GENERAL SURGERY

AIIMS Kalyani

MS Curriculum

MS *in* General Surgery

COURSE NAME
MS in General Surgery

DURATION OF COURSE
3 years

ELIGIBILITY
MBBS

OBJECTIVES

At the end of postgraduate training, the PG student should be able to: -

1. Diagnose and appropriately manage common surgical ailments in a given situation.
2. Perform the basic general surgical procedures including laparoscopy and trauma (Emergency and Elective)
3. Provide adequate preoperative, post-operativeand follow-up care of surgical patients.
4. Provide post-operative ICU care of surgical patients.
5. Identify situations calling for urgent or early surgical intervention and provide appropriate surgical care.
6. refer at the optimum time to the appropriate centres or speciality.
7. Counsel and guide patients and relatives regarding need, implications and problems of surgery in the individual patient.
8. Provide and coordinate emergency resuscitative measures in acute surgical situations including trauma.
9. Organize and conduct relief measures in situations of mass disaster including triage.
10. Effectively participate in the National Health Programs especially in the Family Welfare Programs.
11. Discharge effectively medico-legal and ethical responsibilities and practice his specialty ethically.
12. minimize medical errors.
13. Regularly update his/her knowledge in recent advances and newer techniques in the management of surgical patients.
14. Obtain informed consent prior to performance of the operative procedure.
15. Perform a surgical audit on a regular basis and maintain records (manual and/or electronic) for life.
16. Participate regularly in departmental academic activities by presenting Seminar, Case discussion, Journal Club and Topic discussion on a weekly basis and maintain logbook.
17. Demonstrate sufficient understanding of basic sciences related to his speciality.
18. Plan and advise measures for the prevention and rehabilitation of patients belonging to his speciality.
19. practice surgical conscience and operating room etiquette

COURSE CONTENTS

No limit can be fixed and no fixed number of topicscan be prescribed as course contents. She/he is expected to know the subject in-depth, however, emphasis should be on the diseases/health problems most prevalent in that area. Knowledge of recent advances and basic sciences as applicable to his/her speciality should get high priority. Competence in surgical skills commensurate with the speciality (actual hands-on training) must be ensured.

General topics:

A student should have a fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to his speciality. Further, the student shouldacquire in-depth knowledge of his subject includingrecent advances and should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of the latest diagnostics and therapeutics available.

1. History of medicine with special reference to ancient Indian texts

2. Health economics - basic terms, health insurance
3. Medical sociology, doctor-patient relationship, family adjustments in disease, organizational behaviour, conflict resolution
4. Computers - record-keeping, computer-aided learning, virtual reality, robotics
5. Hazards in hospital and protection: AIDS, hepatitis B, tuberculosis, radiation, psychological
6. Environment protection - bio-medical waste management
7. Surgical audit, evidence-based surgical practice, quality assurance
8. Concept of essential drugs and rational use of drugs
9. Procurement of stores and material & personnel management
10. Research methodology - library consultation, formulating research, selection of topic, writing thesis protocol, preparation of consent form from patients
11. Bio-medical statistics, clinical trials
12. Medical ethics
13. Consumer protection
14. Newer antibiotics
15. The problem of resistance.
16. Sepsis - SIRS
17. Nosocomial infection
18. Advances in imaging technologies
19. Disaster management, mass casualties, Triage
20. O.T. design, technologies, equipment
21. Critical care in surgical practice
22. Response to trauma
23. Wound healing
24. Fluid and electrolyte balance
25. Nutrition
26. Blood transfusion
27. Brain death
28. Cadaveric organ retrieval

Systemic Surgery

The student must acquire knowledge in the following important topics but teaching should not be limited to these topics. A standard text-book may be followed, which will also identify the level of learning expected of the trainees.

- Wound healing including recent advances
- Asepsis, antisepsis, sterilization and universal precaution
- Surgical knots, sutures, drains, bandages and splints
- Surgical infections, causes of infections, prevention
- Common aerobic and anaerobic organisms and newer organisms causing infection including *Helicobacter Pylori*
- Tetanus, gas gangrene treatment & prevention
- Chronic specific infections TB, Filariasis
- Boils, cellulitis, abscess, narcotizing fascitis and synergistic infection
- Antibiotic therapy rationale including antibiotic prophylaxis, misuse, abuse
- Hospital-acquired nosocomial infection causes and prevention including MRSA etc
- HIV, AIDS and Hepatitis B & C, Universal precautions when dealing with patients suffering from these diseases
- Fluid and electrolyte balance including acid-base disturbance, consequences, interpretation of blood gas analysis data and management
- Rhabdomyolysis and prevention of renal failure
- Shock (septicaemic, hypovolaemic, Neurogenic, anaphylactic), aetiology, pathophysiology and management
- Blood and blood components, transfusion indication, contraindication, mismatch and prevention and management of complications of massive blood transfusion

- Common preoperative preparation (detailed preoperative workup, risk assessmentaccording to the disease and general condition of the patient as per ASA grade) and detailed postoperative complications following major and minor surgical procedures
- Surgical aspects of diabetes mellitus particularly management of diabetic foot and gangrene, preoperative control of diabetes, consequences of hypo- and hyperglycaemia in a postoperative setting
- Consequences and management of bites and stings including snake, dog, human bites
- Mechanisms and management of missile, blast and gunshot injuries
- Organ transplantation: Basic principles including cadaver donation, related Human Organ Transplant Acts, ethical and medicolegal aspects.
- Nutritional support to surgical patients
- Common skin and subcutaneous condition
- Sinus and fistulae, pressure sores
- Acute arterial occlusion, diagnosis and initiate management
- Types of gangrene, Burger's disease and atherosclerosis
- Investigations in case of arterial obstruction, amputation, vascular injuries: basic principles and management
- Venous disorders: Varicose veins
- Diagnosis, principles of therapy, prevention of DVT: basic principles and management
- Lymphatic: Diagnosis and principles of management of lymphangitis and lymphedema
- Surgical management of Filariasis
- Burns: causes, prevention and management
- Wounds of the scalp and its management
- Recognition, diagnosis and monitoring of patients with a head injury, Glasgow coma scale
- Undergo advanced trauma and cardiac support course (certified) before appearing in final examination
- Recognition of acute cerebral compression, indication for referrals.
- Cleft lip and palate
- Leukoplakia, retention cysts, ulcers of the tongue
- Oral malignancies
- Salivary gland neoplasms
- Branchial cyst, cystic hygroma
- Cervical lymphadenitis nonspecific and tuberculous, metastatic lymph nodes and lymphomas.
- Diagnosis and principles of management of goitre
- Thyroglossal cyst and fistula
- Thyrotoxicosis
- Thyroid neoplasms
- Management of solitary thyroid nodule
- Thoracic outlet syndrome
- Management of nipple discharge
- Breast abscess
- Clinical breast examination, breast self-examination
- Screening and investigation of the breast lump
- Concept of Single Stop Breast Clinic
- Cancer breast diagnosis, staging and multimodality management (common neoadjuvant and adjuvant and palliative chemotherapy protocols and indications of radiation and hormonal therapy, pathology and interpretation of Tumour Markers, breast cancer support groups and counselling)
- Recognition and treatment of pneumothorax, haemothorax
- Pulmonary embolism: Index of suspicion, prevention/recognition and treatment
- Flail chest, stove in chest

- Postoperative pulmonary complication
- Empyema thoracis
- Recognition of oesophageal atresia and principles of management
- Neoplasms of the lung including its prevention by tobacco control
- Cancer oesophagus: principles of management including the importance of early detection and timely referral to a specialist
- Achalasia cardia
- Gastro-oesophagal reflux disease (GERD)
- Congenital hypertrophic pyloric stenosis
- Aetiopathogenesis, diagnosis and management of peptic ulcer including the role of H. Pylori and its diagnosis and eradication
- Cancer stomach
- Signs and tests of liver dysfunction
- Amoebic liver abscess and its non-operative management
- Hydatid cyst and its medical and surgical management including laparoscopic management
- Portal hypertension, index of suspicion, symptoms and signs of liver failure and timely referral to a specialist centre management of upper GI hemorrhage
- Obstructive jaundice with emphasis on differentiating medical vs surgical Jaundice, the algorithm of investigation, diagnosis and surgical treatment options
- Neoplasms of liver
- Rupture spleen
- Indications for splenectomy
- Clinical features, diagnosis, complications and principles of management of cholelithiasis and cholecystitis including laparoscopic cholecystectomy
- Management of bile duct stones including endoscopic, open and laparoscopic management
- Carcinoma gall bladder, incidental cancer gallbladder, index of suspicion and its staging and principles of management
- Choledochal cyst
- Acute pancreatitis both due to gallstones and alcohol
- Chronic pancreatitis
- Carcinoma pancreas/ pancreatic malignancies
- Peritonitis: causes, recognition, diagnosis, complications and principles of management with knowledge of typhoid perforation, tuberculous peritonitis, postoperative peritonitis
- Abdominal pain types and causes with emphasis on diagnosing early intraabdominal acute pathology requiring surgical intervention
- Intestinal amoebiasis and other worms manifestation (Ascariasis) and their surgical complications (Intestinal Obstruction, perforation, gastrointestinal bleeding, the involvement of biliary tract)
- Abdominal tuberculosis both peritoneal and intestinal
- Intestinal obstruction
- Appendix: Diagnosis and management of acute appendicitis
- Appendicular lump and abscess

Colon

- Congenital disorders, Congenital megacolon
- Colitis infective / non-infective
- Inflammatory bowel diseases · Premalignant conditions of the large bowel
- Ulcerative colitis
- Carcinoma colon
- Principles of management of types of colostomy

Rectum and Anal Canal:

- Congenital disorders, Anorectal anomalies
- Prolapse of rectum
- Carcinoma rectum
- Anal Canal: surgical anatomy, features and management of fissures, fistula – in- ano.
- Perianal and ischiorectal abscess
- Haemorrhoids – Non-operative outpatient procedures for the control of bleeding (Banding, cryotherapy, injection) operative options - open and closed haemorrhoidectomy and stapled haemorrhoidectomy
- Anal carcinoma Management of lower GI bleeding
- Clinical features, diagnosis, complication and principles of management of inguinal hernia including laparoscopic repair
- Umbilical, femoral hernia and epigastric hernia
- Open and Laparoscopic repair of incisional/ primary ventral hernia
- Urinary symptoms and investigations of urinary tract
- Diagnosis and principles of management of urolithiasis
- Lower Urinary tract symptoms or prostatism
- Benign prostatic hyperplasia; diagnosis and management
- Genital tuberculosis in male
- Phimosis and paraphimosis
- Carcinoma penis
- Diagnosis and principles of treatment of undescended testis
- Torsion testis
- Hydrocele, haematocele and pyocele Varicocele: Diagnosis (Medical Board for fitness)
- Varicocele: Diagnosis (Medical Board for fitness)
- Acute and chronic epididymo-orchitis
- Testicular tumours
- Principles of management of urethral injuries
- Management of soft tissue sarcoma
- Prosthetic materials used in surgical practice
- Telemedicine, teleproctoring and e-learning
- Communication skills

Clinical cases and Symptoms-based approach to the patient with:

Head & Neck

- Ulcers and premalignant lesions in the oral cavity
- Solitary nodule of the thyroid
- Enlarged Lymph nodes in the neck

Breast Diseases

- Suspected breast lump
- Benign breast disease/ mastalgia

Acute Abdominal Conditions

- Acute abdominal pain
- Blunt Trauma Abdomen
- Acute intestinal obstruction
- Acute retention of Urine
- Upper gastrointestinal bleeding
- Lower gastrointestinal bleeding
- Haematuria

Chronic Abdominal Conditions

- Gall stone disease
- Dysphagia
- Chronic abdominal pain
- Epigastric mass
- Right hypochondrium mass
- Right iliac fossa mass
- Renal/ loin mass
- Inguino-scrotal swelling
- Scrotal swelling

- Gastric outlet obstruction
- Anorectal symptoms
- Obstructive jaundice

Vascular Diseases

- Peripheral vascular disease
- Varicose veins

Genitourinary

- Hydronephrosis, Pyonephrosis, perinephric abscess
- Renal tuberculosis
- Renal tumours
- Carcinoma prostate
- Genital tuberculosis in male
- Bladder outlet obstruction

At the end of the course, postgraduate students should be able to perform independently (including perioperative management) the following:

- Start IV lines and monitor infusions
- Start and monitor blood transfusion
- Venous cut-down
- Start and manage a C.V.P. line
- Conduct CPR (Cardiopulmonary resuscitation)
- Basic/ advanced life support
- Endotracheal intubation
- Insert nasogastric tube
- Proctoscopy
- Urethral catheterisation
- Surgical management of wounds
- Biopsies including image-guided
- Manage pneumothorax / pleural space collections
- Infiltration, surface and digital Nerve blocks
- Incise and drain superficial abscesses
- Control external hemorrhage
- Vasectomy (Preferably non-scalpel)
- Circumcision
- Surgery for hydrocele
- Surgery for hernia
- Surgery and Injection/banding of piles
- Management of all types of shock
- Assessment and management of burns
- Hemithyroidectomy
- Excision of thyroglossal cyst
- Excision Biopsy of Cervical Lymph node
- Excision of a benign breast lump
- Modified Radical mastectomy
- Axillary Lymph node Biopsy
- Excision of gynaecomastia
- Excision of skin and subcutaneous swellings
- Split thickness skin graft
- Management of hernias/herniotomy, herniorrhaphy and hernioplasty (Lichtenstein)
- Laparoscopic and open cholecystectomy
- Management of Liver abscess/ percutaneous image-guided aspiration and open drainage of liver abscesses
- Appendectomy
- Management of intestinal obstruction, small bowel resection, perforation and anastomosis
- Colostomy

The student must have observed or assisted (the list is illustrative) in the following:

- Hartmann's procedure for cancer rectum
- Splenectomy (emergency)
- Stomach perforation
- Varicose Vein surgery
- Craniotomy (Head Injury)
- Superficial parotidectomy
- Submandibular gland excision
- Soft tissue tumours including sarcoma
- Pancreaticoduodenal resection
- Hydatid cyst liver
- Pancreatic surgery
- Retroperitoneal operations

Theory

Paper 1: Basic Sciences as applied to general surgery

Paper 2: General Surgery including breast and gastroenterology

Paper 3: Surgery including sub-specialities

Paper 4: Surgery including traumatology and recent advances

TEACHING AND LEARNING METHODS

Teaching methodology

Didactic lectures are of least importance; small group discussion such as seminars, journal clubs, symposia, reviews and guest lecturers should get priority for theoretical knowledge. Bedside teaching, grand rounds, structured interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning with appropriate emphasis on e-learning. The student should have hand-on training in performing various procedures and ability to interpret various tests/investigations. Exposure to newer specialized diagnostic/therapeutic procedures concerning her/his subject shouldbe given. Self-learning tools like assignments and case-based learning may be promoted.

DEPARTMENTAL TRAINING SCHEDULE & POSTING

1. Surgical Posting: Each postgraduate (PG) is posted in a surgical unit soon after joining the course
2. Rotations in Specialty Departments are done after the PG has spent Six months in learning basic ward work and surgical skills in the surgical unit. They may be posted in allied departments like paediatric surgery, urology, cardiothoracic surgery, plastic surgery, neurosurgery, Surgical Oncology and radiology. Please consider orthopedics for management of long bone fractures

TEACHING AND LEARNING ACTIVITIES

1. Most of the teaching is conducted within the unit by the consultants and senior residents of the respective unit. Various learning activities are Journal Club presentations, case presentations, clinical ward rounds and teaching rounds.
2. Seminars are held every week which are attended by the entire department. The postgraduate students will have to present seminars at regular intervals.
3. Interdepartmental meetings are held weekly with the radiology and pathology department. Interesting cases are discussed in these meetings. The postgraduate students are required to attend Clinico-pathological conference (CPC) which is held every month and Clinical combined rounds and Clinical Grand rounds (CGR) which are held weekly.

THESIS

All postgraduates are required to carry out a research project under the guidance of the faculty of the department. They are encouraged to select the project of their choice. They must submit the protocol within four months of joining the MS degree course.

Standards for clinical and technical skills

The practical application of knowledge is evidenced through clinical and technical skills.

1. Has observed

- Has adequate knowledge of the steps through direct observation.
- Demonstrates that he/she can handle instruments relevant to the procedure appropriately and safely.
- Can perform some parts of the procedure with reasonable proficiency.

2. Can do with assistance

- Knows all the steps - and the reasons that lie behind the methodology.
- Can carry out a straightforward procedure proficiently from start to finish.

- Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations).

3. Can do whole but may need assistance

- Can adapt to well- known variations in the procedure encountered, without direct input from the trainer.
- Recognises and makes a correct assessment of common problems that are encountered.
- Is able to deal with most of the common problems.
- Knows and demonstrates when he/she needs help.
- Requires advice rather than help that requires the trainer to scrub.

4. Competent to do without assistance, including management of complications

- Can deal with common cases to a satisfactory level and without the requirement for external input.
- Is capable of supervising juniors

5. The curriculum is consistent with the four domains of Good Medical Practice:

- Knowledge, skills and performance
- Safety and quality
- Communication, partnership and team-working
- Maintaining trust

Professional Skills

This part of the syllabus concentrates on the behaviour and professional skills required of all surgeons and are common to all specialities.

Good Medical Practice identifies seven key principles and values on which good practise is founded:

- Good clinical care
- Maintaining good medical practice
- Teaching and training, appraising and assessing,
- Relationships with patients
- Working with colleagues
- Probity
- Health

➢ They combine all aspects of the curriculum (knowledge, clinical skills and technical skills) with clinical experience and professionalism and allow the practitioner to reach conclusions and make decisions in the patient's best interests.

➢ These skills are important in (but are not limited to) decisions over case selection for operative or non-operative treatment when to refer patients for second opinions, recognition of limitations of skill and end of life care.

Research

- Trainees will be expected to be able to provide evidence of an understanding of, and participation in, research
- Trainees should have peer-reviewed papers published in an indexed journal and first author presentations at a regional, national or international meeting during speciality training. The trainee's contribution to each of these pieces of work should have been significant.

Audit/Service improvement

- Trainees will be expected to be able to provide evidence of an understanding of, and participation in, audit and / or service improvement:

Medical Education and Training

- Trainees will be expected to be able to provide evidence of an understanding of, and participation in, medical education and training (undergraduate and/or postgraduate):
- Trainees should provide evidence of having been involved in teaching, management activities and leadership
- Trainees will be expected to be able to provide evidence of having attended appropriate national

or international educational conferences or meetings during training.

- Trainees will be expected to provide evidence of having attended specific courses/gained specific qualifications
- Trainees must have a valid ATLS provider or instructor credential at the time of completion.

Operative experience

Trainees will be expected to be able to provide evidence (in their consolidated logbook) of the breadth of operative experience defined in the syllabus of their speciality. In addition they will have attained the knowledge, skills and behaviour as defined in the following (common) modules of the syllabus:

Module 1: Basic Science Knowledge relevant to surgical practice

Module 2: Common surgical conditions

- To assess and initiate investigation and management of common surgical conditions which may confront any patient whilst under the care of surgeons, irrespective of their speciality.
- To have sufficient understanding of these conditions so as to know what and to whom to refer in a way that an insightful discussion may take place with colleagues who will be involved in the definitive management of these conditions.

Module 3 Basic surgical skills

- To prepare oneself for surgery.
- To safely administer appropriate local anaesthetic agents.
- To handle surgical instruments safely.
- To handle tissues safely.
- To incise and close superficial tissues accurately.
- To tie secure knots.
- To safely use surgical diathermy.
- To achieve haemostasis of superficial vessels.
- To use a suitable surgical drain appropriately.
- To assist helpfully, even when the operation is not familiar.
- To understand the principles of the anastomosis.
- To understand the principles of endoscopy including laparoscopy.

Module 4: The principles of assessment and management of the surgical patient

- To assess the surgical patient.
- To elicit a history that is relevant, concise, accurate and appropriate to the patient's problem.
- To produce timely, complete and legible clinical records.
- To assess the patient adequately prior to operation and manage any pre-operative problems appropriately.
- To propose and initiate surgical or non-surgical management as appropriate.
- To take informed consent for straightforward cases.

Module 5: Peri-operative care of the surgical patient including ICU care

- To manage patient care in the perioperative period.
- To assess and manage preoperative risk.
- To take part in the conduct of safe surgery in the operating theatre environment.
- To assess and manage bleeding including the use of blood products.
- To care for the patient in the post-operative period including ICU care and the assessment of common complications.
- To assess, plan and manage post-operative fluid balance.
- To assess and plan perioperative nutritional management.

Module 6: Assessment and early treatment of the patient with trauma

- To safely assess the multiply injured patient.

Module 7: Surgical care of the paediatric patient

- To assess and manage children with surgical problems, understanding the similarities and differences from adult surgical patients.
- To understand common issues of child protection and to take action as appropriate.

Module 8: Management of the dying patient

- To manage the dying patient appropriately.
- To understand consent and ethical issues in dying patient.
- To manage the dying patient in consultation with the palliative care team.

Module 9: Organ and tissue transplantation

- To understand the principles of organ and tissue transplantation.
- To assess brain stem death and understand its relevance to continued life support and organ donation.

Module 10: Health promotion

- To promote good health.

ASSESSMENT

Internal Assessment:

A total of 4 internal examinations will be conducted at the end of the 3rd, 4th and 5th semester, and pre-final (2 months before final examination).

Marks distribution: Theory 100 marks, and Practical with viva and logbook

(Practical – 70, viva – 20, logbook – 10=100 marks).

The marks of the 4 internal examinations will be averaged to 100 each for theory and practical.

Summative

There will be 4 examiners (2 internal, 2 External)

Theory Examination: 4 papers (100 marks each).

- Question Paper Format: In each paper, One Long question carrying 20 marks and Eight Short question/notes – 10 x 8 = 80 marks.
- Total theory marks: 500 Theory papers in the final examination – 400 marks and average of 4 internal examination – 100 marks.
- Students have to secure 50% marks in internal marks (in both theory and practical) to be eligible to appear for the final examination.

Practical Examination

Internal Assessment

- 70 marks: Clinical cases (45marks) operative demonstration (25marks)
- 20 marks: viva
- 10 marks: logbook

Summative Assessment

- Practical examination: Total marks: 500 (Practical and viva in the final
- examination – 400 marks and an average of 4 internals- 100 marks).
- The format of the practical examination (400 marks)

Part	Components	Marks allotted
Part A** 200 marks	Longcase (1 no.)	100
	Short cases (2 nos.)	50
	OSCE/OSPE (5-10 stations)	50
Part B 200 marks	Operative procedure/Pedagogy/ Department specific activity	50
	Critical appraisal of a scientific paper	25
	Thesis presentation and evaluation	50
	Viva	75

** Students should pass (secure 50% marks) separately in Part A

Total marking scheme:

	1st Internal Examination	2nd Internal Examination	3rd Internal Examination	4th Internal Examination	Total Internal Marks (Average of 4 exams)	Final Examination	Total Marks
Time frame	End of 3rd semester	End of 4th semester	End of 5th semester	2 month before final			
Theory	100	100	100	100	100	400	500
Practical	100	100	100	100	100	400	500

RECOMMENDED BOOKS

1. Browse NL, Black J, Burnand KG, Corbett SA, Thomas WEG. Browse's Introduction to the Investigation and Management of Surgical Disease: Taylor & Francis; 2010.
2. Brunicardi FC, Andersen DK, Billiar TR, Dunn DL, Hunter JG, Kao LS, et al. Schwartz's Principles of Surgery 11th Edition: McGraw-Hill Education; 2019.
3. Carter DC. Rob & Smith's Operative Surgery: Atlas of General Surgery, 3Ed: Taylor & Francis; 1998.
4. Ellis BW, Paterson-Brown S, Bailey H. Hamilton Bailey's Emergency Surgery, 13Ed: Taylor & Francis; 2000.
5. Fischer JE. Fischer's Mastery of Surgery: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2012.
6. Jain SK, Stoker DL, Tanwar R. Basic Surgical Skills and Techniques: Jaypee Brothers,Medical Publishers Pvt. Limited; 2018.
7. Lumley J, D'Cruz A, Hoballah J, Scott- Connor C. Hamilton Bailey's Physical Signs: Demonstrations of Physical Signs in Clinical Surgery, 19th Edition: CRC Press; 2016.
8. Townsend CM, Sabiston DC. Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice: Elsevier Saunders; 2004.
9. Williams NS, O'Connell PR, McCaskie AW. Bailey and Love's Short Practice of Surgery: Taylor & Francis Group; 2018.
10. Zinner M, Ashley JS. Maingot's Abdominal Operations, 12th Edition: Mcgraw-hill; 2012.
11. SCHWARTZ'S PRINCIPLES OF SURGERY by F. Charles Brunicardi (Author), Dana K. Andersen (Author), Timothy R. Billiar (Author), David L. Dunn (Author), John G. Hunter (Author)

MODEL SAMPLE QUESTION PAPERS

PAPER 1

BASIC SCIENCES AS APPLIED TO GENERAL SURGERY

Max. Marks:100
Time: 3 hrs
Answer all questions
Illustrate your answer with suitable diagrams

1. Describe the surgical anatomy of the rectum with special reference to the nerve supply and mesorectal anatomy. Outline the principles of total mesorectal excision. (20)
2. Describe the lymphatic drainage of breast and discuss the principles guding sentinel node biopsy for breast cancer. (10)
3. Discuss the blood supply of the colon and rectum and discuss its influence in planning the various colonic resections. (10)
4. Discuss the anatomical basis of myocutaneous flaps. (10)
5. Discuss the pathological varieties of salivary gland tumours and briefly outline their surgical management. (10)
6. Discuss the role of fine needle aspiration cytology in surgical pathology. (10)
7. Enumerate the various types of cirrhosis liver and its relevance to etiopathology of Portal hypertension. (10)
8. Discuss the physiology of intestinal motility and its role in postoperative care in abdominal operations. (10)
9. Enumerate the various causes and effects of hypokalemia in the perioperative period and briefy discuss its management. (10)

PAPER 2

GENERAL SURGERY INCLUDING BREAST AND GASTROENTEROLOGY

Max. Marks:100
Time: 3 hrs
Answer all questions
Illustrate your answer with suitable diagrams

1. A 30-year-old alcoholic is brought to the emergency department with a history of hematemesis? Describe the management plan in such a scenario. (20)
2. Discuss the priniciples of triple assessment in the management of breast lumps. (10)
3. Ennumerate the indications and contraindications of breast conservation surgery with a brief descriptions its various components. (10)
4. Ennumerate the types of diaphragmatic hernias and approach to its management. (10)
5. Discuss the radiological basis for choosing the treatment modality for managing Pseudocyst of pancreas. (10)
6. Briefy outline the work up and management of a 40 years old man with progressive dysphagia and weight loss of 2 months duration. (10)
7. Enumerate the differential diagnosis and work up of a patients with multiple colonic polyps. (10)
8. Discuss the management of Choledochal cysts based on its classification. (10)
9. Enlist the pathological types of ileocecal tuberculosis and its outline management. (10)

PAPER 3

SURGERY INCLUDING SUB-SPECIALITIES

Max. Marks:100
Time: 3 hrs
Answer all questions
Illustrate your answer with suitable diagrams

1. A 25 year old female presents with a swelling in the front of the neck for two years. Her eyes appear prominent on examination. Describe the plan of management of this patient? (20)
2. List the differential diagnosis of non-healing ulcer of the leg and its management. (10)
3. Briefly discuss the pathophysiology of Hirschsprung Disease and its outline management. (10)
4. Discuss the clinical presentation and management of extradural haemorrhage. (10)
5. Ennumerate the early and late complications in a patient of head and neck burn, mentioning the treatment options of each. (10)
6. Briefy outline the management of abdominal aortic aneurysm. (10)
7. Discuss the principles guiding the management Torsion of testis. (10)
8. Discuss the cinical presentation and management of Posterior urethral valve. (10)
9. Briefy outline the treatment options in the management of renal stones and the basis of the choice of management.

PAPER 4

GENERAL SURGERY INCLUDING TRAUMATOLOGY AND RECENT ADVANCES

Max. Marks:100
Time: 3 hrs
Answer all questions
Illustrate your answer with suitable diagrams

1. Describe the plan of management of a motor vehicle driver involved in road traffic accident, brought to the casualty in shock. (20)
2. Outline the management plan in the scenario of a mass casualty. (10)
3. Briefy ouline the management considerations in a patient with Flail Chest. (10)
4. Compare and contrast the role Endovascular laser ablation with radiofrequency ablation in the management of varicose veins. (10)
5. Management of a patient with giant incisional hernia with loss of domain. (10)
6. Discuss the use of Transrectal Ultrasound in the management of various GI malignancies. (10)
7. List the merits and demerits of Robotic Surgery. (10)
8. Briefly describe the newer options of laparoendoscopic abdominal wall hernia repairs. (10)
9. Compare and contrast the approach, merits and demerits of per oral esophageal myotomy with laparoscopic cardiomyotomy. (10)

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DEPARTMENT OF GENERAL SURGERY

S. No.	EPA	Competency Domains						Level of competency			
		MK	PC	PBLI	SBP	P	ICS	Day 1 of Residency	End of 1st year	End of 2nd year	End of 3rd year
1	Gather a history and perform a physical examination	*	*					1	3	4	4
2	Prioritize a differential diagnosis following a clinical outcome	*		*				1	2	3	4
3	Recommend and interpret common diagnostic and screening tests	*						1	2	3	4
4	Enter and discuss orders and prescriptions	*						1	2	3	4
5	Document a clinical encounter in the patient record.	*						1	2	3	4
6	Provide an oral presentation of a clinical encounter	*						1	2	3	4
7	Form clinical questions and retrieve evidence to advance patient care.	*		*				1	2	3	4
8	Give or receive a patients handover to transition care responsibility		*			*		1	2	3	4
9	Collaborate as a member of an interprofessional team					*	*	1	2	3	4
10	Recognize a patient requiring urgent or emergent care and initiate evaluation and management	*	*					1	2	3	4
11	Obtain informed consent for tests and procedures.						*	1	3	4	4
12	Perform general procedures of a physician	*			*			1	2	3	4
13	Identify system failures and contribute to a culture of safety and improvement				*			1	2	3	4
14	Effective communication with peers and superiors	*				*	*	1	3	4	4

S. No.	EPA	Competency Domains						Level of competency			
		MK	PC	PBLI	SBP	P	ICS	Day 1 of Residency	End of 1st year	End of 2nd year	End of 3rd year
15	Attitudes towards patient, relatives, peers and Supervisors					*	*	I	3	4	4
16	Effective relevant systemic Examination in OPD and bedside clinics	*	*				*	2	3	4	4
17	Ability to make a diagnosis and DD	*						I	3	4	4
18	Preoperative counselling of patient and attendant						*	I	2	3	4
19	Basic Pre &post operative care	*	*					I	2	3	4
20	Operative theatre techniques - Aseptic techniques, Scrubbing, Gowning, donning and drapping	*	*			*	*	1	2	3	4
21	Handling instruments, Suture materials, meshes	*	*			*		1	2	3	4
22	Suturing, Knotting techniques	*	*					1	2	3	4
23	Use of drains and Drainage tubes	*	*					1	2	3	4
24	Diathermy, Harmonic scalpel	*	*					1	2	3	4
25	Performing simple swelling Excision	*		*				I	2	3	4
26	Performing Appendicectomy Hydrocele, haemorrhoids Fissure	*		*				I	2	3	4
27	Performing Hernia	*		*				I	2	3	4
28	Basic trauma management	*	*		*			I	2	3	4
29	Reading and interpreting all basic X-rays relevant to General surgery	*		*				I	2	3	4
30	Laparotomy skill	*		*		*		I	2	3	4
31	Reading and interpreting CT abdomen	*						I	2	3	4

S. No.	EPA	Competency Domains						Level of competency			
		MK	PC	PBLI	SBP	P	ICS	Day 1 of Residency	End of 1st year	End of 2nd year	End of 3rd year
32	Endoscopy & Colonoscopy Basics	*	*			*	*	I	2	3	4
33	Laparoscopic Skill	*				*		I	2	3	4
34	To take UG classes(Clinics)	*				*	*	I	2	3	4
35	thyroid surgery	*				*		I	2	3	4
36	Breast surgery	*				*		I	2	3	4
37	Gastrectomy procedure	*				*		I	2	3	4
38	Hemicolectomy	*				*		I	2	3	4
39	pancreatic surgeries	*				*		I	2	2	2
40	Varicose vein Surgeries	*				*		I	2	3	4
41	Sterilisation Procedures	*						1	2	3	4
42	Able to write Scientific Papers	*						1	2	3	4
43	Able to Make podium Presentation	*						1	2	3	4
44	Hospital Infection	*						1	2	3	4

Abbreviations:

Competency Domains:

MK: Medical Knowledge

PC: Patient Care

PBLI: Problem Based Learning and Improvement

SBP: Systems-Based Practice

P: Professionalism

ICS: Interpersonal and Communication Skills

Levels of competence:

Level 1: Knowledge only; can observe

Level 2: Can do under strict supervision

Level 3: Can do under loose supervision

Level 4: Can do independently

Level 5: Has the expertise to teach others

Multisource feedback (MSF):

Supervisor: S

Patients/Relatives: P

Undergraduate students: UG

Peers: PG

Community: C

Other health professionals: H

Self: