x 5 = 20)

a) b) c) d) e)

Format / Skeleton of question paper for 3rd and 4th internal

Assessment Theory Examinations (III MBBS Part I)

SECTION "A" MCQ

Instructions:

5) *Put ☒ in the appropriate box below the question number once only.*
6) *Use blue ball point pen only.*
7) *Each question carries **One mark.***
8) *Students will not be allotted mark if he/she overwrites strikes or put white ink on the cross once marked.*

SECTION "A" MCQ (10Marks)

1. Multiple Choice Questions (Total -10 MCQ of One mark each from General surgery) (1x10=10)

a) b) c) d) e) f) g) h) i) j)

Instructions:

1) *Use **blue/black** ball point pen only.*
2) ***Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*
3) ***All** questions are **compulsory**.*
4) *The number to the **right** indicates **full** marks.*
5) *Draw diagrams **wherever** necessary.*

2. Long Answer Question (Any 2 out of 3) (General surgery) (2 x 10 = 20)

b) b) c)

3. Short answer questions (1 from AETCOM) (General surgery) (2 x 5 = 10)

a) b)

4. Short answer questions (Any 2 out of 3) (At least 2 Clinical reasoning question) (Orthopaedics) (2 x 5 = 10)

a) b) c)

Separate answer sheet for question 4 (SAQ from orthopaedics) may be used for the ease of evaluation.

Format / Skeleton of question paper 5th internal assessment

Theory Examinations (III MBBS Part II)

SECTION "A" MCQ

Instructions:

9) Put ☒ in the appropriate box below the question number once only.
10) Use blue ball point pen only.
*11) Each question carries **One mark.***
12) Students will not be allotted mark if he/she overwrites strikes or put white ink on the cross once marked.

SECTION "A" MCQ (20Marks)

1. Multiple Choice Questions (Total-20MCQ of One mark each - 15 General surgery , 2 orthopaedics, 1 anesthesia, 1 dentistry and 1 radiology) (1 x20=20)

a) b) c) d) e) f) g) h) i) j)

k) l) m) n) o) p) q) r) s) t)

SECTION "B" & "C"

Instructions:

*1) Use **blue/black** ball point pen only.*
*2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*
*3) **All** questions are **compulsory**.*
*4) The number to the **right** indicates **full** marks.*
*5) Draw diagrams **wherever** necessary.*

SECTION "B"

2 . Long Answer Questions (Structured Case Based) (General Surgery) (2x15=30)

a) b)

3.Short Answer Questions (Any 3 out of 4) (Any one should be Clinical reasoning), 1 from AETCOM (General Surgery) (3x5=15)

a) b) c) d)

SECTION "C"

4. Short Answer Questions (1 Orthopedics, 1 Anesthesia, 1 Dentistry or Radiodiagnosis) (4 x5=20)

a) b) c) d)

5. Long Answer Question (Structured Case Based) (Orthopedics) (1 x15=15)

a)

Separate answer sheet for question 5 (LAQ from orthopaedics) may be used for the ease of evaluation.

Format / Skeleton of question paper for University Theory Examinations (III MBBS Part II) Paper – I

(Subject names to be removed)

SECTION "A" MCQ

Instructions:

13) Put ☒ in the appropriate box below the question number once only.
14) Use blue ball point pen only.
*15) Each question carries **One mark.***
16) Students will not be allotted mark if he/she overwrites strikes or put white ink on the cross once marked.

SECTION "A" MCQ (20Marks)

1. Multiple Choice Questions (Total-20MCQ of One mark each) – (General surgery) (1 x20=20)

a) b) c) d) e) f) g) h) i) j)

k) l) m) n) o) p) q) r) s) t)

SECTION "B" & "C"

Instructions:

*1) Use **blue/black** ball point pen only.*
*2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*
*3) **All** questions are **compulsory**.*
*4) The number to the **right** indicates **full** marks.*
*5) Draw diagrams **wherever** necessary.*

SECTION "B"

2 . Long Answer Questions (Structured Case Based) (General Surgery) (2x15=30)

a) b)

3.Short Answer Questions (Any one should be Clinical reasoning, 1 from AETCOM) (General Surgery) (3x5=15)

a) b) c)

SECTION "C"

4. Long Answer Question (Structured Case Based) (General Surgery) (1 x15=15)

a)

3.Short Answer Questions (General Surgery) (Any 4 out of 5) (4 x5=20)

a) b) c) d) e)

Format / Skeleton of question paper for University Theory Examinations (III MBBS Part II) Paper II

(Subject names to be removed)

SECTION "A" MCQ

Instructions:

17) Put ☒ in the appropriate box below the question number once only.
18) Use blue ball point pen only.
*19) Each question carries **One mark.***
20) Students will not be allotted mark if he/she overwrites strikes or put white ink on the cross once marked.

SECTION "A" MCQ (20Marks)

1. Multiple Choice Questions (Total-20MCQ of One mark each - 15 General surgery , 2 orthopedics, 1 anesthesia, 1 dentistry and 1 radiology) (1 x20=20)

a) b) c) d) e) f) g) h) i) j)

k) l) m) n) o) p) q) r) s) t)

SECTION "B" & "C"

Instructions:

*1) Use **blue/black** ball point pen only.*
*2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*
*3) **All** questions are **compulsory**.*
*4) The number to the **right** indicates **full** marks.*
*5) Draw diagrams **wherever** necessary.*

SECTION "B"

2 . Long Answer Questions (Structured Case Based) (General Surgery) (2x15=30)

a) b)

3.Short Answer Questions (any 5 out of 6) (1 Gen. Surgery, 2 Radiodiagnosis, 2 Anesthesia, 1 Dentistry) (5x5=25)

a) b) c) d) e) f)

SECTION "C"

4. Long Answer Question (Structured Case Based) (Orthopedics) (1 x15=15)

a)

3.Short Answer Questions (Any 2 out of 3) (Orthopedics) (2 x5=10)

a) b) c)

Paper wise distribution of topics for Prelim & MUHS Annual Examination

Year: **III-II MBBS** Subject: **_General Surgery and allied**

Paper	Section	Topics
I	A	MCQs on all topics of paper I of Surgery
	B	Metabolic response to injury, Shock, Blood and blood components, Burns, Wound healing and wound care, Surgical infections, Surgical Audit and Research, Nutrition and fluid therapy, Transplantation, Biohazard disposal, Trauma, Skin and subcutaneous tissue, Developmental anomalies of face, mouth and jaws, Oropharyngeal cancer, Disorders of salivary glands, Endocrine General Surgery: Thyroid and parathyroid, Adrenal glands, Breast, Vascular diseases, Ethics & AETCOM (module 4.3,4.5,4.6)
	C	Abdomen- including Hernia, Peritoneum, GIT tract including esophagus, stomach, small intestine, colon rectum and anal canal, Liver , Spleen, Pancreas, Biliary tract , Minimally invasive Surgery, Pediatric surgery
II	A	MCQs on all topics of the paper II including orthopaedics, anaesthesia, radiology , radiotherapy and dentistry .
	B	Cardio-thoracic - Chest - Heart and Lungs ,Urinary System- Kidney ureter and urinary bladder , Penis, Testis and scrotum, Plastic surgery, Oncology, Investigation of surgical patient, Pre, intra and post- operative management Radiology, Radiotherapy, Anesthesia and pain management , Dentistry
	C	Orthopedics ,

Name of the Institute

Department of General Surgery

Journal

Name of the Student: _____

Roll Number: _____

Batch: _____

Address: _____

_____

Mobile number: _____

Email id: _____

YOUR OPPORTUNITY

Here, for instance is a poor fellow who has just been through to the hospital, in an ambulance. A string of questions about himself and his family has been fired at him, his valuables and even his clothes, have been taken away from him and he is wheeled into the ward on stretcher miserable, scared, defenseless and in his nakedness, unable to run away. He is lifted into a bed, because conscious of the fact, that he is the center of interest in the ward, wishes that he had stayed at home among friends, and just as he is beginning to take stock, he finds a thermometer being stuck under his tongue. It is all strange and new and he wonders what is going to happen next. This thing that does happen is that a man in a long white coat sits down by his bedside and start to examine him. Do you seewhat an opportunity you have? This foundation of your whole relation with that patient is laid in those first few minutes of contact just as it happens in private practice. Here is a worried lonely, suffering man and if youbegin by approaching him with sympathy, tact, and consideration, you get his confidence and he becomes your patient intimate and visiting physicians may come and go and the hierarchy gives them a precedence; but if you make the most of your opportunities, he will regard you as his personal physician and all theres this more consultants.

Sayings of the great:

To study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.

-Sir William Osler

The good physician treats the disease, the great physician treats the patient who has the disease.

-Sir William Osler

Observe, record, tabulate, communicate. Use your five senses. Learn to see, learn to hear, learn to feel, learn to smell and know that by practice alone you can become expert.

-Sir William Osler

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Clinical Posting Completion Certificate

This is to certify that the candidateMr./Ms. _____
Registration no. _____ admitted in the year _____ in the _____
_____ Medical College has satisfactorily completed / hasnotcompleted all assignments /requirements/posting mentioned in
this journal and journal for final MBBS (II/III-I/III-II) in General Surgery during the period from .....to……She / He is / is not eligible to appear for thesummative(University) assessment as on the date given below.

Signature of Head of Department

Date

GENERAL INSTRUCTIONS

1) The journal is a record of the academic / co-curricular activities of the designatedstudent,whowouldberesponsibleformaintaininghis/herjournal.

2) The student is responsible for getting the entries in the journal verified by the Faculty in chargeregularly.

3) Entries in the journal will reflect the activities undertaken in the department& have to be scrutinized by the Head of the concerneddepartment.

4) The journal is a record of various activities by the studentlike:
- Overall participation &performance
- Attendance
- Participation insessions
- Record of completion of pre-determinedactivities.
- Acquisition of selectedcompetencies

5) The journal is the record of work done by the candidate in that department / specialty and should be verified by the college before submitting the application of the students for the Universityexamination.

6)*Proposednumberofcaserecordsshouldbementionedinthejournal-:

Phase 2- 1st clinical posting (4 weeks) = 4 General surgery cases + 2 Follow-up cases + OT record sheet minimum 6 cases (2 major and 4 minor) + Asepsis, Basic bandaging skill performed independently and to get it certified

Phase3- 2ndclinicalposting (4 weeks) = 4Generalsurgerycases+ 2follow-up cases + OT record sheet minimum 6 cases (2 major and 4 minor) + Basic wound care skill performed independently and to get it certified

Casualty posting- To write reflection on 2 cases seen in casualty.

Phase 4- 3rd Clinical Posting (8 weeks) = 10 General Surgery cases + 4 follow-up cases + OT record sheet minimum 8 cases (4 major and 4 minor) + Basic suturing, Incision & drainage of superficial abscess skill to be performed independently and to get it certified.

4th Clinical Posting (4 weeks) = 4 General Surgery cases + 2 follow-up cases + OT record sheet minimum 6 cases (2 major and 4 minor) + Early management of trauma skill to be performed independently and to get it certified + Demonstrates trauma life support

POSTING CERTIFICATE

Name: - Year of Admission: -

Year of appearing for Final M.B.B.S _____

TERM	From	To	Absent days	Case Histories Written	Remark	Signature of Unit Head
Gen Surgery I (4 weeks)						
Gen Surgery II (4 weeks)						
Gen Surgery III (8 weeks)						
Gen Surgery IV (4 weeks)						
Casualty (1week)						

N.B: - 1. Students must get the signature of the Unit In charge when posting is completed.

2. This certificate must be submitted before every Internal assessment & Preliminary. examination.

3. Completed record is mandatory for appearing for the Final Examination.

Template for Clinical Cases and Operative Notes

Name of Patient Age/Sex Ward no.

MRD No Head of the Unit

Occupation

Religion

Address

Date of admission Date of Discharge

Chief complaints

HOPI/ODP

Past H/O

Personal H/O

Family H/O

Menstrual History in females

Obstetrical History in females**General examination**

Built & Nourishment
Level of consciousness
Temperature.
Pulse rate
Respiratory rate
Blood Pressure
Pallor/ cyanosis/clubbing/oedema/Lymphadenopathy/ Icterus

Local examination:

Inspection

Palpation

Percussion

Auscultation

Systemic Examination:

CVS

RS

CNS

PA

Provisional Diagnosis

Differential Diagnosis

Investigations

Hematological

Biochemical

Radiological

Xray -
USG -
CT -
MRI -

Final Diagnosis

Treatment-

Plan

Pre-operative Workup

Template forOperative Notes

Date: -Time: - Surgeon: -

Indication And operation: The working Diagnosis on which the procedure was based and the name of the operation.

Type of Anesthesia: -

Position of patient: - Describe the position and precautions taken to avoid complications.

Incision: - Name the incision, shape and length including any extensile exposure. A drawing may be useful.

Findings: Describe what was found. List structures identified and protected.

Procedure: Report what was exactly done. Describe prosthetics or special instruments used.

Closure: Washout, Hemostasis and drains, Method used for closure and Dressing

Post-operative care: Clear instructions with frequency on (a) general observations, (b) Checks on function, (c) Wound care, (d) removal of drains, (e) Start of mobilization, (f) removal of stitches, (g) discharge, (h) follow up.

Complications: List of potential complications and actions to be taken under a 'What If' list

Specimen sent for Histopathology Examination: Yes/No

Histopathology report:

Daily progress note:

Post-Op Progress Report -

(To be filled everyday in serious cases and every third day in other. Mention observations pertaining to a case, any special investigations done and daily treatment administered)

Day (Post-op)	Gen. condition (Appearance, Pulse, BP, Temp Chest)	Fluid intake	Fluid Output			Complications- If any and their treatment and investigation
			Urine	Suction	Others	

Condition of Patient on discharge: -

Advices on discharge: -

Reflection by students in max. 200 words: -
(Write your overall impression of case at the time of discharge or when you leave the case)

Feedback by Faculty –

Signature by Student and Faculty: -

Operative Notes

Date: - Time: - Surgeon: -

Indication And operation:

Type of Anesthesia: -

Position of patient: -

Incision: -

Findings:

Procedure:

Closure:

Post-operative care

Complications:

Specimen sent for Histopathology Examination: Yes/No

Histopathology report:

Progress Report -

(To be filled everyday in serious cases and every third day in other. Mention observations pertaining to a case, any special investigations done and daily treatment administered)

Day (Post-op)	Gen. condition (Appearance, Pulse, BP, Temp Chest)	Fluid intake	Fluid Output			Complications- If any and their treatment and investigation
			Urine	Suction	Others	

Condition of Patient on discharge: -

Advices on discharge: -

PHASE-II INDEX OF THE CASE HISTORIES OF GENERAL SURGERY CASES AND FOLLOW UP CASES

(minimum 4 General surgery cases + 2 Follow-up cases)

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

INDEX OF THE OPERATIVE PROCEDURES PHASE II

[OT record sheet minimum 6 cases (2 major and 4 minor) +Asepsis, Basic bandaging skill performed independently.]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

PHASE-III/I INDEX OF THE CASE HISTORIES OF GENERAL SURGERY CASES AND FOLLOW UP CASES

(minimum 4Generalsurgerycases+ 2follow-up cases)

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

INDEX OF THE OPERATIVE PROCEDURES PHASE III/I

[OT record sheet minimum 6 cases (2 major and 4 minor) + Basic wound care skill performed independently]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

PHASE-III/II INDEX OF THE CASE HISTORIES OF GENERAL SURGERY CASES AND FOLLOW UP CASES

[3rd Clinical Posting minimum 10 General Surgery cases + 4 follow-up cases & 4th Clinical Posting minimum 4 General Surgery cases + 2 follow-up cases]

Sr. No	Name of The Patient	Date	Diagnosis	Ward no.	Page No.	Signature of Faculty
1.						
2.						
3.						
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23.						
24.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

Case 9:

Case 10:

Case 11:

Case 12:

Case 13:

Case 14:

Case 15:

Case 16:

Case 17:

Case 18:

Case 19:

Case 20:

Case 21:

Case 22:

Case 23:

Case 24:

INDEX OF THE OPERATIVE PROCEDURES PHASE III/II

[OT record sheet minimum 14 cases (6 major and 8 minor) + Basic suturing, Incision & drainage of superficial abscess, early management of trauma skills & demonstrates trauma life support]

Sr. no.	Name of the patient	Date	Diagnosis	Operative Procedures	Page No.	Signature of Faculty
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

13.						
14.						
15.						
16.						

Case 1:

Case 2:

Case 3:

Case 4:

Case 5:

Case 6:

Case 7:

Case 8:

Case 9:

Case 10:

Case 11:

Case 12:

Case 13:

Case 14:

Case 15:

Case 16:

ANNEXURE 1

Paper wise distribution of topics for Prelim & MUHS Annual Examination
Year: **III-II MBBS** Subject: **_General Surgery and allied**

Paper	Section	Topics
I	A	MCQs on all topics of paper I of Surgery
	B	Metabolic response to injury, Shock, Blood and blood components, Burns, Wound healing and wound care, Surgical infections, Surgical Audit and Research, Nutrition and fluid therapy, Transplantation, Biohazard disposal, Trauma,Skin and subcutaneous tissue, Developmental anomalies of face, mouth and jaws, Oropharyngeal cancer,Disorders of salivary glands, Endocrine General Surgery: Thyroid and parathyroid, Adrenal glands, Breast, Vascular diseases, Ethics &AETCOM(module 4.3,4.5,4.6)
	C	Abdomen- including Hernia, Peritoneum, GIT tract including esophagus, stomach, small intestine, colon rectum and anal canal, Liver , Spleen, Pancreas, Biliary tract ,Minimally invasive Surgery, Pediatric surgery
II	A	MCQs on all topics of the paper II including orthopaedics, anaesthesia, radiology and dentistry .
	B	Cardio-thoracic - Chest - Heart and Lungs,Urinary System- Kidney ureter and urinary bladder , Penis, Testis and scrotum, Plastic surgery, Oncology,Investigation of surgical patient, Pre, intra and post- operative pain management management and Anesthesia, Radiology,
	C	Orthopedics ,

Annexure 2

Recommended books

Year: II/ III-I/ III-II MBBS
Subject: General Surgery

Sr.no.	Author	Title of book/ Material	Publisher
		TEXTBOOK	
1.	Norman S Williams P. Ronan O'Connell Andrew McCasksie	Bailey & Love's Short practice of Surgery 27th Edition 2018	CRC Press
2	Sriram Bhat	SRB's Manual of Surgery 6th Edition 2017	Jaypee Publishers
3	K Rajgopal Shenoy Anitha Shenoy	Manipal Manual of Surgery 5th Edition 2020	CBS Publishers
4	S Das	A Concise Textbook of Surgery 6th Edition 2018	DAS Publications
		CLINICAL SURGERY	
1.	S Das	A Manual on Clinical Surgery 9th Edition 2019	DAS Publications
2.	Sriram Bhat	SRB's Bedside Clinics in Surgery 1st Edition 2009	Jaypee Publishers
3.	Makhan Lal Saha	Bedside Clinics in Surgery 2nd Edition 2013	Jaypee Publishers
4.	J Kyle, JAK Smith, D Johnson	Pye's Surgical Handicraft 22nd Edition 1999	K. M. Vargheese Company (Indian edition)
5.	Margaret Farquharson, James Hollingshead, Brendan Moran	Farquharson's Textbook of Operative General Surgery 10th Edition 2015	CRC Press
6.	John S P Lumley, Anil K D'Cruz, Carol E Scott-Conner	Hamilton Bailey's Demonstration of Physical signs in Clinical Surgery 19th Edition 2014	CRC Press

		REFERENCES	
1.	Courteny Townsend, Daniel Beauchamp, B Mark Evers, Kenneth L Mattox	Sabiston Textbook of Surgery 1st South Asia Edition 2017	Elseiver
2.	F Charles Brunicardi, Mary L Brandt, Dana Anderson, Timothy Billar, David Dunn, John Hunter, Jeffery Matthews, Raphael Polllock	Schwartz's Principles of Surgery 10th Edition 2019	McGraw Hill
		APPLIED ANATOMY	
1.	Lee McGregor GAG Decker, DJ du Plessis	Lee McGregor's Synopsis of Surgical Anatomy 12th Edition 2018	K M Varghese Company
2.	John E Skandalkis, Gene Colborn, Thomas Weidman	Skandalkis Surgical Anatomy 2004	Broken hill Publishers
3.	Chummi S. Sinnatamby	Last's Anatomy Regional and Applied 12th Edition 2011	Churchill Livingstone
		PATHOLOGY	
1.	Kumar, Abbas, Aster	Robbin's Pathologic Basis of Disease 10th Edition, 2020	Elsiever
2.	Harsh Mohan	Textbook Of Pathology 8th Edition, 2018	Jaypee Publishers

		PHYSIOLOGY	
1.	Joh E Hall	Guyton and Hall Textbook of Medical Physiology 14th Edition 2020	Elsevier
2.	Kim E Barrett, Susan M. Barman, Heddwen L. Brooks, Jason Yuan	Ganong's Review of Medical Physiology 24thEdition 2019	Lange

****For Syllabus refer to MUHS Website**