

CURRICULUM OF SURGERY

MBBS COURSE

Contents

S. No.	Subject	Page No.
1.	Introduction	02
2.	Educational Hours	03
3.	Learning Outcomes	04
4.	Educational Strategies	05
5.	Assessment	06
6.	Learning Resources	07
7.	Contents Modules	08
8.	Implimentation	09-12
9.	Programme Evaluation	13
10.	Table of Specification	14-17
11.	Modules	18-25

INTRODUCTION

Billions of people worldwide lack access even to basic health care. Out of the roughly 250 million operations performed each year, only 3.5% are performed on the poorest third of the world's population. Healthcare has a crucial role to play in achieving universal health coverage including the United Nations Millennium Development Goals, a set of goals set by the UN in 2000 to be fulfilled by 2015. This is not to say that surgery is any more important than other types of treatment, but it is certainly as important as other global health priorities.

The global burden of disease is massive, of which much is un-diagnosed and untreated. All doctors need to understand which options are possible and many of the treatments are basic and well-established. The graduating medical student should have an awareness of health services in local environment, including the place of health services in global healthcare.

EDUCATIONAL HOURS

SURGERY			
Year	Theory	Practical	Total
1st year	20 hours	25 hours	45
2nd year	20 hours	25 hours	45
3rd year	25	50 (Surgery rotation 4 weeks) 50 (Specialities rotation 4 weeks)	75 (Sur) 50 (Spe)
4th year	25 (Surgery) 25 (Specialities)	50 (Surgery rotation 4 weeks) 50 (Specialities rotation 4 weeks)	75 (Sur) 75 (Spe)
5th year	60 (Surgery) 75 (Specialities)	300 (Surgery rotation 8 weeks) 100 (Specialities rotation 4 weeks)	360 (Sur) 175 (Spe)
Total	250 hours in 36 weeks/ year	650 hours	600 (Sur) 300 (Spe)
Strategy	Lectures Problem based learning Small group discussion Case based discussion	Clinical attachment Evening duties in wards Clinical skills laboratory Early clinical exposure	

LEARNING OUTCOMES

AT THE END OF CURRICULUM STUDENT WILL BE ABLE TO

- Take a focused history
- Perform physical examination(s) in order to identify specific problems
- Formulate a provisional diagnosis problems, Order appropriate investigations for common surgical problems
- Formulate management plans in partnership with Using cost-effective best evidence
- Competent graduates require professional values, attitudes and behaviors that embody good medical practice, that is, life-long learning, altruism, empathy, cultural and religious sensitivity, honesty, accountability, probity, ethics, communication skills, and working in teams
- Can demonstrate knowledge of basic medical and clinical sciences required for the practice of surgery.
- Can display the ability to critically evaluate existing knowledge, technology and information, and to be able to reflect on it, is necessary for solving problems.
- Perform basic procedures with the consent of the patient, ensuring infection control
- Medical and dental graduates must continually acquire new scientific knowledge and skills to maintain competence, and incorporate it into their day-to-day medical practice.
- Graduates should be able to demonstrate Communication Skills, when dealing with patients and their families, nurses, other health professionals, community, the general public and the media.

EDUCATION STRATEGIES

The educational strategies in this curriculum are multiple and aligned with domain of learning and according to the desired outcome

Interactive lectures

One-third of the curriculum will be delivered in a traditional didactic format including PowerPoint presentations and case discussions. Didactic education is considered to be a one-way transmission of material from teacher to learner, we cannot overlook the possibility of meaningful interaction between experts and learners during live lectures. This type of interaction, which allows for immediate clarification of concepts and extension of knowledge, may be particularly important for novice learners who have relatively little exposure to the subject matter, such as our study population(4).

Case based Discussion

A lot of emphasis is on case based discussion during ward placement. Problem-based learning (PBL) is complex and heterogeneous. A wide variety of educational methods are referred as PBL. These include Lecture-based case, Case based lecture, Case based discussions, Problem or inquiry based and Closed loop or reiterative. Incorporation of case based discussion in teaching enhances the critical thinking and problem-solving skills. It also helps in developing a broader prospective of clinical case scenarios (5).

Small Group Discussion

Small group discussion provides a unique environment to achieve high standards in medical education. Activation of prior knowledge, exchange of ideas, and engagement at a higher cognitive level are assumed to result in deeper learning and better academic achievements by students (6).

Clinical Skills Sessions

Clinical skills session are important part of curriculum to achieve psychomotor and affective outcomes. Learning manual skills is a fundamental part of health care education, and motor, sensory and cognitive learning processes are essential aspects of professional development. Simulator training has been shown to enhance factors that facilitate motor and cognitive learning. Students learned manual skills, how to perform the procedure, and professional behaviour. They learned by preparing, watching, practising and reflecting. The simulator contributed by providing opportunities for students to prepare for the skills training, to see anatomical structures, to feel resistance, and to become aware of their own performance ability (7).

ASSESSMENT

MCQ's and SEQ's

Multiple choice question and short essay question test will be used at the end of part of curriculum to assess the learning of knowledge. These all assessment exercises will be formative. The written tests like Multiple-Choice Questions (MCQs) and Short-Essay Questions (SEQs) test formats are used for the assessment of cognitive domain. The MCQs are more objective and essentially select type of item response format. MCQs have a cueing effect, which promotes guessing and leads to higher scores. In addition, writing MCQs of higher cognitive level of problem solving is challenging. On the contrary, the SEQs are more subjective and have a supply or construct type item response format, which does not have any cueing effect and can effectively assess problem solving skills(8).

OSCE AND SHORT CASE

Short case and OSCE will be used to evaluate clinical skills and procedural skills at the ward end of placement. The OSCE is a method of clinical skill assessment, and it has been reported to be appropriate for assessing learning achievement levels in the psychomotor and emotional domains, which are difficult to evaluate with written examinations(9).

CLINICAL LOG BOOK

Clinical log book is meant for self directed learning (SDL) and assessment of students. The clinical logbook includes reflection which helps the students to set educational goals.

MINI-CEX

Mini-CEX is used to assess the clinical skills and problem solving skills of medical students. This is the tool used by clinical teachers. This can assess all three domains, Psychomotor, cognitive and affective. This also used as formative assessment.

Evaluation plan

Each Module	Written test (MCQ and SEQ)	Formative
After 12 weeks of ward placement	Ward test (OSCE and short case)	Formative
At end of 36 weeks	Send up exam (MCQ and SEQ) Viva voce	Formative
Annual	University Professional exam	Summative

INTERNAL ASSESSMENT

- i. The weightage of internal assessment shall be 10% of totals marks.
- ii. Continuous internal assessment shall consist of evaluation at the end of each assignments, e.g. stages/sub-stage, class tests etc., attitudinal assessment from educational supervisors.
- iii. Assessment of knowledge, Skills and Attitude shall contribute toward internal assessment. Methods used to assess these domains shall include Multiple Choice Questions of one-best type, Short essay questions, Oral/Viva, and Practical/Clinical examinations.
- iv. The score of internal assessment shall contribute to the score in the final examination, Final university examination of each subject shall contribute 90 to total score, and the candidate shall pass in aggregate.
- v. Proper record of continuous internal assessment shall be maintained.

LEARNING RESOURCES

The department of Surgery will require following resources for implementation resources:

- Human resource
- Instructors (faculty members 8)
- Curriculum coordinator curriculum secretary
- Infrastructure
- Lecture hall with AV aids
- Tutorial room with AV aids
- Clinical skills Lab with manikins
- Simulated patients and simulated manikins
- Computers

LISTS OF CONTENT RESOURCES

- Short Surgical Practice Bailey & Love 28th edition
- Surgical Signs and Symptoms Norman Browse
- ATLS manual 9th edition
- Clinical examination systems by Muhammad Shuja Tahir
- Tell me the Answer Vol 1 and Vol 2 by Muhammad Shuja Tahir
- Trauma by Muhammad Shuja Tahir
- Breast Problem by Muhammad Shuja Tahir
- Thyroid Problems by Muhammad Shuja Tahir
- GIT Problems by Muhammad Shuja Tahir
- Urology by Muhammad Shuja Tahir
- Investigations by Muhammad Shuja Tahir
- Independent Review (H-2000) www.indepreview.com
- History Register
- Clinical Log book
- General Surgery (Lecture Notes Series) by Harold Ellis, Roy Calne, Chris Watson
- An Introduction to the Symptoms and Signs of Surgical Disease by Norman Browse
- Current Surgical Practice: by Norman L. Browse, Alan G. Johnson, and Tom. Vol. 6
- Schwartz's Principles of Surgery by F. Charles Brunicaudi, Dana K.
- Andersen, Timothy R. Billiar, and David L. Dunn 8th edition. 2004
- Online Journals and Reading Materials through HEC Digital Library Facility

CONTENTS MODULES

COURSE CONTENTS		
3rd Year	1st Term	Module 1: Wounds & Surgical infections
	2nd Term	Module 2: Surgical physiology
	3rd Term	Module 3: Critical care and Anesthesia
4th Year	1st Term	Module 4: Diagnosis and Surgical technology
	2nd Term	Module 5: Surgical Pathology
	3rd Term	Module 6: Trauma
Final Year	1st Term	Module 7: Skin and soft tissue lesions Module 8: Head and neck Module 9: Breast diseases Module 10: Upper GIT
	2nd Term	Module 11: Small intestine and appendix Module 12: Abdominal wall and peritonitis Module 13: Hepato billiary and pancreas Module 14: Colorectal disease
	3rd Term	Module 15: Urology Module 16: Vascular diseases Module 17: Pediatric surgery Module 18: Neurosurgery

IMPLEMENTATION

The curriculum will be spread over 5 year with 36 working weeks each year. During this period student will be exposed to various education strategies to achieve the learning objectives.

1st Year.

In this year student will be exposed to do early clinical exposure to develop understanding of applied aspects of basic sciences.

Theory (Lecture, SGD and PBL)	Practical (Early clinical exposure, Skills lab)
20 Hours (36 Weeks)	25 Hours

2nd Year.

In this year student will be exposed to do early clinical exposure to develop understanding of applied aspects of basic sciences.

Theory (Lecture, SGD and PBL)	Practical (Early clinical exposure, Skills lab)
20 Hours (36 Weeks)	25 Hours

3rd Year.

In this year student will be placed on ward attachments and formative assessment of clinical skills will be started.

Theory (Lecture, SGD and PBL)	Practical (Ward Placement, Skills lab)
25 Hours (36 Weeks)	100 Hours (8 Weeks)

4th Year.

In this year student will be placed on ward attachments and clinical skills lab. formative assessment of clinical skills will be started.

Theory (Lecture, SGD and PBL)	Practical (Ward Placement, Skills lab)
50 Hours (36 Weeks)	100 Hours (8 Weeks)

Final Year.

In this year student will be placed on ward attachments and clinical skills lab. All students will be assessed for knowledge and clinical skills during year. This year will have summative assessment as final professional at the end of year.

Theory (Lecture, SGD and PBL)	Practical (Ward Placement, Skills lab)
135 Hours (36 Weeks)	400 Hours (12 Weeks)

THIRD YEAR WARD ROTATION IN SURGERY

Duration: 8 weeks (100 hours)

Location: ward, OPD, Tutorial room

Tutors: Assistant professor, associate Professor, Professor

	Ward	C	P	A	% age	Assessment
Week 1	History taking General physical examination Examination of ulcer Examination of swelling	C2 C2	P1 P1	A1 A1	15	Ward test Mini CEX OSPE
Week 2	Abdominal examination Digital rectal examination Inguinal examination Scrotal examination	C2 C2	P1 P1	A1 A1	15	Ward test Mini CEX OSPE
Week 3	Chest examination Breast examination	C2 C2	P1 P1	A1 A1	15	Ward test Mini CEX OSPE
Week 4	Examination of neck Thyroid examination	C2 C2	P1 P1	A1 A1	15	Ward test Mini CEX OSPE
Week 5	Arterial examination Venous examination Diabetic foot examination	C2 C2	P1 P1	A1 A1	10	Ward test Mini CEX OSPE
Week 6	CNS examination Examination of upper limb nerves Examination of lower limb nerves	C2 C2	P1 P1	A1 A1	10	Ward test Mini CEX OSPE
Week 7	Orthopedics Examination of upper limb joint	C2 C2 C2	P1 P1 P1	A1 A1 A1	10	Ward test Mini CEX OSPE
Week 8	Orthopedics Examination of lower limb joints	C2 C2 C2	P1 P1 P1	A1 A1 A1	10	Ward test Mini CEX OSPE

Evaluation:

- Attendance of 75% is mandatory
- 15 clinical histories must be completed on history register
- Every Saturday will be formative assessment for course work of that week
- End of course work will be ward test
- Ward test will be OSPE and 2 short cases

FOURTH YEAR WARD ROTATION IN SURGERY

Duration: 8 weeks (100 hours)

Location: Ward, OPD, Tutorial room

Tutors: Assistant Professor, Associate Professor, Professor

	Ward	C	P	A	% age	Assessment
Week 1	Examination of ulcer Examination of swelling Neck swelling	C2 C2 C3	P2 P2	A2 A2	15	Ward test Mini CEX OSPE
Week 2	Abdominal examination Digital rectal examination Abdominal Pain	C2 C2 C3	P2 P2	A2 A2	15	Ward test Mini CEX OSPE
Week 3	Inguinal examination Scrotal examination LUTS Hematuria	C2 C2 C3 C3	P2 P2	A2 A2	15	Ward test Mini CEX OSPE
Week 4	Chest examination Breast examination Jaundice	C2 C2 C3	P2 P2	A2 A2	15	Ward test Mini CEX OSPE
Week 5	Examination of neck Thyroid examination dysphagia	C2 C2 C3	P2 P2	A2 A2	10	Ward test Mini CEX OSPE
Week 6	Arterial examination Venous examination Diabetic foot examination Ischemic limb	C2 C2 C3 C3	P2 P2	A2 A2	10	Ward test Mini CEX OSPE
Week 7	Orthopedics Examination of upper limb joint	C2 C2 C2	P2 P2 P2	A2 A2 A2	10	Ward test Mini CEX OSPE
Week 8	Orthopedics Examination of upper limb joint	C2 C2	P2 P2	A2 A2	10	Ward test Mini CEX OSPE

Evaluation:

- Attendance of 75% is mandatory
- 15 clinical histories must be completed on history register
- Every Saturday will be formative assessment for course work of that week
- End of course work will be ward test
- Ward test will be OSPE and 2 short cases

FINAL YEAR WARD ROTATION IN SURGERY

Duration: 12 weeks (350 hours)

Location: ward, OPD, Tutorial room, Operation theatre

Tutors: Assistant Professor, Associate Professor, Professor

	Small Group Discussion	ward	% age	Assessment
Week 1	Wounds Skin lesions/ulcers	Examination of wound /ulcer Examination of swelling	8	Short case SEQ, OSPE
Week 2	Soft tissue swellings Lateral neck swelling Midline neck swelling	Examination of neck Thyroid examination	8	Short case SEQ, OSPE
Week 3	Breast lump Breast pain Nipple discharge	Breast examination mammography	8	Short case SEQ, OSPE
Week 4	Dysphagia Upper GI bleed	Barium studies	8	Short case SEQ, OSPE
Week 5	RIF pain RUQ pain Epigastric pain	Abdominal examination General anesthesia	10	Short case SEQ, OSPE
Week 6	Intestinal obstruction LUQ lump RIF mass	Abdominal x-ray Regional anesthesia	10	Short case SEQ, OSPE
Week 7	Periumbilical swelling Inguinoscrotal swelling	Examination of groin Pain management	10	Short case SEQ, OSPE
Week 8	Jaundice Rectal mass	ERCP, PTC	10	Short case SEQ, OSPE
Week 9	LUTS Urinary retention Hematuria	IVU	8	Short case SEQ, OSPE
Week 10	Renal pain Renal mass Scrotal swelling	Examination of scrotum	8	Short case SEQ, OSPE
Week 11	Diabetic foot Varicose veins Ischemic limb	Arterial examination Venous examination	8	Short case SEQ, OSPE
Week 12	Abdominal trauma Head injury Chest trauma	CT scan CNS examnation Examination of peripheral nerves upper and lower limb	4	Short case SEQ, OSPE

Evaluation:

- Attendance of 75% is mandatory
- 15 clinical histories must be completed on history register
- Every Saturday will be formative assessment for course work of that week
- End of course work will be ward test
- Ward test will be OSPE and 2 short cases

PROGRAMME EVALUATION

Purpose of Evaluation

The major goals of the evaluation are to provide information that the students can use to achieve curricular objectives and that the faculty can use to monitor quality of and improve curriculum.

Design of Evaluation

The evaluation design as only posttest.

Users of evaluation: students, curriculum faculty, Principal Office

Resources: Curriculum faculty and departmental secretaries. No additional funding

Evaluation question:

- What percentage of students achieved 75% mandatory attendance?
- What percentage of students achieved pass marks in university exam?
- What are the strengths of the curriculum? What are the weaknesses? How can the curriculum can be improved?

Because of limited resources, the evaluation was kept simple. Data Collection was integrated into the curriculum schedule. The major goals of the evaluation are to provide information that the students can use to achieve curricular objectives and that the faculty can use to monitor quality of and improve curriculum. The evaluation design as only posttest.

End of curriculum evaluation form:

This will be filled by students and faculty members for evaluation of adequacy with each content was covered, whether they would recommend the curriculum to others and written comments on curriculum strengths, weaknesses and suggestions for improvements.

Annual Report:

Based on evaluation of the educational programe report will be generated annually and submitted to Medical Educational Department.

TABLE OF SPECIFICATION

SURGERY 1 (Principles of Surgery)

No	Module	Subject	percentage	MCQ	SEQ
1		Surgical anatomy	6%	3	1
2	Wounds and injuries	Wounds, tissue repair and scars	6%	3	1
3		Accident and Emergency , warfare Injuries	6%	3	
4	Surgical physiology	Fluid , electrolytes and acid base balance	6%	3	1
5		Blood transfusion and shock	6%	3	
6		Nutrition	6%	3	1
7	Surgical infections	Wound infection	6%	3	1
8		Special infection, AIDS , sterile precautions	6%	3	
9	Skin and soft tissues	Tumors, cyst ulcer and sinuses	6%	3	1
10		Burns	6%	3	
11		Skin lesions, skin grafts and flaps	6%	3	
12	Vascular system	Arterial disorders	6%	3	1
13		Venous disorders	6%	3	
14		Lymphatic disorders	6%	3	
15	Critical care	Principles of anesthesia and pain management	6%	3	1
16		Principles of radiology	6%	3	1
17		Principles of radiotherapy and chemotherapy	4%	2	1

SURGERY 2 (systemic Surgery)

No	Module	Subject	percentage	MCQ	SEQ
1	Musculoskeletal Disease	Fractures and dislocations-general principles	10%	1	1
2		Fractures and dislocations-upper limb		1	
3		Fractures and dislocations-lower limb		1	
4		Other diseases of bones, joints and related tissues		2	
5		Hand and foot		1	
6	Upper GI	Esophagus	24%	3	2
7		Stomach and duodenum		2	
8		Liver		2	
9		Spleen		2	
10		Gall bladder and bile ducts		2	
11		pancreas		2	
12		Peritoneum. Omentum, mesentery, and retroperitoneal space		2	
13	Lower GI	Small and large intestine	20%	2	2
14		Intestinal obstruction		2	
15		Vermiform appendix		2	
16		Rectum		2	
17		Anus and anal canal		2	
18		Hernia , umbilicus and abdominal wall		2	
19	Urogenital system	Kidney and ureter	16%	2	2
20		Urinary bladder		2	
21		Prostate and seminal vesicles		2	
22		Urethra and penis		2	
23		Testis and scrotum		2	
24	Head and neck	Thyroid gland and thyroglossal tract	7%	1	1
25		Parathyroid and Adrenal Glands		1	
26		Salivary Glands		1	
27		Others		1	
28	Thorax	Chest trauma	7%	2	1
29		Others		2	
30	Breast diseases	Malignant diseases of breast	7%	2	1
31		Benign diseases of breast		2	
32	Nervous system	Head , spine and nerve injuries	3%	1	1
33		Others		1	
34	Heart and great vessels	Heart	3%	1	1
35		Great vessels		1	
36	orodental	Maxillofacial injuries	3%	1	1
37		Others		1	

TABLE OF SPECIFICATION FOR OSPE

OSPE	TOTAL MARKS 55 Total Station 13 (02 Rest Station) 05 Marks at Each Station 05 Marks at Each Station
Static Stations	09 05 General Surgery 01 of the four sub-speciatics (Anaesthesia, Urology, Neurosurgery, Orthopaedics)
Interactive / Observed Stations	02 General Surgery and Trauma only

FINAL PROFESSIONAL MARKING SCHEME

Theory

	SEQ	MCQ	Int. Ass	Sub Total
Surgery 1	50	50	25	250
Surgery 2	65	60		

Clinical

Short case X2 cases	Long case X1 case	OSPE	Int. Ass	Sub total
100	70	55	25	250
				Total: 500

Contents	Objectives	Do-main	Strategy	Assessment
<p>Module-1: Wounds & Surgical infections</p> <p>Introduction to surgery, surgical ethics Wounds , type of wounds Wound healing and abnormal wound healing Management of wounds Principles of wound closure Surgical infections, promoters, inhibitors and prevention Surgical site infections Common surgical bacteria and principle of antibiotic use Specific surgical infections & precautions in hepatitis and AIDS Erysipelas , boil, abscess Cellulitis , necrotizing fasciitis, hideradenitis supparitava Gas gangrene, tetanus precautions in hepatitis and AIDS Bacteremia , SIRS sepsis , shock and multi-organ failure Ameobiasis ,Hydatid disease, TB surgical aspects</p>	<ul style="list-style-type: none"> • Explain pathophysiology of wound healing • Describe factors affecting wound healing • Assessment of various wounds • Plan management of wounds • Discuss abnormal wound healing • To identify common infections and parasitic infections of surgical importance • To explain gas gangrene and tetanus • To outline use of antibiotics • To outline management of surgical site infection • To differentiate between different surgical infections 	<p>C3</p> <p>C3</p> <p>C3P3A3 C3P2A3 C3 C3</p> <p>C3 C3 C3P2A3 C3P2A3</p>	<p>Lecture</p> <p>Lecture</p> <p>Bedside SGD SGD Lecture</p> <p>Lecture SGD SGD</p> <p>Bedside</p>	<p>MCQ</p> <p>MCQ</p> <p>SC/OSPE SEQ SEQ MCQ</p> <p>MCQ MCQ SEQ</p> <p>SC/OSPE</p>
<p>Module-2: Surgical physiology</p> <p>Fluid management Potassium balance & Sodium balance Calcium balance and Mg balance Acid base balance Hemorrhage, hemorrhagic shock Blood transfusion & Complication of blood transfusion, Blood components</p>	<ul style="list-style-type: none"> • Explain basic fluid and electrolyte balance of body • Prepare IV fluid administration plan • Demonstrate steps of IV access • Identify abnormalities of fluid and electrolyte abnormalities • Explain nutritional care of patients • Perform nutritional assessment • Describe Body response to trauma • Discriminate types of shock • Explain hemorrhage • Outline procedure of blood transfusion 	<p>C3</p> <p>C3P3A3 C3 C3 C3P3</p>	<p>Lecture</p> <p>Bedside Lecture SGD SGD</p>	<p>MCQ</p> <p>OSPE MCQ MCQ MSQ/SEQ</p>

Contents	Objectives	Do-main	Strategy	Assessment
Module-3: Critical care and Anesthesia				
<p>Metabolic response to injury</p> <p>Pre-operative assessment & optimization of surgery</p> <p>Anesthesia local and regional</p> <p>General anesthesia</p> <p>Pain management</p> <p>Intra theatre care and Post-operative care</p>	<ul style="list-style-type: none"> • Demonstrate pre-operative assessment • Take history of surgical patient • Demonstrate general physical examination • Compare regional and general anesthesia • Discuss anesthetic drugs • Illustrate principles of pain management • Explain monitoring in anesthesia • Outline postoperative complications • Assessment of post-operative complains • Demonstrate steps of basic life support 	<p>C3P3A3</p> <p>C3P3A3</p> <p>C3P3A3</p> <p>C3</p> <p>C3</p> <p>C3P3A3</p> <p>C3P3A3</p> <p>C3</p> <p>C3A3</p> <p>C3P3A3</p> <p>C3P3A3</p>	<p>Bedside</p> <p>Bedside</p> <p>Bedside</p> <p>SGD</p> <p>SGD</p> <p>Bedside</p> <p>Skills lab</p> <p>SGD</p> <p>SGD</p> <p>Skills Lab</p> <p>SGD</p>	<p>SC/OSPE</p> <p>SC</p> <p>SC/OSPE</p> <p>SEQ</p> <p>SEQ</p> <p>OSPE</p> <p>MCQ</p> <p>SEQ</p> <p>OSPE</p> <p>SEQ</p>
Module-4: Diagnostics and surgical technology				
<p>Diagnostic Imaging in surgery (identification of morbidities , high risk patients, pitfalls</p> <p>Endoscopy in surgery</p> <p>Tissue diagnosis</p> <p>Minimal invasive surgery</p> <p>Surgical incisions</p>	<ul style="list-style-type: none"> • Compare different radiological investigations • Analyze various laboratory investigations • Describe advance surgical investigations • Categorize pathological investigations • Explain anatomy of surgical incisions 	<p>C3</p> <p>C3</p> <p>C3</p> <p>C3</p> <p>C3P3</p>	<p>Lecture</p> <p>SGD</p> <p>lecture</p> <p>SGD</p> <p>Skills lab</p>	<p>MCQ</p> <p>MCQ/SEQ</p> <p>MCQ/SEQ</p> <p>SEQ</p> <p>OSPE</p>
Module-5: Surgical Pathology				
<p>Neoplasia and surgery</p> <p>Principles of Chemotherapy</p> <p>Principles of radiotherapy</p> <p>Principles of transplantation</p>	<ul style="list-style-type: none"> • Explain principles of oncological therapy and palliation • Describe principles of transplantation • Discuss pharmacology of chemotherapy • Describe types of radiotherapy 	<p>C3</p> <p>C3</p> <p>C3</p> <p>C3</p>	<p>Lecture</p> <p>Lecture</p> <p>Lecture</p> <p>SGD</p>	<p>MCQ</p> <p>MCQ</p> <p>MCQ</p> <p>SEQ</p>

Contents	Objectives	Do-main	Strategy	Assessment
Module-6: Trauma				
<p>Introduction to trauma and triage Primary survey and Secondary survey Burns and its types & Management of burns Spinal injury Abdominal trauma Chest trauma</p>	<ul style="list-style-type: none"> • Discuss pathophysiology of Head Injury • Recognize signs of Head injury • Plan treatment of Head injury patient • Perform CNS examination • Explain anatomy of spinal injury • Demonstrate Application of cervical collar • Describe management of abdominal trauma • Outline management chest injuries • Interpret chest x-ray C • Demonstrate airway management skills • Perform clinical examination of Chest • Carry out triage and pre hospital care • Perform primary and secondary survey 	<p>C3 C3P3A3 C3P3A3 C3P3A3 C3 C3P3A3 C3 C3 C3 C3P3A3 C3P3A3 C3P3A3</p>	<p>Lecture bedside SGD bedside Lecture Skills Lab Lecture SGD SGD Skills Lab bedside Skills lab</p>	<p>MCQ OSPE SEQ/MCQ SC/OSPE MCQ OSPE MCQ MCQ OSPE OSPE OSPE SC/OSPE OSPE</p>
Module-7: Skin and soft tissue lesions				
<p>Benign soft tissue lesions Squamous cell carcinoma and Basal cell carcinoma Skin grafts and flaps retroperitoneal Sarcomas & Lymphomas</p>	<ul style="list-style-type: none"> • Describe Principles of skin coverage • Differentiate between Common benign and malignant skin lesions • Perform Clinical examination of ulcer • Discuss the common surgical skin swellings • Perform examination of swelling and Justify clinical features • Differentiate between different benign skin swellings 	<p>C3 C3P3 C3P3A3 C3 C3P3A3 C3P3</p>	<p>Lecture SGD Bedside SGD Bedside SGD</p>	<p>MCQ SEQ/OSPE SC/OSPE MCQ/SEQ SC/OSPE SEQ/MCQ</p>
Module-8: Head and neck				
<p>Neck swelling & Salivary gland diseases & Branchial cyst, branchial sinus , cystic hygroma Goitre/solitary nodule of thyroid & Hyper / hypothyroidism Thyroid malignancy Parathyroid gland disease & Pheochromocytoma , MEN1 and MEN 2</p>	<ul style="list-style-type: none"> • Explain Triangles and zones of neck • Describe Salivary gland diseases • Plan management of Thyroid diseases • Explain Congenital swellings of neck • Assessment of neck swelling • Clinical examination of neck and thyroid disease patients • Plan investigations for neck swelling • Interpret thyroid function tests 	<p>C3 C3 C3P3 C3 C3P3A3 C3P3A3 C3P3 C3P3</p>	<p>Lecture Lecture SGD SGD Bedside Bedside SGD SGD</p>	<p>MCQ MCQ/SEQ MCQ/SEQ MCQ/SEQ SC/OSPE SC/OSPE OSPE SEQ</p>

Contents	Objectives	Do-main	Strategy	Assessment
Module-9: Breast diseases				
<p>Nipple discharge</p> <p>Mastalgia & Benign breast lump , Gynaecomastia</p> <p>Carcinoma breast</p> <p>Breast surgery</p>	<ul style="list-style-type: none"> Describe clinical features of breast lumps Perform clinical examination of breast Explain triple assessment Discuss pathology of breast cancer Prepare management plan for malignant lumps of breast Analyse patients with nipple discharge Outline management mastalgia Discuss principles of breast surgery Discuss male breast problems 	<p>C3</p> <p>C3P3A3</p> <p>C3P3</p> <p>C3</p> <p>C3A3</p> <p>C3P3A3</p> <p>C3</p> <p>C3</p> <p>C3</p>	<p>Lecture</p> <p>Bedside</p> <p>SGD</p> <p>Lecture</p> <p>SGD</p> <p>SGD</p> <p>Lecture</p> <p>lecture</p>	<p>MCQ/SEQ</p> <p>SC/OSPE</p> <p>MCQ/SEQ</p> <p>MCQ</p> <p>SEQ</p> <p>SEQ</p> <p>MCQ</p> <p>MCQ</p> <p>MCQ</p>
Module 10: Upper GIT				
<p>Motility disorders of esophagus</p> <p>GERD disease</p> <p>Upper GI bleed</p> <p>Carcinoma esophagus</p> <p>Carcinoma stomach</p>	<ul style="list-style-type: none"> Analyse patient with dysphagia Differentiate Motility disorders of esophagus Prepare management plan for UGI Bleed Discuss management of carcinoma esophagus Explain management of gastroesophageal reflux disease Interpret barium swallow Determine management plan for carcinoma stomach 	<p>C3A3P3</p> <p>C3</p> <p>C3A3</p> <p>C3</p> <p>C3</p> <p>C3A3</p> <p>C3</p>	<p>Bedside</p> <p>SGD</p> <p>SGD</p> <p>Lecture</p> <p>Lecture</p> <p>SGD</p> <p>Lecture</p>	<p>OSPE</p> <p>MCQ</p> <p>SEQ</p> <p>MCQ/SEQ</p> <p>MCQ/SEQ</p> <p>OSPE</p> <p>MCQ/SEQ</p>
Module-11: Small intestine and appendix				
<p>Intestinal obstruction</p> <p>Intestinal TB , typhoid and amebiasis</p> <p>Appendicitis , appendicular mass , appendicular abscess</p> <p>Tumors of small intestine</p> <p>Meckels diverticulum</p>	<ul style="list-style-type: none"> Discuss management of patient with right iliac fossa mass Perform abdominal examination Evaluate patient with intestinal obstruction Discuss pathology of intestinal obstruction Assessment of acute abdominal pain Interpretation of abdominal x-ray 	<p>C3</p> <p>C3P3A3</p> <p>C3P3A3</p> <p>C3</p> <p>C3P3A3</p> <p>C3P3A3</p>	<p>Lecture</p> <p>bedside</p> <p>SGD</p> <p>Lecture</p> <p>Bedside</p> <p>Skills Lab</p>	<p>MCQ</p> <p>SC/OSPE</p> <p>SEQ</p> <p>MCQ/SEQ</p> <p>SC/OSPE</p> <p>OSPE</p>

Contents	Objectives	Do-main	Strategy	Assessment
Module-12: Abdominal wall and peritonitis				
Groin hernias Ventral hernias Burst abdomen and incisional hernia Peritonitis	<ul style="list-style-type: none"> Describe anatomy of inguinal region Examine patient with groin swelling Explain groin hernia and its complications Assess swellings in umbilical region Plan management plan of ventral hernias Pathology of peritonitis Plan management of peritonitis 	C3 C3P3A3 C3 C3P3A3 C3 C3 C3A3	Lecture Bedside SGD Bedside SGD Lecture SGD	MCQ SC/OSPE SEQ SC/OSPE SEQ/MCQ MCQ SEQ
Module-13: Hepato biliary and pancreas				
Cholelithiasis and Cholidocolithiasis Tumors of biliary tract Pancreatitis Carcinoma pancreas Splenomegaly Liver abscess and Liver masses	<ul style="list-style-type: none"> Evaluate patients with RUQ mass Describe pathologies of liver Describe management of Acute cholecystitis and enlist its complications Discuss patients with left hypochoondrial mass with splenomegaly Explain pathophysiology for investigation of jaundice Describe management of surgical jaundice 	C3P3A3 C3 C3A3 C3 C3P3A3 C3 C3A3	bedside lecture SGD SGD Lecture SGD	SC/OSPE MCQ SEQ SEQ/MCQ MCQ SEQ
Module-14: Colorectal disease				
Lower GI bleed and Abdominal mass Inflammatory bowel disease Colorectal carcinoma Carcinoma anal canal Bleeding PR and hemorrhoids Anal fissure and perianal abscess Perianal fistula Pilonidal sinus	<ul style="list-style-type: none"> Assess patient with lower GI bleeding Explain management of colorectal carcinoma Describe diverticular disease Discuss management of rectal prolapse Describe colonoscopy , bariium enema and its preparation Explain anatomy of colonic surgery Compare ulcerative colitis and chron's disease Outline management for hemorrhoids Describe anatomy of perianal fistula Explain management of perianal conditions Perform digital rectal examination Describe management of pilonidal sinus 	C3 C3P3A3 C3P3A3 C3P3A3 C3 C3P3A3 C3 C3 C3 C3 C3P3A3 C3P3A3 C3P3A3	Lecture bedside SGD bedside Lecture Skills Lab Lecture SGD SGD Skills Lab bedside Skills lab Skills lab	MCQ OSPE SEQ/MCQ SC/OSPE MCQ OSPE MCQ OSPE OSPE OSPE SC/OSPE OSPE OSPE

Contents	Objectives	Do-main	Strategy	Assessment
Module 15: Urology				
Urinary tract stone disease Hydronephrosis and hydroureter Renal neoplasm Carcinoma bladder BPH and carcinoma prostate Stricture urethra Scrotal swelling Testicular tumour Renal tract investigation	<ul style="list-style-type: none"> Describe Lower urinary tract symptoms Assess patient with hematuria Discuss prostatic disease and identify plan of management Evaluate patient with renal mass Plan management of carcinoma bladder Interpret IVU and identify steps of IVU Explain steps of cricumeission Assess patient with scrotal swelling Manage renal colic patient Outline management of urinary retention Perform urethral catheterization 	C3 C3A3P3 C3 C3A3P3 C3 C3A3 C3 C3P3A3 C3A3P3 C3 C3A3P3	Lecture Beside SGD Bedside SGD Skills Lab SGD Bedside SGD Lecture Skills Lab	SEQ SC/SEQ MCQ/SEQ SC/OSPE MCQ/SEQ OSPE OSPE SC MCQ/SEQ MCQ/SEQ OSPE
Module-16: Vascular diseases				
Arterial occlusive disorders Aneurysms Gangrene Varicose veins DVT Diabetic foot	<ul style="list-style-type: none"> Discuss chronic limb ischemia Explain Raynaud's and Buerger's disease Demonstrate evaluation of diabetic foot Discuss various aneurysms Explain anatomical description of varicose veins Outline management of venous disorders Perform examination of vascular system Explain risks and complications of DVT 	C3 C3 C3P3A3 C3 C3 C3A3 C3A3P3 C3	Lecture lecture bedside lecture lecture SGD Bedside SGD	MCQ/SEQ MCQ/SEQ SC/OSPE MCQ MCQ DEQ SC/OSPE MCQ/SEQ
Module-17: Pediatric surgery				
Undescended testis & Hypospadias Testicular torsion Cleft lip and palate Hirsch sprung disease and congenital malformations of anus Hypertrophic pyloric stenosis Rectal polyp and rectal bleeding	<ul style="list-style-type: none"> Describe Testicular torsion Evaluate Acute abdominal pain in children Explain types of cleft lip & palate Outline ano rectal malformations Discuss causes of bleeding PR in children Explain management of UDT 	C3 C3P3A3 C3 C3 C3 C3A3	Lecture SGD Lecture Lecture SGD lecture	MCQ/SEQ SEQ MCQ/SEQ MCQ/SEQ SEQ SEQ

Contents	Objectives	Do-main	Strategy	Assessment
Module-18: Neurosurgery				
Brain tumor Hydrocephalus Meningocele Intracranial pressure Peripheral nerve injuries	<ul style="list-style-type: none"> • Introduction to intracranial tumours • Explain anatomy of Peripheral nerve injuries • Describe congenital anomalies of CNS • Discuss pathophysiology of CSF • Perform examination of peripheral nerves • perform Examination of CNS 	C3 C3 C3 C3 C3P3A3 C3P3A3	Lecture Lecture Lecture Lecture Bedside bedside	MCQ MCQ MCQ/SEQ MCQ/SEQ SC/OSPE SC/OSPE
Module 19 Clinical Skills				
Basic surgical skills Urethral catheterization IV cannulation Primary survey NG tube insertion Airway management Wound dressing	<ul style="list-style-type: none"> • Demonstrate suturing skills • Demonstrate scrubbing technique • Describe steps of urethral catheterization • Describe steps of IV cannulation • Demonstrate steps of primary survey • Demonstrate skills for airway management 	C3 P3 A3 C3 P3 A3 C3 P3 A3 C3 P3 A3 C3 P3 A3 C3 P3 A3	Skills lab Skills lab Skills lab Skills lab Skills lab Skills lab	OSPE OSPE OSPE OSPE OSPE OSPE

Domain	Level
Knowledge	C1 Knowledge C2 Comprehension C3 Application C4 Analysis C5 Synthesis C6 Evaluation
Psychomotor	P1 Observe P2 Practice P3 Adjust P4 Master P5 Develop P6 Construct
Affect	A1 Receiving A2 Responding A3 Valuing A4 Organization A5 Characterization