



**MAHATMA GANDHI UNIVERSITY**  
*of*  
**MEDICAL SCIENCES & TECHNOLOGY**  
JAIPUR

## **Super Specialty Courses**

### **SYLLABUS**

#### **M.Ch. Surgical Gastroenterology**

## **Notice**

1. Amendment made by the National Medical Commission (NMC) in Rules/Regulations of Post Graduate Medical Courses shall automatically apply to the Rules/Regulations of the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST), Jaipur.
  
2. The University reserves the right to make changes in the syllabus/books/guidelines, fees-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.
  
3. Jurisdiction of all the court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

**Syllabus of DM / M.Ch. Courses**  
**M.Ch. SURGICAL GASTROENTEROLOGY ( )**

**Selection of Candidates:**

There shall be a uniform entrance examination for all the Medical Educational Institutions at the Postgraduate level namely 'National Eligibility-cum-Entrance Test' for admission to the postgraduate courses in each academic year and shall be conducted under the overall supervision of the Ministry of Health & Family Welfare, Government of India.

In order to be eligible for the admission to the Postgraduate Course for an academic year, it shall be necessary for a candidate to obtain minimum of marks at 50<sup>th</sup> percentile in the 'National Eligibility-Cum-Entrance Test for Postgraduate courses' held for the said academic year, however, in respect of candidates belonging to Scheduled Castes, Scheduled Tribes, and Other Backward Classes, the minimum marks shall be at 40<sup>th</sup> percentile. In respect of candidates with benchmark disabilities specified under the Rights of Persons with Disabilities Act, 2016, the minimum marks shall be at 45<sup>th</sup> percentile for General Category and 40<sup>th</sup> percentile for SC/ST/OBC.

Percentile shall be determined on the basis of highest marks secured in the All India Common merit list in National Eligibility-cum-Entrance Test for the Postgraduate courses.

Provided sufficient number of candidates in the respective categories fail to secure minimum marks as prescribed for National Eligibility-cum-Entrance Test held for any academic year for admission to the Postgraduate Courses, the Central Government in consultation with the National Medical Commission of India may at its discretion lower the minimum marks required for admission to Post Graduate Course for candidates belonging to respective categories and marks so lowered by the Central Government shall be applicable for the academic year only.

Reservation of seats in Medical Colleges/institutions for respective categories shall be as per applicable laws prevailing in States/Union Territories. An all India merit list as well as State-wise merit list of the eligible candidates shall be prepared on the basis of the marks obtained in National Eligibility-cum-Entrance Test and candidates shall be admitted to Postgraduate Courses from the said merit lists only.

There shall be no admission of students in respect of any academic session beyond 31<sup>st</sup> August under any circumstances. The Universities shall not register any student admitted beyond the said date.

**ELIGIBILITY:**

S. No.	Area of Specialisation	Prior Requirement
1	DM Cardiology	MD (Medicine / Paediatrics)
2	DM Medical Gastroenterology	
3	DM Nephrology	
4	DM Neurology	
5	M.Ch. Cardio vascular & Thoracic Surgery	MS (Surgery)
6	M.Ch. Urology	
7	M.Ch. Neuro-Surgery	
8	M.Ch. Plastic Reconstructive Surgery	
9	M.Ch. Surgical Gastroenterology	

**Common Counseling:**

There shall be a common counseling for admission to all the Postgraduate Super specialty Courses (DM/ M.Ch.) in all Medical Educational Institutions on the basis of merit list of the National Eligibility-cum-Entrance Test.

**Period of Training:**

The period of training for obtaining DM/M.Ch Degrees shall be three completed years including the examination period.

**Migration:**

Under no circumstance, Migration/transfer of student undergoing any Super Specialty course shall be permitted by any University/Authority.

**Staff - Faculty:**

Only those teachers who possess 6 years teaching experience out of which at least 2 years teaching experience as Assistant Professor gained after obtaining the higher specialty degree shall be recognized post graduate teacher.

No teacher shall be considered as a postgraduate teacher in any other institution during the period till the postgraduate course at the institute which has been granted permission considering him as a postgraduate teacher is recognized u/s 11(2) of the Indian Medical Council Act, 1956.

**Minimum staff required (Super-speciality):**

1- Professor	: 01
2- Associate Professor	: 01
3- Assistant Professor	: 01
4- Senior Resident	: 01
5- Junior Resident	: 02

**Training programme:**

All candidates joining the Post Graduate training programme shall work as 'Full Time Residents' during the period of training and shall attend not less than 80% (Eighty percent) of the imparted training during each academic year (Academic Term of 6 months) including assignments, assessed full time responsibilities and participation in all facets of the educational process.

No candidate shall be permitted to run a clinic/work in clinic/laboratory/nursing home while studying in postgraduate super specialty course. No candidate shall join any other course or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration for a superspeciality postgraduate course in MGUMST.

Every institution undertaking Post Graduate training programme shall set up an Academic cell or a curriculum committee, under the chairmanship of a senior faculty member, which shall work out the details of the training programme in each speciality in consultation with other department faculty staff and also coordinate and monitor the implementation of these training Programmes.

The training programmes shall be updated as and when required. The structured training programme shall be written up and strictly followed, to enable the examiners to determine the training undergone by the candidates and the National Medical Commission inspectors to assess the same at the time of inspection.

Post Graduate students shall maintain a record (log) book of the work carried out by them and the training programme undergone during the period of training including details of surgical operations assisted or done independently by the M.Ch. candidates.

Record (Log) Books shall be checked and assessed periodically by the faculty members imparting the training.

During the training for award of Degree / Superspecialty in clinical disciplines, there shall be proper training in Basic medical sciences related to the disciplines concerned; so also in the applied aspects of the subject; and allied subjects related to the disciplines concerned. In the Post Graduate training programmes including both Clinical and Basic medical sciences, emphasis has to be laid on Preventive and Social aspects. Emergency care, facilities for Autopsies, Biopsies, Cytopsies, Endoscopy and Imaging etc. shall also be made available for the training purposes.

Superspeciality Post Graduate students shall be required to participate in the teaching and training programme of undergraduate and post graduate students as well as the interns.

Training in Medical Audit, Management, Health Economics, Health Information System, basics of statistics, exposure to human behaviour studies, knowledge of pharmaco – economics and introduction to nonlinear mathematics shall be imparted to the Post Graduate students.

The teaching and training of the students shall include graded responsibility in the management of patients entrusted to their care; participation in Seminars, Journal Clubs, Group Discussions, Clinical Meetings, Grand Rounds, and Clinico-Pathological Conferences; practical training in Diagnosis and Medical and Surgical treatment; training in the Basic Medical Sciences, as well as in allied clinical specialities.

Training programme shall be on the same pattern as for M.D. / M.S. in clinical disciplines; with practical training including advanced Diagnostic, Therapeutic and Laboratory techniques, relevant to the subject of specialization. Postgraduate Superspecialty Residents in Surgical Specialties shall participate in Surgical operations as well.

As student of a postgraduate degree course in super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for the publication/sent for the publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

#### **ENROLMENT AND REGISTRATION**

Every candidate who is admitted to DM/MCh. course in Mahatma Gandhi Medical College & Hospital shall be required to get himself/herself enrolled and registered with the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST) after paying the prescribed eligibility and enrolment fees.

The candidate shall have to submit an application to the MGUMST through Principal of College for the enrolment/eligibility along with the following original documents and the prescribed fees within two months of his/her admission or up to November 30 of the year of

admission whichever is later without late fees. Then after, student will have to pay applicable late fees as per prevailing University Rules.

- (a) MD/MS pass Marks sheet/Degree certificate issued by the concerned University.
- (b) Migration certificate issued by the concerned University (in case the University is other than the MGUMST).
- (c) Date of Birth Certificate
- (d) Certificate regarding registration with Rajasthan Medical Council / National Medical Commission of India / Other State Medical Council.

No candidate shall be allowed to appear in University examination without his/her enrolment with the University.

### **ELIGIBILITY TO APPEAR FOR UNIVERSITY EXAMINATION**

1. **Work diary or Logbook:** Every candidate shall maintain a work diary for recording his/her participation in the training program conducted in the department. The work diary and logbook shall be verified and certified by the Department Head.
2. Every student would be required to present one poster presentation, one platform paper at a National/State Conference / one research paper which should be published/accepted for publication/ sent for publication to an indexed journal during the period of his/her post graduate studies so as to make him/her eligible to appear at the Post Graduate Degree Examination.
3. **Attendance:** Every candidate shall have fulfilled the requirement of 80% attendance during each academic year of the postgraduate course (as per NMC rules).

### **SCHEME OF EXAMINATION**

The examination shall be held at the end of three academic years (six academic terms). The academic term shall mean six months training period. The examination shall consist of: Theory and Clinical/Practical and Oral.

The examinations shall be organised on the basis of 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence.

For passing DM/M.Ch. examination as a whole, a candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory (2) Clinical / Practical and Oral examination.

#### **(1) Theory:**

There shall be four theory papers of 3 hours duration and 100 marks each. The theory examination shall be held in advance before the Clinical and Practical examination, so that the answer books can be assessed and evaluated before the commencement of the clinical/Practical and Oral examination.

Paper I and II will be set by one external examiner from outside of the state and paper III and IV by another external examiner from outside of the state. The external examiner, who is paper setter for paper I & II shall evaluate the answer books of paper II. The external examiner, who is paper setter for paper III & IV shall evaluate the answer books of paper III. The answer books of paper I & IV shall be evaluated by internal examiners. The answer books of paper IV shall be evaluated by the Head of the Department and the answer books of paper I shall be evaluated by the second Internal Examiner.

Candidates will be required to attempt all the questions in every question paper. In Paper I, Paper II and Paper III there will be 10 questions. Each question shall carry 10 marks. In Paper IV there will be 5 questions of 20 marks each.

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers shall be compulsory to pass the examination.

### **Nomenclature of Papers**

There will be four papers, each of three hours duration.

Paper I : Basic Medical Sciences related to Surgical Gastroenterology.

Paper II : Basic principles of Surgical Gastroenterology

Paper III : Regional and Systemic GI Surgery

Paper IV : Current trends and recent advances in Surgical Gastroenterology including Transplantation

### **(2) Clinical / Practical and Oral:**

Clinical/Practical examination shall be conducted to test / aimed at assessing the knowledge and competence of the candidate for undertaking independent work as a specialist / teacher. Practical examination shall consist of carrying out special investigative techniques for Diagnosis and Therapy. M.Ch candidates shall also be examined in surgical procedures. Oral examination may be comprehensive enough to test the candidate's overall knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which shall form a part of the examination.

There shall be one long case of 150 marks, two short cases of 75 marks each and oral examination of 100 marks. Obtaining of 50% marks in Clinical / Practical and Oral examination shall be mandatory for passing the Clinical / Practical and Oral examination.

Candidate will have an internal assessment at the end of first two years and there will be one examination at the end of three years of the training.

Assessment of Logbook and dissertation

#### **Clinical Examination:**

1. Long case – 1 hour
2. Short case – A selection of short cases covering a wide range of problems (1 hour)
3. Clinical ward round

#### **Viva voce:**

This is to assess the competences of the candidate in interpreting various diagnostic aids, Pathology specimens, slides and surgical instruments, radiological images of relevance to the subject are to be identified and discussed to evaluate analytical skills in all settings and their appropriateness.

### **Result:**

For passing DM/M.Ch. Examination, a candidate will be required to obtain at least 40% marks in each theory paper, 50% marks in the aggregate of all the four theory papers and 50% marks in the aggregate of Clinical / Practical and Oral examination separately. A candidate failing in any theory paper or in the aggregate of all four theory papers or Clinical / Practical and Oral examination shall have to repeat the whole DM/M.Ch. examination.

**Grace Marks**

No grace marks will be provided in DM/M.Ch. examinations.

**Revaluation / Scrutiny**

No Revaluation shall be permitted in the DM/M.Ch. examinations. However, the student can apply for scrutiny of the answer books as per University Rules

**Examiners:**

As per the Amendment Notification of the MCI dated June 5, 2017, no person shall be appointed as an internal examiner in any subject unless he/she has three years experience as recognized PG teacher in the concerned subject. For external examiners, he/she should have minimum six years of experience as recognized PG teacher in the concerned subject.

For all Post Graduate Super specialties examinations, the minimum number of Examiners shall be four, out of which at least two (50%) shall be External Examiners, who shall be invited from other recognised universities from outside the State.

**Number of Candidates:**

The maximum number of candidates to be examined in Clinical / practical and Oral on any day shall not exceed three for D.M./M.Ch examinations.

**Number of Examinations:**

The university shall conduct not more than two examinations in a year, for any subject, with an interval of not less than 4 and not more than 6 months between the two examinations.



## **M.Ch. – SURGICAL GASTROENTEROLOGY ( )**

### **AIM OF TRAINING**

The end product should have acquired knowledge, skills, aptitude and attitudes to be able to function as an independent clinician/consultant and a teacher acquainted with research methodology.

### **OBJECTIVES**

#### **The End Product:**

- Should be well acquainted with the current literature on relevant aspects of the basic, investigative, clinical and operative digestive and gastrointestinal sciences.
- Should have learned indications and performance skills of common gastrointestinal and hepatobiliary operations.
- Should have acquired ability to interpret relevant clinical investigations.
- Should be able to clinically diagnose, plan investigations and treat common conditions in the speciality by relevant current therapeutic methods.
- Should be acquainted with allied and general clinical disciplines to ensure appropriate and timely referral.
- Should be capable of imparting basic Gastrosurgical training.
- Should be able to identify, frame and carry out research proposals in the relevant speciality.

### **TRAINING SYSTEM**

Exclusively enrolment in the university and performing private practice is not permissible in the residency pattern.

### **ELIGIBILITY**

M S (Gen. Surgery only) degree of an Indian University recognized by the Medical Council of India or any other examination recognized for the purpose by the NMC.

### **TRAINING METHODS**

- Clinical teaching in the OPD, Casualty and Operation theatres. Clinical teaching rounds in Surgical Gastroenterology Ward and bed side presentations.
- Special teaching sessions like Gastro radiology rounds, Gastrosurgery-Pathology weekly meetings and combined Gastromedicine-Surgical Gastroenterology case discussions.
- Seminars, journal clubs, mortality, conferences.
- Treatment planning sessions.
- Assisting and performing Gastrosurgical operations.
- Paper presentations at conferences.
- Preparation of manuscript for publication. 8. Training in an experimental microsurgical laboratory.

### **COURSE CONTENTS**

#### **Paper I : Basic Medical Sciences related to Surgical Gastroenterology**

CO1: Knowledge of applied anatomy as relevant in the practice of GI surgery.

CO2: Knowledge of applied physiology as relevant in the practice of GI surgery.

CO3: Knowledge of applied Clinical Pharmacology as relevant in the practice of GI surgery.

CO4: Knowledge of applied Microbiology as relevant in the practice of GI surgery.

CO5: Knowledge of medical gastroenterology as relevant to the practice of surgery.

**Basic medical sciences relevant to GI surgery, including embryology, anatomy, physiology, pathology, pharmacology, microbiology and Medical Gastroenterology as relevant to the practice of surgery.**

### **Paper II : Basic principles of Surgical Gastroenterology**

CO1: Knowledge of surgical gastroenterology including the etiology, pathophysiology and management of disorders of gastrointestinal tract, liver, biliary tract and spleen.

CO2: Knowledge of congenital and acquired diseases of gastrointestinal system and the management.

CO3: Knowledge of principles of management of sepsis

CO4: Basic knowledge relating to principles and practice of laproscopic surgeries

CO5: Principles of critical care, fluid and electrolyte management

CO6: Basic principles of emergency surgeries and trauma

CO7: Skill in the clinical assessment of patients in the outpatient department and making a provisional diagnosis.

CO8: Ability to chose relevant investigations and prepare the patient for surgery.

**Surgical gastroenterology including the etiology, pathophysiology and management of disorders of gastrointestinal tract, liver, biliary tract and spleen**

**Congenital and acquired diseases of gastrointestinal system and the management.**

**Introduction to Minimal Invasive Surgical concepts**

**Basic knowledge relating to principles and practice of laproscopic surgeries**

**Principles and basics of liver and other organ transplantation,**

**Principles of post transplant care**

**Post transplant complications and its management**

**Principles of management of sepsis, Principles of critical care, fluid and electrolyte management**

### **Paper III : Regional and Systemic GI Surgery**

CO1: Principles and basics of liver and other organ transplantation

CO2: Principles and relevance of radiological procedures as contract images, ultrasound, CT scans, MRI scans, Nuclear medicine scans and PET scans and their interpretations

CO3: Ability to manage the patients in the post operative period in the ICU and later in the ward.

CO4: Competency to manage abdominal trauma.

CO5: Ability to follow up the patients in the out outpatient department.

**Competency in understanding radiological procedures such as contract**

**images, ultrasound, CT scans, MRI scans, Nuclear medicine scans and PET**

**scans and their interpretations Basic principles of critical care , Preparation**

**of patients progress notes, discharge summaries, Collection and compilation**

**of patient data for research purposes**

### **Paper IV : Current trends and Recent Advances in Surgical Gastroenterology including Transplantation**

CO1: Knowledge of recent advancements in the field of GI surgery and minimally invasive surgery

CO2: Ability to prepare papers for presentation at scientific conferences and publication

CO3: Introduction of organizational skills in developing department and newer facilities

CO4: Knowledge of computers and their application in clinical practice

**Knowledge about latest advancements and latest research papers of GI surgery in an international setting and the ability to prepare and present papers for presentation at scientific conferences**

**Recent advances in the field including the introduction of robotic surgery**

**Methods to improve stoma site hygiene**

**Knowledge about Natural Orifice Transluminal Endoscopic Surgery (NOTES)**

**Soft Skills (Course M5GS5) – Elective Course**

CO1: Knowledge of basic research methodology, documentation, statistical techniques and ethical aspects of research.

CO2: Competency to work as a team leader.

CO3: Knowledge of medical ethics and etiquette.

CO4: Development of proper attitudes towards patients, subordinates, colleagues and seniors

CO5: Attitude to be a lifelong learner.

CO6: Ability to be an effective teacher/communicator.

## **TRAINING IN SUB-SPECIALITY OF GASTROSCIENCES**

### **Transplant Anesthesia**

There should be a didactic lectures which may be a common programme for the Medical Gastroenterology and Surgical Gastroenterology postgraduates. The major thrust in these would be the resuscitation management of coma, life-support systems and monitoring of patients. The Surgical Gastroenterology trainees would have additional requirements in which they should know the interaction of anaesthetic drugs with systemic diseases and intestinal disease conditions and for this few more didactic lecture would be required. The major thrust would be on continuing training for the Surgical Gastroenterology trainees in the operation theatre as a result of the informal discussions which would be taking place during the training period.

### **Gastroradiology**

Combined Gastrosurgery and Radiology meetings once a week.

### **Gastropathology**

It is suggested that there should be a 15 days only capsuled training for Surgical Gastroenterology trainees or regular once a month Gastropath conference in which they should be familiarized with the techniques of grossing, staining procedures, methods and tissue processing including frozen sections and should be able to identify histological features of the common gastrointestinal disorders. In regard to weightage in the examination it is felt that it should be five percent of the theory and the practical examination.

## **VISIT TO OTHER INSTITUTIONS**

Candidate in 3rd year (MCh of Training) should visit other Gastrosurgical centers recognized by NMC for about 4 weeks to be able to observe difference in approaches to various Gastrosurgical problems.

It is desirable to have training in certain special areas to be arranged outside the institute, when necessary, like micro surgical lab training if not available within the department.

## **I. EVALUATION OF M.Ch. (SURGICAL GASTROENTEROLOGY)**

### **1. Internal assessment – 20% weightage**

To be done by all teachers concerned in the training of the candidate both inside and outside the parent department independently and entered into the log book and maintained well by candidate on a standard marking system (see infra). The course director will average out and put the final evaluation.

### **2. Theory Papers – 30% weightage** (equally distributed for each paper)

#### **Timing of Examinations**

At the end of 36 months of training (for post MS).

Four papers –

Paper I : Basic Medical Sciences related to Surgical Gastroenterology.

Paper II : Basic principles of Surgical Gastroenterology

Paper III : Regional and Systemic GI Surgery

Paper IV : Current trends and Recent Advances in Surgical Gastroenterology including Transplantation

### **3. Practical Examinations**

Total weightage 50% Distributed as follows:

- |  |       |
|--|-------|
| a) Clinical                              | - 20% |
| b) Operative demonstration for M Ch      | - 20% |
| c) Radiology, Pathology and general viva | - 10% |
| Minimum pass marks                       | - 50% |

## **II. MINIMAL REQUIREMENTS OF TRAINING UNIT FOR M Ch Surgical Gastroenterology**

1. Separate 30 bedded department with an OPD and casualty attendance of at least 1000/year attached with or having access to a well equipped general hospital with casualty services and investigative facilities, with well equipped departments of Biochemistry, Pathology, Microbiology, Ophthalmology, Otorhinolaryngology, General Medicine, Paediatrics, Behavioural Sciences, Forensic Medicine, Gastrosurgery and transplant anesthesia.
2. The radiology department would provide required support and should be equipped with skull table, myelography table, image intensifiers and facilities for selective angiography. Facilities for intervention radiology, DSA, CT scan, MRI and Ultrasonography including color doppler are desirable. The availability of 2 trained Gastroradiologists is desirable.
3. The department of anaesthesiology would provide the required support.
4. There should be access to a separate operation theatre(s) and intensive care area of atleast 3 beds. In addition to the usual Gastrosurgical equipment it should have , bipolar cautery, microsurgery instruments, image intensifiers and monitors, intraoperative ultrasound, CUSA and additional hemostatic devises like harmonic & ligasure, laparoscopic surgery equipments.
5. Department of Pathology would provide the required support including autopsy facilities, the availability of 2 fully trained Gastropathologists is desirable.
6. There should be a faculty of 3 persons with one of them atleast 10 years teaching experience.

7. For every recognized teacher two candidates may be taken for training per year, subject to a maximum of 1 trainee per 4 beds at any given time.

**MODEL PAPER**

**M.Ch.-**

**Sur.Gastro.- I**

**M.Ch. Examination Month, Year  
SURGICAL GASTROENTEROLOGY**

Paper – I

**Basic Medical Sciences related to Surgical Gastroenterology**

**Time : Three Hours**

Maximum Marks : 100

Attempt all questions

All questions carry equal marks.

Draw diagrams wherever necessary

- Q.1 Discuss the anatomy of rectum and anatomy landmarks of mesorectum with respect to rectal carcinoma
- Q.2 Discuss the esophageal motility disorders and mention the investigations in motility disorders of esophagus.
- Q.3 Describe station based lymphadenectomy in carcinoma stomach.
- Q.4 Indications for bariatric surgery and technique of sleeve gastrectomy.
- Q.5 a) Neo-adjuvant therapy in carcinoma esophagus  
b) Total Gastrectomy
- Q.6 Evaluation and management of corrosive pharyngeal stricture
- Q.7 a) Discuss the development of foregut  
b) Anatomy of the omentum
- Q.8 Discuss the management of type Ila Hilar Cholangiocarcinoma.
- Q.9 a) ALPPS  
b) ATZ (Anal Transition Zone) and its relevance in surgery for ulcerative colitis.
- Q.10 a) Small bowel diverticulae  
b) Short gut syndrome

**MODEL PAPER**

**M.Ch.-**

**Sur.Gastro.-II**

**M.Ch. Examination Month, Year  
SURGICAL GASTROENTEROLOGY**

Paper – II

**Basic principles of Surgical Gastroenterology**

**Time : Three Hours**

Maximum Marks : 100

Attempt all questions

All questions carry equal marks.

Draw diagrams wherever necessary

- Q.1 Discuss the segmental anatomy of liver and its interpretation on CT imaging.
- Q.2 Discuss the role of tumor markers in hepato-pancreato-biliary malignancies.
- Q.3 Classification, evaluation and management of intrahepatic stones.
- Q.4 Discuss the management of post cholecystectomy benign biliary strictures.
- Q.5 a) Role of endoscopic ultrasound in hepato-pancreato-biliary disorders.  
b) Islet cell auto transplant
- Q.6 a) Walled off Necrosis  
b) Endoscopic management of pseudocyst of pancreas
- Q.7 What are the indications of total pancreatectomy? Describe the technique of total pancreatectomy.
- Q.8 What is GIST? Discuss the management of Gastric GIST. Write short note on immunosuppression in liver transplantation
- Q.9 Discuss the management of chronic rejection in liver transplantation.
- Q.10. a) Indeterminate colitis  
b) Peritonectomy

**MODEL PAPER**

**M.Ch.-**

**Sur.Gastro.-III**

**M.Ch. Examination Month, Year  
SURGICAL GASTROENTEROLOGY**

**Paper – III  
Regional and Systemic GI Surgery**

**Time : Three Hours  
Maximum Marks : 100**

Attempt all questions  
All questions carry equal marks.  
Draw diagrams wherever necessary

- Q.1 Describe the importance of gram negative sepsis in surgical intensive care units and the preventive measures for gram sepsis negative.
- Q.2 Describe the methodologies of sampling in clinical study population.
- Q.3. Describe the technique of robotic surgery, Describe the current status of robotic surgery in Surgical Gastroenterology.
- Q.4 (a) The applications of fluorescent imaging in gastrointestinal surgery  
(b) Splenic abscess
- Q.5. (a) TARE  
b) Capsule endoscopy
- Q.6 Write briefly on surgical safety checklist. What are its implications in quality and safety?
- Q.7 Discuss the management of pancreato-duodenal trauma
- Q.8 a) Near relative as defined in THOTA  
b) Small for size syndrome
- Q.9 Describe the concept of borderline resectable pancreatic cancer and its management.
- Q.10 a) Makeshift shunt  
(b) ECOG scoring



**MODEL PAPER**

**M.Ch.-**

**Sur.Gastro.-IV**

**M.Ch. Examination Month, Year  
SURGICAL GASTROENTEROLOGY**

Paper – IV

**Current trends and Recent Advances in Surgical Gastroenterology  
including Transplantation**

**Time : Three Hours**

Maximum Marks : 100

Attempt all questions

All questions carry equal 50 marks.

Draw diagrams wherever necessary

- Q1. Discuss the current status of Radical Esophagectomy for Esophageal Carcinoma
- Q2. Discuss Portal biliopathy
- Q3. Discuss the role of Laparoscopy in the management of GI cancers.
- Q4. Brain stem death
- Q5. Somatostatin Receptor Scintigraphy