



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

# **Syllabus**

## **Fellowship in Minimal Access Surgery (One Year Program)**

**Edition 2020-21**

## **Notice**

1. Amendments made by the Board of Management of the University in Rules / Regulations of the Courses shall automatically apply.
2. The University reserves the right to make changes in the syllabus/books/ guidelines, fee structure or any other information at any time without prior notice. The decision of the University shall be binding on all.
3. The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

# Syllabus

## FELLOWSHIP IN MINIMAL ACCESS SURGERY (Code)

(One Year Program)

### Rules & Regulations

#### 1. TITLE OF THE COURSE

The title of the course shall be “Fellowship in Minimal Access Surgery”.

#### 2. DURATION OF COURSE/ TRAINING

The course shall be of one-year duration from the date of commencement of academic session.

#### 3. ELIGIBILITY FOR ADMISSION:

MS (General Surgery)

**Other Eligibility Condition:** The candidate should be registered with either the National Medical Commission (NMC) or Medical Council of the domicile State.

#### 4. CRITERIA FOR ADMISSION

Selection for Fellowship Programme shall be done by an Admission Board of the University strictly on merit. It will consist of two-step process –Written Entrance Examination followed by Counseling / Personal Interview (PI).

#### 5. RESERVATION POLICY

Reservation shall be applicable as per policy of the State Government of Rajasthan.

#### 6. ENROLMENT AND REGISTRATION

Every candidate who is admitted to Fellowship Programme 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 requisite 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.

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

#### 7. MIGRATION RULES

No student, once admitted to the course and enrolled by the University, will be permitted to migrate to any other Course/ University.

#### 8. ATTENDANCE

Minimum 80% attendance is mandatory, both, for theory and practical classes. Student with deficient attendance will not be permitted to appear in University examination.

## 9. ELIGIBILITY TO APPEAR FOR UNIVERSITY EXAMINATION

1. **Logbook:** Every candidate shall maintain a logbook for recording his/her participation in the Training Program conducted in the department. The record will include academic activities as well as the presentations and procedures carried out by the candidate. The log book shall be verified and certified by the Department Head and Principal of College.
2. The candidate before commencement of the University theory paper examination shall—
  - a. attend at least one the Conference
  - b. present at least one paper and one poster in a conference.
  - c. publish at least one article in a journal.

## 10. CONDUCTION OF THE UNIVERSITY EXAMINATION:

University examination shall be conducted twice in a year; that is Main and Supplementary Examination.

### **Supplementary Examination -**

There shall be a supplementary examination conducted by the University within 4-6 months of the Main Examination for those candidates who do not pass at the Main examination.

## 11. SCHEME OF EXAMINATION

The examination shall be held at the end of the Course. The examination shall consist of Theory and Clinical/Practical & 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.

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

There shall be two 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 & Oral examination.

Paper-I and Paper-II will be set by two different external examiners from outside of the state.

Each theory paper shall consist of –

2 Essays	2 x 20 =	40 Marks
10 Short Notes	10 x 6 =	60 Marks
Total		100 Marks

The external examiner, who is paper setter for Paper-I shall evaluate the answer books of Paper-I. The answer books of Paper-II shall be evaluated by the Head of the Department.

## **Nomenclature of Papers:**

**Paper-I** Clinical Sciences

**Paper-II** : Recent Advances

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

Clinical/Practical examination shall be conducted by one External and one Internal Examiner 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. Candidates shall also be examined in procedures in surgical disciplines. 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.

One Long Case		70 Marks
Two Short Cases	2 x 40 =	80 Marks
Oral Examination		50 Marks
Total		200 Marks

### **12. RESULT:**

For passing Fellowship Examination, a candidate will be required to obtain at least 40% marks in each theory paper, 50% marks in the aggregate of both the 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 theory papers or Clinical / Practical & Oral examination shall have to repeat the whole Fellowship examination.

### **13. APPOINTMENT OF EXAMINER& PAPER SETTER**

- a. All the examiners, paper setters, theory examination answer books evaluators, Internal and External Examiners for Practical examinations shall be appointed by the President of the University out of the panel submitted by the Head of the department through the Dean of the concerned Faculty
- b. Qualification of the Paper Setter/External Examiner:  
P.G. in Broad Specialty (MD/MS/DNB) / Super specialty (DM/MCh) in the concerned subject with 5 years of PG Teaching experience.
- c. Qualification of the Internal Examiner:  
P.G. in Broad Specialty (MD/MS/DNB) / Super specialty (DM/MCh) in the concerned subject with 3 years of PG Teaching experience.
- d. Paper setter can be an examiner

### **14. GRACE MARKS**

No grace marks will be provided in Fellowship Program examinations

### **15. REVALUATION / SCRUTINY**

No Revaluation shall be permitted in the Fellowship Programs examinations. However, the student can apply for scrutiny of the answer books as per University Rules.

**CURRICULUM**  
**FELLOWSHIP IN MINIMAL ACCESS SURGERY**  
**(One Year Program)**

**GOALS**

Due to lack of adequate educational programs in MIS and this programme is to adequately prepare general surgeons in the art of Minimal Access Surgery which will benefit the patients.

The goal of the MIS Fellowship is to provide the fellow with the necessary training and education to be comfortable in the performance of a wide variety of minimally invasive operations.

- The fellow is exposed to the broad applications of minimally invasive surgery, including bariatric surgery, surgery for gastroesophageal reflux disease (GERD), hernia surgery, and solid organ surgery.
- The Fellow will have ample opportunity to participate in both basic science and clinical research, and scholarly activity with presentations in national and international symposia is expected.
- The Fellow will be provided with the necessary stimuli to pursue a successful career in either private practice or academic surgery upon completion of the Fellowship.

**AIMS AND OBJECTIVES**

To train a specialist to be capable of

- a) Improving knowledge in MIS
- b) Aim to practice MIS as an armatarium.
- c) Teaching, research and auditing
- d) Coordinating and promoting collaboration in organizing the services
- e) Providing leadership in developing research within the specialty

**COURSE OF STUDY**

**Paper-I Clinical Sciences**

1. Basic Laparoscopic surgery Sciences
2. Anatomy of abdomen, and thorax
3. Laparoscopic techniques
4. Pneumoperitoneum
5. Ports positioning and methods and technologies
6. Operating Room Setup and positioning of patient
7. Recommended Instruments
8. Specimen Retrieval Techniques
9. Control of bleeding
10. Preoperative preparations

11. Disposable Items required in specific procedures
12. Coagulation and dissection techniques
13. How to choose a patients
14. Laparoscopic procedures - cholecystectomy, Hernia (inguinal and incisional), Appendix, Rectal prolapse, Fundoplication, small bowel resection and anastomosis, spleen, VATS Esophagus, Lap nephrectomy, Hysterectomy, ovarian cyst, Gastrojejunostomy

**Paper-II : Recent Advances**

1. Recent Advances in laparoscopic surgeries
2. Lap cholangiogram
3. Laparoscopic assessment of vascular structures, and control of bleeding major vessels
4. Intraoperative sonography
5. When to convert to open surgery
6. Laparoscopic liver resection and donor surgery for kidney and liver, pancreatic surgeries, Eshophagectomy, Colon and rectal surgeries, gastrectomy, for malignancies, CBD exploration, reteroperitoneal surgery
7. Hand sewen anastomosis of bowel, colon, CBD, pancreas, Esophagus
8. Laparoscopic bariatric surgery
9. Comlications of laparoscopic surgery and their management
10. Preoperative and postoperative management

**Components of the Program:**

The activities of the fellow will be a blend of clinical experience, research, and teaching responsibilities for medical students and General Surgery residents. Clinical experience is to include both operative time and clinic hours. Prior fellows have performed both basic science research, as well as clinical research. Topics have varied from surgical education to virtual reality simulation. Teaching responsibilities will range from formal Grand Rounds presentations for the Department of Surgery to informal clinical instruction in the operating room and surgical clinic.

The activities will be divided as follows:

- Clinical 60%
- Research 20%
- Teaching/Education 20%

**Basic Module In MIS FOR GENERAL SURGEONS :**

1. Diagnostic Laparoscopy
2. Laparoscopic Appendectomy
3. Laparoscopic Cholecystectomy
4. Laparoscopic Adhesiolysis

**Advanced module in MIS FOR GENERAL SURGEONS :**

1. Laparoscopic Hernioplasty Direct – TEP REPAIR Indirect – TAPP REPAIR
2. Laparoscopic Perforation Closure
3. Vagotomy and GJ (Stapling and Hand Suturing)

4. Nissen Fundoplication for GERD and Hiatus Hernia
5. CBD Exploration using C-Arm control
6. Laparoscopic Splenectomy
7. Assisted large and small bowel surgeries
8. Liver resections
9. Pancreatojejunostomy and Cystogastrostomy for Pseudocysts of pancreas.
10. Laparoscopic Rectopexy for prolapsed rectum.
11. Laparoscopic APR/Right and left colectomy
12. Trans – Hiatal Esophagectomy
13. Gastrectomy for Ca. Stomach
14. Meckels Diverticulectomy
15. Obesity surgery and Diabetic control surgery (optional)
  - Sleeve Gastrectomy
  - Gastric Banding
  - Gastric Bypass

#### **ASSESSMENT**

- Periodical internal assessment (2 per year), both in theory and clinical should be made for every candidate.
- Internal assessment will be made on day to day work of the trainee.

#### **POSTINGS IN VARIOUS UNITS**

Surgical Gastroenterology	- 9 months
General Surgery	- 1 month
Gynecology	- 1 Month
Urology	- 1 Month

#### **TEACHING AND TRAINING METHOD**

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Grand round presentation (by rotation departments and subspecialties) - once a week
5. Faculty lecture teaching- once a month
6. Clinical Audit-Once a Month
7. A poster and have one oral presentation at least once during their training period in a recognized conference.

The rounds should include bedside sessions, file rounds & documentation of case history and examination, progress notes, round discussions, investigations and management plan) interesting and difficult case unit discussions.



The training program would focus on knowledge, skills and attitudes (behavior), all essential components of education. It is being divided into theoretical, clinical and practical in all aspects of the delivery of the rehabilitative care, including methodology of research and teaching.

**Theoretical:** The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent advances through discussions in journal clubs. These are considered necessary in view of an inadequate exposure to the subject in the undergraduate curriculum.

**Symposia:** Trainees would be required to present a minimum of 20 topics based on the curriculum in a period of two years to the combined class of teachers and students. A free discussion would be encouraged in these symposia. The topics of the symposia would be given to the trainees with the dates for presentation.

**Clinical:** The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management in rehabilitation practice.

**Bedside:** The trainee would work up cases, learn management of cases by discussion with faculty of the department.

**Journal Clubs:** This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

**Research:** The student would carry out the research project and write a thesis/dissertation in accordance with NBE guidelines. He/ she would also be given exposure to partake in the research projects going on in the departments to learn their planning, methodology and execution so as to learn various aspects of research.

## REFERENCE BOOK & JOURNALS

### A. Books

1. Mastery of Endoscopic and Laparoscopic Surgery. Nathaniel Soper, Lee Swanstrom, Steve Eubanks.
2. Laparoscopic Surgery of the Abdomen. Bruce MacFadyen, Maurice Arregui, Steve Eubanks, Doulgas Olsen.
3. Laparoscopic Surgery: Principles and Procedures. Daniel B. Jones
4. Laparoscopic Abdominal Surgery by John .N.Grabner
5. Complication of Laparoscopic surgery by Robert W.Bailey
6. Atlas of surgical endoscopy by Jeffrey L.Ponsky.
7. Laparoscopic Biliary Surgery second edition by ALFRED CUSCHIERYE GEORGE BERCI
8. Tips & Techniques in Laparoscopic Surgery by Jean Louis Dulucq
9. Laparoscopic Cholecystectomy difficult cases and creative solutions by Avran Coopaman
10. Gastro International Endoscopy clinics of North America by Jacques Van Down MD
11. Laparoscopic Urologic Surgery by Leonard G.Gomella

12. Laparoscopic Surgery by Ballantyne
13. Bileduct and Bile Duct Stones by George Berci
14. Obesity Bariatric Surgery by Dulouq
15. Surgical Laparoscopy by Karl A.Zucker
16. Laparoscopic C Surgery Atlas for General Surgery by Garyc Vitale Josephs Sanfillo  
Jacques Pesissat
17. Laparoscopic Surgery by Eddie Joe Reddict
18. Operative Strategies in Laparoscopic Surgery by Edward .H.Phillips
19. Laparoscopic Cholecystectomy problem & solution BY David C Dunn
20. Current Techniques in Laparoscopy by David E Brooks
21. Principles of Surgery by Shwartz'S
22. Atlas of Laparoscopic Surgery by Theodoren.Pappas Edward .G.Chekan 30
23. Mastery of Surgery by Robert J.Baker
24. Bailey and Love's short practice of surgery 25TH edition by Norman S Williams
25. Schiff's Diseases of the Liver 10TH Edition VOL1& by Eugene R.Schiff
26. Text book of Surgery 18TH EDITION for modern surgical practice by Sabiston
27. Atlas of General Surgery by Sir Devid Carter VOLUME 1&2
28. SRB'S Manual of Surgery 3RD edition by Sriram Bhat M
29. Atlas of Biliary tract surgery by John L. Cameron
30. Mastery of surgery by Josef E Fischer Volume 1&2
31. Maingot's Abdominal Operations 11TH edition by Michael J. Zinner
32. Hamilton Bailey's emergency surgery 13TH edition by Brian W Ellis and Simon  
Paterson-Brown
33. Text book of Operative general surgery ninth edition by Margaret Farquarson and  
Brenden Moran
34. An Atlas of Gastroenterology by Cyrus R.Kapadia MD
35. Atlas of Colonoscopy by Helmut Messmann
36. Liver A Complete book on Hepato Pancreato Biliary Diseases by Stpehanos Hadziannis
37. Essential Surgical Practice by Butterworth Heinemann
38. Operation surgery by Charcle Rob
39. Pancreas Second edition by Hans Beger
40. Surgery of Pancreatic Tumours by Shailesh V Shrikhande
41. The Washington manual of surgery Fifth edition
42. General and vascular surgery by Jamal J.Hoballah
43. Pancreatitis: Advances in Pathobiology, Diagnosis and Treatment by R.W.Ammann
44. The Ascrcs manual of Colon and Rectal Surgery by Devid E. Beck
45. Manual of Surgery by Schwartz's by Charles Brunicardi
46. Manual on Clinical Surgery by S.Das 5TH Edition
47. Netter's Gastroenterology 2ND edition by Martin H Floch
48. French's Index of Surgical Differntial Diagnosis by Herold Ellis
49. Diseases of the Pancreas current surgical Therapy by Hans G Beger

## **B. Journals**

### **INTERNATIONAL JOURNALS:**

1. The International College of Surgeons
2. ELSA American Journal
3. The Journal of the Royal College of Surgeons of Edinburgh
4. The Surgeon : The Journal of the Royal College of Surgeons of Edinburgh and Ireland
5. The Journal of Colon and Rectal Surgeons of India
6. Sages Journal Grand Rounds
7. British Journal of Surgery
8. International Surgery Official Journal
9. Surgical endoscopy
10. Annals of laparoscopic and endoscopic surgery
11. Journal of laparoendoscopic and advanced surgical techniques and videoscopy

**NATIONAL JOURNALS:**

1. Indian Journal of Surgery
2. Journal of IAGES
3. Medical Journal Armed Forces India

**LOG BOOK**

A candidate shall maintain a log book of operations (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

This log book shall be made available to the board of examiners for their perusal at the time of the final examination. The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s) The candidate will maintain the record of all academic activities undertaken by him/her in log book .

1. Personal profile of the candidate
2. Educational qualification/Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations

Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.

In the absence of production of log book, the result will not be declared.

Serial no	Hospital registration number	Name patient	Age/Sex	Date of procedure	Diagnosis	Operation procedure	Role of resident in procedure	Biopsy	Remarks	Signature of guide

## MODEL PAPER

Code

Short Name

### Fellowship in Minimal Access Surgery Main -Examination Month, Year

Paper-I

Clinical Sciences

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

Draw diagrams wherever necessary  
**Attempt All Questions**

- Q.1. **Elaborate on** [2x20=40]
- i. Write details of instruments required for preventing bleeding in laparoscopic surgery?
  - ii. What is the requirement of a basic operating room setup?
- Q.2. **Write Short Notes on (any ten)** [10x6=60]
- i. Contraindications of laparoscopic procedure?
  - ii. Retrieval of Gallbladder after laparoscopic cholecystectomy?
  - iii. How to use mesh for Lap rectal prolapse surgery?
  - iv. Clips used in lap cholecystectomy?
  - v. Various methods to create pneumoperitoneum?
  - vi. Laparoscopic anatomy of hiatus hernia?
  - vii. Laparoscopic cholecystectomy prevention of complications?
  - viii. Laparoscopic anatomy of inguinal hernia?
  - ix. Steps of lap inguinal hernia surgery?
  - x. Contraindications of laparoscopic procedure?
  - xi. Lap port placement for ovarian cyst surgery?
  - xii. How to use mesh for Lap Incisional hernia?

**MODEL PAPER**

**Code**

**Short Name**

**Fellowship in Minimal Access Surgery**  
Main - Examination Month, Year

Paper-II

Recent Advances

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

Draw diagrams wherever necessary  
**Attempt All Questions**

- Q.1. Elaborate on** [2x20=40]
- i. Recent Advances in laparoscopic right hemicolectomy?
  - ii. Assessment of liver vascular anatomy for a laparoscopic procedure?
- Q.2. Write Short Notes on (any ten)** [10x6=60]
- i. Preparing a patient for Laparoscopic Minigastric bypass procedure?
  - ii. How to manage Laparoscopic bile duct injury detected at surgery?
  - iii. Laparoscopic bariatric surgery enumerate and details various techniques?
  - iv. Steps and techniques of Laparoscopic hepaticojejunostomy?
  - v. How to do a cholangiogram laparoscopically?
  - vi. Steps of Laparoscopic surgery for Ca Rectum lower third?
  - vii. Indications for conversion of laparoscopic cholecystectomy to open surgery?
  - viii. Port placement for Lap appendectomy?
  - ix. Laparoscopic clips verses sutures versus coagulation for major vessels?
  - x. VATS?
  - xi. Steps of Laparoscopic whipples pancreaticoduodenectomy?
  - xii. Suspected abdominal tuberculosis – role of laproscopy?