

Magister Chirurgiae (MCh) programme

The department offers superspeciality degree course, MCh, in Surgical Gastroenterology. The course is offered to those who are holding a Masters Degree (MS) in general surgery. It is a curriculum based learning programme spanning three years. Two candidates per year are admitted. The admission is through a national eligibility written test. There is exit examination at the end of three years with theory and clinical parts. Periodic evaluation will be done by the department during the course. The trainee has to complete a dissertation work during the course. A trainee log book will be maintained. This course is a dedicated surgical training programme in gastrointestinal surgery which covers upper GI tract, lower GI tract and HPB surgery. Apart from surgical aspects, trainees will be exposed to gastroenterology, endoscopy, percutaneous procedures, ultrasonography and GI vascular interventions. Exposure to advanced laparoscopic surgery is part of the training. Due exposure will be provided in operations and critical care. Trainees will attend seminars, journal clubs, clinical case presentations etc. They are involved in research as well. Simulation surgery is a part of the training. The course is run as full time clinical senior residency and the candidates are considered as temporary employees of the institute. The trainee will be paid for three years. Accommodation will be provided within the campus. The entire training will be supervised by faculty. After successful completion of the training, the trainee will be awarded MCh degree by the Institute which are recognized by the Medical Council of India and they are considered as specialists in Surgical Gastroenterology.

CURRICULUM

INTRODUCTION

The Higher Speciality Post-Doctoral Course M.Ch. (Surgical Gastroenterology) is being conducted at Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry, This 3 years course was started to produce specialists in Surgical Gastroenterology. Surgical Gastroenterology is a branch of surgery dealing with disorders of the gastrointestinal tract.

COURSE OBJECTIVES

GENERAL CONDITIONS (AS PER MCI GUIDELINES)

- i) The M.Ch Postgraduate (PG) education in the superspeciality of Surgical Gastroenterology shall be of three years duration after MS/DNB General Surgery.
- ii) The M.Ch. PG curriculum in Surgical Gastroenterology shall be competency based.
- iii) Learning in the PG program shall be essentially autonomous and self-directed.
- iv) A combination of both formative and summative assessment is vital for the successful completion of the PG program.
- v) A modular approach to the course curriculum is essential for achieving a systematic exposure to the various subspecialties concerned with Surgical Gastroenterology.
- vi) The training of the PG students shall involve learning experiences 'derived from' or 'targeted to' the needs of the community. It shall, therefore, be necessary to expose the students to community based activities.

GOALS AND GENERAL OBJECTIVES OF M.Ch. (Surgical Gastroenterology) POST GRADUATE MEDICAL EDUCATION PROGRAMME (AS PER MCI GUIDELINES):

1. GOAL

The Goal of the M.Ch. (Surgical Gastroenterology) postgraduate course would be to train the candidate to

- i) Recognize the health needs of the community as relevant to the superspeciality of Surgical Gastroenterology and carry out professional obligations efficiently and effectively backed by scientific knowledge and skill base.
- ii) Master most of the competencies pertaining to Surgical Gastroenterology, which is required to be practiced at the secondary and tertiary levels of the health care delivery system.
- iii) Be aware of the contemporary advances and developments in Surgical Gastroenterology.
- iv) Show empathy and caring attitude towards patients, relatives and maintain high ethical standards.
- v) Evince keen interest in continuing surgical education; irrespective of whether working in a teaching institution or being a practicing Surgical Gastroenterologist.
- vi) Be a motivated teacher-defined as a Surgical Gastroenterologist keen to share knowledge and skills with colleagues, juniors or any learner.

2. GENERAL OBJECTIVES OF POST-GRADUATE TRAINING IN SURGICAL GASTROENTEROLOGY (AS PER MCI GUIDELINES):

At the end of the postgraduate training program in Surgical Gastroenterology, the student shall be able to :

- i) Recognize the importance of Surgical Gastroenterology in the context of the health needs of the community and the national priorities in the health sector.
- ii) Practice Surgical Gastroenterology ethically and in step with the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to Surgical Gastroenterology.
- iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.

- v) Diagnose and manage majority of the gastrointestinal surgical conditions on the basis of clinical assessment, and appropriately selected and conducted investigations.
- vi) Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to Surgical Gastroenterology.
- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
- viii) Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
- ix) Play the assigned role in the implementation of national health programme, effectively and responsibly.
- x) Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- xi) Develop skills as a self-directed learner; recognize continuing educational needs; select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
- xiii) Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
- xiv) Function as an effective leader of a health team engaged in health care, research or training.

STATEMENT OF THE COMPETENCIES (AS PER MCI GUIDELINES)

Keeping in view the general objectives of postgraduate training, each discipline shall aim at development of specific competencies which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the program so that he or she can direct the efforts towards the attainment of these competencies.

COMPONENTS OF THE POSTGRADUATE CURRICULUM (AS PER MCI GUIDELINES):

The major components of the postgraduate curriculum shall be:

1. Theoretical knowledge
2. Practical and clinical skills
3. Thesis skills.
4. Attitudes including communication skills.
5. Training in research methodology.

TRAINING OBJECTIVES IN THE HIGHER SPECIALITY OF SURGICAL GASTROENTEROLOGY

National objectives

At the end of the course the candidates should be able to-

1. Work in any hospital in India with minimum facilities and should be able to diagnose and treat surgical gastroenterological and related problems efficiently both on an elective and on an emergency basis.
2. Start unit/department of Surgical Gastroenterology effectively.
3. Work effectively with the national programmes and also develop new paradigms for the management of hepatobiliary, pancreatic, colorectal and other general gastroenterological problems

International objectives

1. Should be able to participate in international conferences, workshops and updates to bring honour and fame to our country.
2. Should be able to invite and interact with international visiting Surgical Gastroenterology faculty.

Institutional objectives

The objectives are laid out to be achieved by the time the candidates complete the course. The objectives may be considered under the following subheadings:

1. Knowledge
2. Practical and clinical skills
3. Thesis skills.
4. Training in research methodology.
5. Human values, ethical practices and communication abilities.

1) Knowledge

At the end of the training, the candidate must be able to:

- Describe the etiology, pathophysiology, principles of diagnosis and management of common surgical gastroenterology problems including emergencies such as intestinal obstruction, GI bleed, peritonitis and GI trauma, in adult and children.
- Describe the indications and methods for fluid and electrolyte replacement therapy including blood transfusion in different situations including trauma and elective settings.
- Describe the common malignancies in the country relevant to Surgical Gastroenterology and their management including preventions.
- Demonstrate understanding of basic sciences relevant to Surgical Gastroenterology.

2) Practical and clinical skills

At the end of the training, the candidate must be able to:

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical conditions.
- Perform common Surgical Gastroenterology operations independently and the major procedures with the help of a senior surgeon.
- Perform basic diagnostic GI endoscopic procedures.
- Undertake comprehensive GI intensive care management.
- Do complete patient monitoring including the preoperative, operative and postoperative care of patients.
- Advice regarding the operative or non-operative management of the case and carry out this management effectively.
- Train postgraduates in the discipline of Surgical Gastroenterology.

3) Thesis/Research Skills

- Be able to undertake and complete a research project.
- Be able to formulate a research question.
- Design an appropriate study.
- Collect and analyse data using appropriate statistical techniques.
- Present his findings in the form of a research paper for publication.

4) Training in Research Methodology

- Have acquainted with basics of statistics to understand and critically evaluate published research paper.
- Attend to a few lectures or other type of exposure to human behavior studies.
- Possess basic understanding of pharmaco-economics.
- Have an introduction to the non-linear mathematics.

5) Human values, ethical practice and communication abilities:

- Adopt ethical principles in all aspects of his surgical practice.
- Develop communication skills, in particular, the skill to explain the various options available for management and to obtain a true informed consent from the patient or the attendant.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitation in his knowledge and skills to ask for help from colleagues when needed.
- Respect patient's rights and privileges right to information and right to seek a second opinion.

COURSE CONTENT

The course content will cover the entire scope of Surgical Gastroenterology. Each resident is expected to acquire a thorough theoretical knowledge of the organs of the GI tract as regards anatomy, physiology, pathology of various diseases - congenital / acquired / traumatic / vascular / neoplastic and their detailed principles of management, both medical and surgical. For the management of malignant diseases, the candidates are supposed to be acquainted with general oncological principles, various investigative approaches and different modalities of adjuvant treatment employed (e.g. chemotherapy, radiotherapy, immunotherapy etc.).

a. Oesophagus

Anatomical details, physiology of swallowing, esophageal manometry, endoscopic ultrasound and other diagnostic techniques, brush cytology, vital staining, contrast imaging and CT scan, congenital lesions (TOF), Zenker's diverticulum, epiphrenic diverticulum, esophageal trauma, rupture-spontaneous or iatrogenic, corrosive burns- detection, evaluation and management, esophageal motility disorders, Gastro esophageal reflux disease, achalasia, Barrett's esophagus, esophageal cancer- adeno & squamous, various esophageal operations-diverticulectomy, excision of leiomyoma, esophagostomy, myotomy, fundoplication, esophageal resection (Ivor Lewis, Mc Keown, Transhiatal), cervical exploration, esophagogastrostomy, gastric pull-up, gastric and colonic bypass, complications of esophagectomy, management of chylothorax.

b. Stomach and Duodenum

Anatomical details, physiology of gastric secretions, gastro-duodenal motility, diaphragmatic hernia (congenital and acquired), volvulus, pyloric stenosis in children and adults, Foreign bodies (bezoars), stomach trauma, H.pylori in gastric diseases, peptic ulcer, Zollinger-Ellison syndrome, NUD, Gastric tumors, gastric surgery-vagotomy pyloric

drainage, gastrojejunostomy, bariatric gastric tube creation, R-en-Y oesophagojejunal anastomosis, postgastrectomy syndromes and complications.

c. Biliary System

Detailed anatomy, bile physiology, enterohepatic circulation, acute cholecystitis, chronic cholecystitis, acalculous cholecystitis, gallstones-pathogenesis and presentation, CBD stones. CBD stricture, cholangitis, postcholecystectomy syndromes, choledochal cyst, polyps of GB, carcinoma of gall bladder, cholangiocarcinoma, parasitic infestations of biliary tree, cholecystectomy-open and laparoscopic, CBD exploration and drainage, biliary bypass radical cholecystectomy, choledochal cyst excision, primary sclerosing cholangitis endoscopic biliary interventions and stenting hemobilia.

d. Liver

Segmental anatomy in detail, liver function and tests, liver regeneration, liver failure-diagnosis and management, liver abscess cysts, benign and malignant tumours (HCC, intrahepatic cholangiocarcinoma, hemangioma, FNH adenoma), cirrhosis, PBC, viral hepatitis, radiological imaging modalities (US, CECT, Lipiodol CT, Dynamic CT, MR imaging and radionuclide scanning), percutaneous transhepatic biliary drainage and cholangiography. Liver biopsy, portal hypertension (cirrhotic and non-cirrhotic causes),hepatic venous outflow obstruction, shunt surgery (Proximal lienorenal shunt, cavoatrial, mesocaval, portocaval-side to side), splenectomy and devascularisation, liver resection-anatomic and non-anatomic, liver trauma, hepaticojejunostomy, seg III bypass, Orthotopic liver transplantation, live related transplantation, Caroli's disease, hemobilia.

e. Pancreas

Anatomy, physiology, pancreatic ductal anomalies, acute pancreatitis, chronic pancreatitis-calcific, tropical and alcoholic; endocrine tumours, exocrine tumours of pancreas, cystic neoplasms; pseudocysts of pancreas, haemosuccus pancreaticus; pancreatic operations : pancreatic necrosectomy, pseudocystogastrostomy/jejunostomy, pylorus preserving pancreatoduodenectomy, duodenum preserving pancreatic head resections (Frey's, Beger's), distal pancreatectomy, regional pancreatectomy, total pancreatectomy, lateral pancreaticojejunostomy, Whipple's, pancreatic transplantation.

f. Peritoneum, Omentum, Retroperitoneum

Recesses, reflections, subdiaphragmatic spaces,peritonitis primary secondary and tertiary, tuberculosis, mesenteric cyst, pseudomyxoma peritonei, ascites (diag. invest and management), retroperitoneal tumours,inguinal hernia, ventral hernias, peritoneoscopy.

g. Spleen

Anatomy, splenic function, haemolytic anaemias, splenomegaly hypersplenism, splenic trauma, cysts and granulomas, physiological effects of splenectomy, OPSI, splenic vein thrombosis, splenic artery aneurysms, splenectomy, splenic preservation.

h. Small Intestine

Mesenteric vascular anatomy, intestinal physiology, Ladd's band, malrotation, volvulus, hernia, intestinal obstruction, ileocaecal TB, lymphoma, tumours of small intestine, Meckel's diverticulum, intussusception, small bowel gangrene, intestinal resections, lengthening and transplantation, mesenteric ischaemia, short gut syndrome, small bowel fistulae, Crohn's and other inflammatory bowel diseases, enteral feeding, home/parenteral nutrition.

i. Colon, Rectum and Anal Canal

Anatomy, physiology. colonic motility, physiology of defaecation and anal continence; Hirschsprung's disease, anorectal malformations, rectal prolapse, SRUS, pseudoobstruction (Ogilvie syndrome), descending perineum syndrome, anismus and constipation, anal incontinence; haemorrhoids, fissure, fistulae and anal stricture; polyps and other benign tumours-hereditary and familial polyposis syndrome, ulcerative colitis and Crohn's disease, amoebic colitis, ischaemic colitis, diverticulitis. lower GI haemorrhage, carcinoma of the colon, rectum, anal canal; Operations-APR, anterior resections, segmental colectomies, pelvic exenterations, colostomy, ureterosigmoidostomy, hemicolectomies, urinary diversions, surgery for anal incontinence, rectal prolapse and complex fistulae, restorative proctocolectomy and ileoanal pouch anastomosis.

j. General Topics

Tumour genetics-oncogenes, tumor markers, systemic inflammatory response syndrome (SIRS), multiple organ dysfunction syndrome (MODS), immunology in relation to transplantation and rejection, intensive care and respiratory support, surgical nutrition-parenteral and enteral, iatrogenic complications of surgery like enterocutaneous fistulae, biliary strictures, intrabdominal sepsis/collections, AIDS, hepatitis and surgeons, renal failure, shock, disorders of coagulation, biostatistics, research methodology and surgical audit.

k. Liver Transplant Programme

Each resident is expected to be conversant with the issues related to liver transplantation (viz. recipient selection and workup, pre-transplant evaluation, Indian brain death law, brain dead donor management - before and during retrieval, donor harvesting procedure, recipient management - operative and post transplant care and follow up).

I. OPERATIVE SKILLS

Surgical Procedures, each Candidate is Expected to Perform or Assist at the end of his / her M.Ch. course in Surgical gastroenterology. No exhaustive list is possible, and the maximum extent of surgical exposure a candidate would acquire would depend on his/her competence. However, a basic level of surgical competence is essential by the end of the course.

Esophagus

Heller's Operation, Fundoplication, THE + gastric pull up, TTE + gastric pull up, Colonic pull up

Stomach and Duodenum

TV + G.I./Poloroplasty, Billroth I & II gastrectomy, Radical gastrectomy

Small Intestine

Resection and anastomosis, Ileostomy closure, Feeding jejunostomy,

Large Intestine

Rt hemicolectomy, Lt hemicolectomy, APR, Ant.Resection, Restorative Proctocolectomy Ileal J Pouch and anastomosis

Pancreas

Pancreatic Necrosectomy, Cyto-gastrostomy/jejunostomy, Lateral pancreatico-jejunostomy, Whipple's procedure

Biliary surgery

Open cholecystectomy, Radical cholecystectomy, CBD Exploration/CDD, Hepatico-jejunostomy R-en-y, Segment III HJ

Portal Hypertension

Splenectomy+Devascularisation, Proximal lienorenal shunt, Portocaval/Mesocaval shunt

Liver Surgery

Major hepatic resection, Wedge resections, Hydatid cyst excision

RECOMMENDED TEXT BOOKS AND JOURNALS

List of recommended Books and Journals is given as below. However the edition and details will change from time to time.

Textbooks –

1. Sabiston's text book of surgery

2. Schwartz: principles of surgery
3. Shackelford's text book of GI surgery
4. Blumgart's text book of liver, biliary tract and pancreas
5. Corman's text book of colorectal surgery
6. Pearson's esophageal surgery
7. Beger's pancreatic diseases
8. Goligher; text book of colorectal disorders
9. Busuttil: Liver transplantation

Journals

1. American college of surgeons
2. British journal of surgery
3. Annals of surgery
4. Journal of GI surgery
5. Indian journal of gastroenterology
6. Tropical gastroenterology
7. Archives of surgery
8. HPB journal

ELIGIBILITY AND MODE OF SELECTION

- a) Candidates should have passed MS/DNB degree in General Surgery from JIPMER or any university recognized as equivalent thereto by the Medical Council of India.
- b) Candidates appearing for MS/DNB in General Surgery examination before admission are also eligible
- c) Selection for M.Ch. Surgical Gastroenterology shall be strictly on the basis of academic merit.
- d) For determining the academic merit, the institute may adopt competitive test conducted by the Institute at the national level.

TRAINING PROGRAMME

The training programme curriculum was devised so that at the end of 3 years of training in the Department of Surgical Gastroenterology, a resident would be conversant with all the complex gastrointestinal surgical problems and in addition would be able to manage complex abdominal, alimentary tract and hepatobiliary diseases independently with a high degree of competence. To achieve a high degree of surgical and clinical skill, a resident requires being proficient with both the theoretical and practical aspects of gastrointestinal diseases. The training period consists of three years duration. Each candidate undergoes a stepwise training programme as mentioned below

1st Year

- Clinical exposure with bed responsibilities
- 1st on call duties for in-patients.
- Exposure to intensive care and artificial respiratory support with ventilators.
- Academic work - Journal Club/Topic discussion
- Protocol submission for research projects
- Monthly audit presentations
- Surgical work - mainly as an assistant in all surgical procedures-emergency + elective. In addition he is allowed to perform few minor operations under supervision.

2nd Year

- Ward responsibilities + out patients (supervision of 1st year residents)
- Project work
- Assist and perform emergency and elective operations under supervision.
- Academic presentation – case presentation/journal clubs/ seminars.
- Encouraged to attend and present research paper in conferences.

3rd Year (1st Half)

- Ward responsibilities similar to 2nd year + out patients (supervision of 1st year).
- Emphasis on completion of projects/data analysis.
- Academic work -as before with more emphasis on intra department clinical case presentations.
- Expected to perform major abdominal operations independently

3rd Year (2nd Half)

- Ward responsibilities (lesser duties) + out patients.
- Submission of research projects.
- Clinical case presentation - 3 times/ month along with topic discussion.
- Surgical work including performing major cases under supervision and assisting and teaching residents junior to him in OT
- MCh exit send up exams (model exam) to held 3 months prior to the actual exit exam date.
- MCh exit exam.

TEACHING AND LEARNING ACTIVITIES

A list of teaching and learning activities designed to facilitate the resident to acquire essential knowledge and skills is given below.

1. PG Orientation:

A PG Orientation programme organized during the first year of residency to inculcate communication skills in the residents and apprise them of research methodology, Bio-statistics, writing a dissertation, use of library, medical code of conduct and medical ethics.

2. Journal Club:

It will be held once a week. The presentations would be evaluated using checklist and would carry weightage for internal assessment.

3. Subject Seminar:

Seminar will be held at least once a fortnight. Every candidate must make a presentation on selected topics at least four times a year and a total of 12 presentations in three years. The presentations would be evaluated using checklists and would carry weightage for internal assessment.

4. Ward Rounds:

Ward rounds will be service or teaching rounds. Every week there will be one 'grand round' for teaching purpose. All postgraduate students will be required to attend the grand round.

5. Pre-operative session:

Preoperative session including detailed presentation of clinical history, examination findings, imaging and operative plan of the patient posted for surgery on that particular day

6. Surgical Audit:

This session will be held once in a month. The patients with complications and morbidity will be discussed. All the postgraduate students will participate and present their cases.

7. Inter Departmental Meetings:

Inter departmental meetings will be held with pathology, radiodiagnosis and radiotherapy to discuss complex multidisciplinary cases.

8. Teaching Skills:

Postgraduate students must teach under-graduate students (E.g. Medical Nursing by taking demonstrations, beside clinics, tutorials etc.)

9. Continuing Medical Education Programmes (CME) and Conference:

From second year onwards, residents shall be encouraged to attend at least one conference per year (IASG/speciality conference) and would need to compulsorily present a paper/poster.

10. Extra-mural posting:

Extra-mural posting – 1 month, in 3rd year M.Ch., to observe other renowned departments
ASSESSMENT AND DISSERTATION

There will be periodic assessment of learning outcomes. Following will be methods of assessment:

- (i) Personal Attitudes
- (ii) Acquisition of Knowledge
- (iii) Clinical and Operative Skills
- (iv) Teaching skills
- (v) Periodic Tests
- (vi) Log Book
- (vii) Dissertation.

(i) Personal Attitudes:

Caring attitude, punctuality, organizational ability, potential to cope with stressful situations and undertake responsibility, trustworthiness and reliability, communication and professional relationship with patients and colleagues, ability to work in a team will be assessed mainly by observation. Periodic reviews and feedback will be given to the residents, by the supervisors and peers.

(ii) Acquisition of knowledge:

Log Book will be assessed by periodic checking which will record participation in various teaching/learning activities by the residents. The number of activities attended and the presentations made will be recorded. The log book will be validated periodically by the supervisors.

(iii) Clinical and Operative Skills:

Skills in outpatient, operation theater and ward work will be assessed periodically.

a. Clinical skills:

Candidates should periodically present cases to his peers and faculty members. Candidates approach to the case, diagnosis abilities, case work up and treatment planning will be assessed using a check list.

b. Operative Skills:

The candidate will be given graded responsibilities to enable learning by apprenticeship. The assessment will include candidates' analytical ability, preoperative assessment, planning for surgery, assistance during surgery, surgical performance and postoperative care. The performance will be assessed by the guide by direct observation.

In addition minimally invasive operative surgery skills will be assessed objectively using **advanced laparoscopic stimulators** with haptic feedback. Candidates need to undergo repeated training till they achieve a predetermined target score. Achievement of a target score is an essential prerequisite before operating on the patients.

(iv) Teaching Skills:

Candidates will be encouraged to teach MS general post graduate students (if posted to the department of Surgical Gastroenterology) and paramedical students. Teaching skills will be assessed by the faculty members of the department and from feedback from the residents and students.

(v). Periodic Tests:

Problem based short essay questions will be used for assessment of theoretical knowledge. For the assessment of clinical skills separate clinical examination will be held using both long and short cases.

Journal Club reviews; Seminar; Treatment planning session; Case presentations and Model Examinations will be assessed based on predesigned assessment forms.

(vi). Log Book:

The maintenance of Log book will be mandatory for the trainee. It will be a record of the important activities of the candidate during his training. Internal assessment will be based on the evaluation of the log book. Collectively, log books will be a tool for the evaluation of the training programme of the institution by external agencies. The record will include academic activities as well as the presentations and procedures / operations carried out / observed / assisted by the candidate. Format of the log book for the different activities will be submitted. Copies may be made and used by the candidate.

(vii). Dissertation:

Candidates would need to submit a dissertation by the end of their course period. The topic for this can be selected in conjunction with the allotted guide. Topics involving collaboration with other departments such as Medical gastroenterology / pathology / radiology / microbiology / physiology or even extra mural collaboration shall be encouraged.

The dissertation will aim to train a post graduate student in research methods and techniques. It will include identification of a problem, formation of a hypothesis, search

and review of literature, getting acquainted with recent advances, designing of a research protocol, collection of data, statistical analysis, and comparison of results and drawing conclusions.

Every candidate should submit thesis protocol to the Registrar (Academic) of the Institute in the prescribed proforma of the postgraduate research monitoring committee within 4 months from the date of commencement of the course on or before the dates notified by the Institute.

Thesis protocol will be reviewed and the dissertation topic will be registered by the institute after clearance by the PG research council and ethical committee. No change in the dissertation topic or guide shall be made without prior approval of the institute.

The dissertation will be written under the following headings:

- i. Introduction
- ii. Aims or Objectives of the study
- iii. Review of literature
- iv. Material and methods
- v. Results
- vi. Tables
- vii. Discussion
- viii. Summary
- ix. Conclusion
- x. References
- xi. Annexure

The written text of dissertation will be between 50 to 150 pages excluding references, tables, questionnaires and other annexure. It will have to be neatly typed in double line spacing on one side of the paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the institution.

Guide: The academic qualification and teaching experience required for recognition by the Institute as a guide for dissertation work will be as per Medical Council of India; Minimum Qualification for Teachers in Medical Institution Regulations, 1998. Teachers in a medical college / Institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognized as post graduate teacher.

Co-guide: A co-guide may be included provided the work requires substantial contribution from a sister department or from another medical institution recognized for teaching /

training by the institute / Medical Council of India. The co-guide shall also be a recognized teacher by the institute

Change of guide: In the event of registered guide leaving the institute for any reason or in the event of his or her inability to continue, the guide may be changed with prior permission from the Institute.

Submission of the dissertation: Four copies of the dissertation thus prepared shall be submitted to the Registrar (Academic) as per the stipulated guidelines of the Institute.

Evaluation of the dissertation: The dissertation shall be valued by the examiners appointed by the Institute. Approval of dissertation work will be an essential precondition for a candidate to appear in the Final Examination.

Procedures for defaulters: The department shall have a committee to review such a situation. The defaulting candidate will be counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidates be withheld from appearing in the examination, if she / he fails to fulfill the requirements in spite of being given adequate chances to set him or herself right.

9. EXAMINATIONS

Eligibility:

The following requirements should be fulfilled by every candidate to become eligible for appearing in the final examination.

Attendance, Progress and Conduct:

Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, Case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every candidate shall maintain a Log Book for recording his / her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. These will form the basis for certifying satisfactory progress. The Log Book should be presented in the Final clinical or viva-voce examination.

Every candidate should have fulfilled the minimum attendance requirement prescribed by the Institute guidelines from time to time. (80% of the training during each academic year of the postgraduate course. Further leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year).

Exit exams for 3rd year M.Ch.

The examination shall consist of:

- 4 Written papers (theory)
- Clinical examination
- Ward rounds (discussion on management of postoperative complications)

- Operative Surgery Session (discussion on operative problems and intraop scenarios)
- Viva-voce including operative specimens, radiology, and instruments

Written Examination (Theory):

Written examination shall consist of three question papers, each of three hours duration. Each paper will carry 9 questions for a total of 100 marks. One long question for 20 marks and eight short notes for 10 marks each.

50 marks in each theory paper and 50% marks in Practical and viva-voce examinations is essential to pass the exit examinations.

The distribution of the topics in the question papers would be:

Paper 1 – Basic Sciences as applied to Surgical Gastroenterology

Paper 2 – Clinical Applications

Paper 3 -- Clinical Applications

Paper 4 – Recent Advances

Note: Distribution of topics shown against the papers is suggestive only.

Clinical Examination:

It should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. It includes

- Four cases with discussion (300 marks). The distribution of cases will be 2 long cases (100 marks each) and 2 short cases (50 marks each)
- Ward rounds – 25 marks
- Operative surgery session – 25 marks (discussion on intra op problems and steps of surgery)
- Specimens, radiology discussion – 25 marks
- Grand viva, recent advances – 25 marks