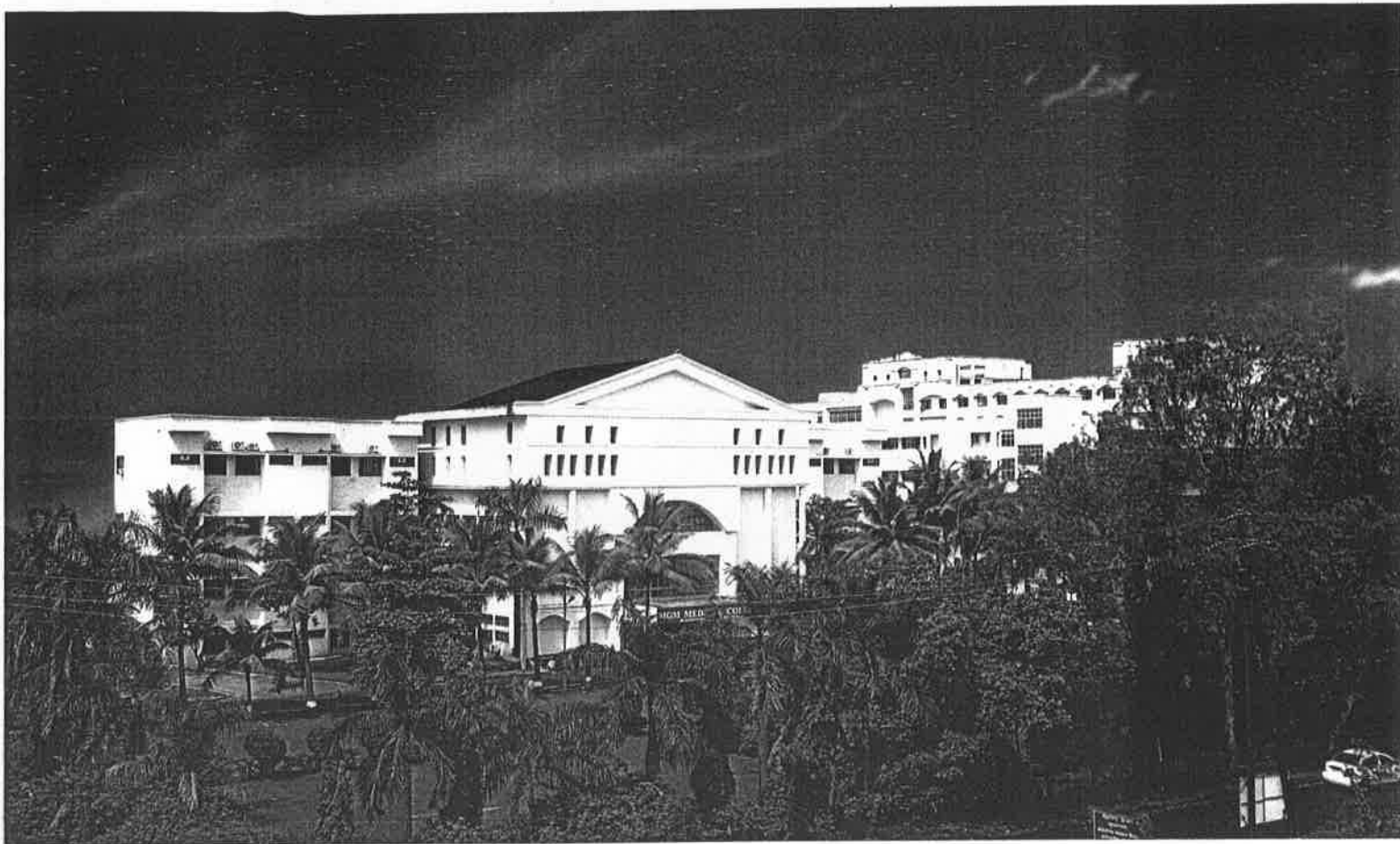


Curriculum for MS Degree in General Surgery



IN PURSUIT OF EXCELLENCE



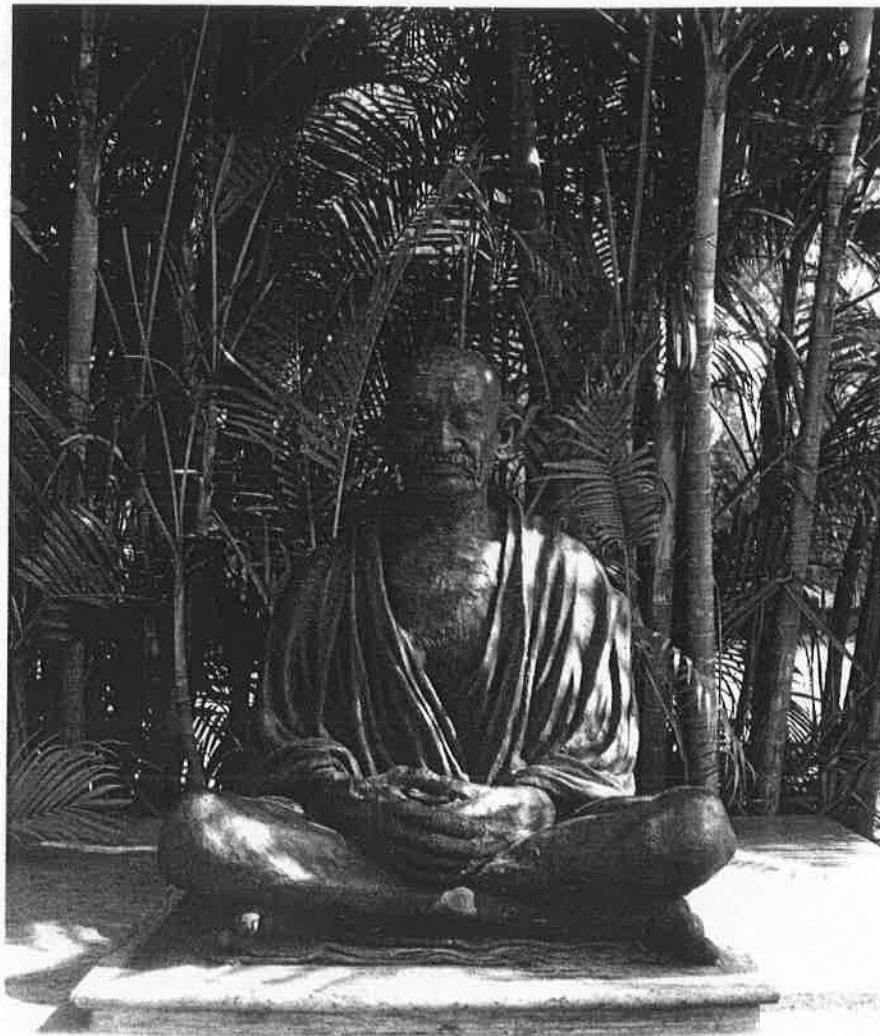
MGM INSTITUTE OF HEALTH SCIENCES

(Deemed University Established u/s 3 of UGC Act, 1956)

Navi Mumbai - 410 209


www.mgmuhs.com

INSPIRING MINDS



Mission

To improve quality of the life for individuals and community by promoting health, preventing and curing disease, advancing biomedical and clinical research and educating tomorrow's Physicians and Scientists.

Vision

By 2020 the MGM University of Health Sciences will rank one of the top private Medical Institution. This will be achieved through ground breaking **discoveries in basic sciences and clinical research** targeted to prevent and relieve human suffering, **excellence in Medical Education** of the next generation of academic clinicians and intrinsic scientists.

MGM University of Health Sciences will transform the **Education of tomorrow's Physicians and Scientists** conducting **Medical Research** to advance health and improving lives by providing world-class patient care.

Many see the 21st Century as the golden age of biomedical research. The MGM University of Health Sciences will position for leadership at the horizon of this new era to promote and stabilise stand human health with a standard of excellence.

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Chancellor's Message

It is my pleasure to welcome you to join constituent colleges of Mahatma Gandhi Mission's (MGM) University of Health Sciences, Navi Mumbai. I wish to avail this opportunity to apprise you and your parents about the academic excellence of the deemed university.

The MGM University of Health Sciences was established u/s 3 of UGC Act, 1956 vide HRD Notification No.F.9-21/2005-U.3(A) dated 30-8-2006. The MGM University is an outcome of untiring efforts of our educationists, professionals, social activists, technocrat, students and parents. The Mahatma Gandhi Mission Trust that manages the University of Health Sciences and over 40 institutions in Navi Mumbai, Aurangabad, Nanded, and Noida has the vision to empower the masses with the availability of state-of-the-art education. Most of our institutions have ISO certifications that further endorse our commitment to stringent quality standards. I am proud to state that we have succeeded in these accomplishments during our journey of the past 25 years.

I recollect the memories of struggle and determination when the MGM Trust established its two medical colleges, one each at Navi Mumbai and Aurangabad some twenty years ago. Both the medical colleges have grown into institutions imparting both undergraduate and postgraduate courses, and delivering quality health care to communities in their respective areas. While both colleges are engaged in their primary functions of teaching, patient care and research, they have

also excelled in their pursuit for advancement of science and in taking health services to communities through extension programmes. A shining example is the establishment of the Department of Infectious Diseases in 1993 in collaboration with the University of Texas-Houston, USA. This department has established the state-of-the-art clinical services and laboratories for research and care of infectious diseases and received the acclaim of Director General of ICMR when he stated "MGM is the first medical college in India to establish a separate department of infectious diseases. This is the need of the hour." The department has undertaken path-breaking research and shaped the course of our national control programmes on HIV/AIDS and tuberculosis. The original research of the constituent colleges has been acclaimed among the scientific world globally.

In an era of economic liberalization and the competition among varsities, both in and out of India, the task of grooming professionals who will compete with the best in the world, is tough. To aid our efforts to excel, MGM University of Health Sciences has the latest research facilities, a dedicated research faculty, as well as an array of distinguished visiting faculty members. The quiet ambience of our campuses, the well filled library with subscriptions to international and national journals, and the lush-green gardens add to our accomplishments.

Considering the manpower needs of

educational, industrial agricultural, and health sector to maintain their steady growth, several fresh M.Sc. courses have been launched. M.Sc. courses introduced at the University from the current academic year shall provide knowledge, skills and subsequent employability that are at par with the counterparts in India and abroad. The curricula of the courses have been designed by experts and peer-reviewed with an emphasis on the job requirements of educational institutions, industries, health care, and research institutions. These courses will empower the students to choose a career in a classroom, a research laboratory or an industry. I am happy that the university is ticking towards the pinnacle with the introduction of these value-added postgraduate courses in medical biotechnology, medical genetics and other basic sciences.

Finally, I wish to place on record my gratitude to the founder members, stake-holders, faculty, staff, students and their parents for providing the MGM Trust with your advice and support.

Once again, it is my pleasure to welcome you to join constituent colleges of MGM University of Health Sciences' at Navi Mumbai and Aurangabad.

Kamal Kishore Kadam
Chancellor





Dr R.D.Bapat
Vice Chancellor



Dr S.N.Kadam
Pro Vice Chancellor



Dr N.N.Kadam
Director (Examination)



Dr Ajit shroff
Dean (Aurangabad Campus)



Dr Z.G. Badade
Registrar



Dr G.S.Narshetty
Dean (Navi Mumbai Campus)

REGULATIONS AND CURRICULA FOR POST GRADUATE DEGREE AND DIPLOMA COURSES IN MEDICAL SCIENCES

Chapter V: Medical Ethics

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**M.G.M UNIVERSITY OF HEALTH SCIENCES, NAVIMUMBAI
MAHARASHTRA**

Chapter I

1.2 .2

**REGULATIONS AND CURRICULA FOR POST GRADUATE DEGREE COURSES
IN MEDICAL SCIENCES**

Branches of Study

1.1 Postgraduate Degree Courses

The following courses of studies may be perused

A. *M.D [Doctor of Medicine]*

1. Anesthesiology
2. Anatomy
3. General Medicine
4. Microbiology
5. Pathology
6. Pediatrics
7. Pharmacology
8. Physiology

B. *M.S [Master of Surgery]*

1. General Surgery
2. Obstetrics and Gynecology

Ophthalmology
Orthopedics

2 Postgraduate Diploma Courses

Postgraduate courses may be pursued in the following subjects

1. Child Health [D.C.H.]
2. Obstetrics and Gynecology [D.G.O.]
3. Ophthalmology [D.O.]
4. Orthopedics [D.Ortho]
5. Anesthesiology [D.a.] *SA*

Eligibility for Admission

- 2.1 ***MD/MS Degree and Diploma Courses:*** A candidate affiliated to this university and who has passed final M.B.B.S examination after pursuing a study in medical college recognized by Medical Council Of India, from a recognized Medical college affiliated to any other university recognized as equivalent thereto and has completed one year compulsory rotating internship in a Teaching Institute or other institution recognized by Medical Council of India, and has obtained permanent registration number of State Medical Council shall be eligible for admission.

3. Obtaining Eligibility Certificate by the University before making Admission.

No candidate shall be admitted for any postgraduate degree/diploma courses unless the candidate has obtained and produced the eligibility certificate issued by the University. The candidate has to make an application to the University with the following Documents along with the prescribed fee.

1. MBBS pass/degree certificate issued by the University.
2. Marks cards of all the University examination passed MBBS course.
3. Attempt certificate produced by the principal.
4. Certificate regarding the recognition of the medical college by the Medical Council of India
5. Completion of internship certificate
6. In case internship was done in a non teaching hospital, a certificate from Medical Council of India that the hospital is recognized for internship.
7. Registration by any State Medical Council.
8. Proof of SC/ST or Category I, as the case may be.
9. For NRI student, equivalent certificate ALV

Candidate should obtain the Eligibility Certificate before the last date for admission as notified by the University.

A Candidate who has been admitted to post graduation course should register his / her name in the University within a month of admission after paying the registration fee.

5. Intake of Students

The intake of students to each course shall be in accordance with the ordinance in this behalf as per University / Medical Council of India norms.

Course of Study

1 Duration

a) *M.D / M.S Degree courses*

The course of study shall be for a period of 3 years consisting of 6 terms

b) *Diploma courses*

The course of study shall be of 2 years consisting of 4 terms

6. Method of Training

The training of postgraduate for Degree / Diploma shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminar, group discussion, grand rounds, case demonstrations, clinics, journal review meetings, CPC and clinical meetings. Every candidate should be required to participate in teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences student should be posted to allied and relevant clinical departments or institutions. Similarly clinical subjects student should be posted to basic medical sciences and allied speciality departments and institutions attaché to M.G.M. Group of Hospital.

7. Attendance, Progress and Conduct

7.1. A candidate pursuing degree/diploma course should work in concern department of institution for full period as a full time

student. No candidate is permitted to run clinic/laboratory/nursing home while studying post graduate course.

- 7.2. Each year must be taken a sa unit for the purpose of calculating attendance.
- 7.3. Every student must attend symposia, seminars, conference, journal review meetings, grand rounds, CPC, case presentation clinics and lectures as prescribed by department and not absent him self / herself from work without valid reason and should be reflected in Log Books (please read chapter IV)
- 7.4. Every candidate is required to attend minimum of 80% of the training during each academic year of post graduate course. Provided further leave of any kind of leave shall not be counted as a part of academic term without prejudice to minimum 80% attendance of training period every year and it should be reflected on Log Books on separate page and should be checked by Guide and HOD.
- 7.5. Any student fails to complete the course in the manner stated above shall be permitted to appear for the University Examination.

8. Monitoring Process of Studies

- 8.1 *Work diary/ Log Book* - Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars etc. (please see chapter IV for model check lists and log book specimen copy). special mention may be made of the presentation by the candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinized and certified by Head of The Department and Head of The Institute, and presented in University clinical/practical examination.
- 8.2. *Periodic test* : ~~Increase~~ of degree courses of three years duration (MD/MS), the concern department may conduct three test, two

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of them be annual tests, one at the end of first year and the other at the end of second year. The third test may be held three months before the final examination. The test may include written papers, practical /clinical and viva voce. Records and marks obtained in such tests will be maintained by the head of the department and sent to the University, when called for.

In case of diploma courses of two years duration department may conduct two tests, one of them at the end of first year and the other in the concern second year three months before the final examination. The tests may include written papers, practical / clinical and viva voce.

- 8.3. *Records-* Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI. *Amay m...*

9. Dissertation

- 9.1. Every candidate pursuing MD/MS degree course is required to carryout work on a selected research project under the guidance of a recognized post graduate teacher. The result of such a work shall be submitted in the form of dissertation.
- 9.2. The dissertation is aimed to train the post graduate student in research methods and techniques. It includes identification of a problem, formulation of hypothesis, search and review of literature, getting acquainted with recent recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusion.
- 9.3. Every candidate shall submit to the Registrar (Academic) of the university in the prescribed Performa, a synopsis containing particulars of proposed dissertation work within six month from the date of commencement of course on or before the dates notified by the University. The synopsis shall be sent through proper channel

9.4. Such synopsis will be review and dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

9.5. The dissertation should be written under following headings:

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

9.6. The written text of dissertation shall not be less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and annexure, It should be neatly typed in double line spacing one side of 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.

9.7. Four copies of the dissertation thus prepared shall be submitted to the Registrar(Evaluation), six months before final examination on or before dates notified by the University.

9.8. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential pre condition for a candidate to appear in final University examination.

9.9. **Guide:** The academic qualification and teaching experience required for recognition by this university as a guide for dissertation work is as per Medical Council of India Minimum Qualification for Teacher in Medical Institution Regulation, 1998. Teacher in medical college/institution having a total 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 teachers.

A **Co-guide** may be included provided that the work requires substantial contribution from the sister department or from another medical institution recognize for teaching /training by M.G.M University of Health Sciences/Medical Council Of India. The Co-guide shall be a recognized post graduate teacher of M.G.M. University of Health Sciences.

- 9.10. **Change of guide:** In the event of registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from university.

10. Schedule Of Examination

The examination for M.D/M.S courses shall be held at the end of three academic years(six academic terms).The examination for Diploma courses shall be held at the end of two academic years(four academic terms).The University shall conduct two examinations in a year at an interval of four to six months between the two examinations. Not more than two examination shall be conducted in an academic year.

11. Scheme of Examination

11.1 M.D/M.S Degree

M.D/M.S Degree examination in any subject shall consist of dissertation, written paper(Theory),practical/clinical and viva voce.

- 11.1.1. *Dissertation:* Every candidate shall carry out work and submit a dissertation as indicated in SI.NO.9. Acceptance of dissertation

shall be a pre condition for the candidate to appear for final examination.

11.1.2. *Written Examination(Theory)* : A written examination consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers the 1st paper of clinical subjects will on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers. In basic medical subjects and para-clinical subjects, questions on applied clinical aspects should also be asked

11.1.3. *Practical/Clinical Examination* :

In case of practical examination, it should be aimed at assessing competence, and skills of technique and procedure, as well as testing student ability to make relevant and valid observations, interpretation and inference of laboratory or experimental work relating to his/her subject.

In case of clinical examination it should aim at examining clinical skills and competence of candidate for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The total marks for practical/clinical examination should be 200.

11.1.4. *Viva Voce*: Viva Voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under

(i)	For examination of all components of syllabus	80 Marks
(ii)	For Pedagogy	20 Marks

11.1.5. *Examiners*: There shall be at least four examiners in each subject. Out of two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as laid down by the Medical Council of India/University.

11.1.6. *Criteria for declaring as pass in University examination:* A candidate should secure not less than 50% of marks in each head of passing which shall include

(1) Theory

(2) Practical including clinical and viva voce examination. *Fail*

A candidate securing less than 50% marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation). *Pass*

11.1.7 *Declaration of distinction:* A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75% and above. Distinction will not be awarded to candidate passing in more than one attempt.

11.2 Diploma Examination:

Diploma examination in any subject shall consist of theory (written papers), Practical/Clinical and viva voce.

11.3.1 *Theory:* There shall be three written question papers each carrying 100 marks. Each paper will be of three hours duration. In clinical subject one paper out of this shall be on basic medical sciences. In basic medical subjects and Para-clinical subjects, questions on applied clinical aspect should also be asked.

11.3.2 *Practical/Clinical Examination:* In case of practical examination it should be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.

In case of practical examination it should aim at examining clinical skills and competence of candidates for

undertaking independent work as specialist. Each candidate should examine at least one long case and two short cases.

The maximum marks for practical/Clinical shall be 150

11.3.3 *Viva Voce*: Viva Voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be 50

11.3.4 *Criteria for declaring as pass in University examination*: A candidate should secure not less than 50% of marks in each ^{head} of passing which shall include

(1) Theory

(2) Practical including clinical and viva voce examination ^{part}

A candidate securing less than 50% marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment or fresh fee to the Registrar (Evaluation).

11.3.5 *Declaration of distinction*: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75% and above. Distinction will not be awarded to candidate passing in more than one attempt.

11.3.6 *Examiners*: There shall be at least four examiners in each subject. Out of two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as laid down by the Medical Council of India/University.

12. Number of Candidates Per Day:

The maximum number of candidate for practical/clinical viva voce examination shall be as under:

1.	MD/MS course	Maximum of 6 per day
2.	Diploma course	Maximum of 8 per day

CHAPTER II

Goals and General Objectives of Postgraduate Medical Program

Goal:

The goal of post graduate medical education shall be to produce a competent specialist and/ or a medical teacher:

- (i) Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of national health policy.
- (ii) Who shall have mastered most of the competencies, retraining to the speciality, that are required to be practiced at the secondary and the tertiary level of health care delivery system.
- (iii) Who shall be aware of the contemporary advances and development in the discipline concerned.
- (iv) Who shall have acquired a spirit of scientific enquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) Who shall have acquired the basic skills in teaching of the medical and paramedical professionals

General Objectives

At the end of the post graduate training in the discipline concerned the student shall be able to

- (i) Recognize the importance of concerned speciality in the context of the health need of the communities and the national priorities in the health sector.
- (ii) Practice the speciality concerned ethically and in step with principles of primary health care.
- (iii) Demonstrate sufficient understanding of the basic sciences relevant to the concern speciality.
- (iv) Identify social, economic, environmental, biological and emotional determinants of health in given case and take them into account while planning therapeutic, rehabilitative, preventive and promotiv measures /strategies.
- (v) Diagnose and manage majority of conditions in the speciality concerned on the basis of clinical assessment and appropriately selected and conducted investigations.
- (vi) Plan and advise measures for prevention and rehabilitation of patients suffering from disease and disability related to the speciality.
- (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 there families and exhibit inter personal behavior in accordance with the social norms and expectations.
- (ix) Play the assigned role in implementation of national health programmes, effectively and responsibly.
- (x) Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinical/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 analyse 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 health team engaged in healthcare research or training.

Statement of the Competencies

Keeping in view the general objectives of post graduate training, each disciplines 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 programme so that he/she can direct the efforts towards the attainments of these competencies.

Statement of the Competencies

The major components of the PG curriculum shall be.

- Theoretical knowledge
- Practical/clinical skills
- Training in the thesis
- Attitudes including communication.
- Training in research methodology.

CHAPTER III

M.S. General Surgery

Goals

The course of post graduate training course in surgery would be to train a MBBS doctor who will:

- Practice surgery efficiently and effectively, backed by scientific knowledge and skill base.
- Exercise empathy and caring attitude and maintain high ethical standards.
- Continue to evince keen interest in continuing surgical education irrespective of whether he is in a teaching institute or he is a practicing surgeon.
- Be a motivated 'teacher'- defined as a surgeon keen to share his knowledge and skills with a colleague or a junior or any learner.

Objectives

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate

completes the course. The objectives may be considered under the subheadings.

1. Knowledge (Cognitive domain)
2. skills (Psycho motor domain)
3. *Human values, Ethical practice and Communication abilities*

Knowledge:

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course is given.

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

- Describe the etiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and child rents.
- Describe indication and methods for fluid and electrolyte replacement therapy including blood transfusion.
- Describe common malignancies in the country and their management including prevention.
- Demonstrate understanding of basic sciences relevant to general surgery.
- Identify social, economic, environmental and emotional determinants in a given case and take them into account for planning therapeutic measures.
- Recognise condition that may be outside the aea of his speciality/competence and to refer them to proper specialist.

- Advise regarding the operative or non operative management of the case and to carry out this management effectively.
- Update himself by self study and attending courses, conferences and seminars relevant to surgery.
- Teach and guide his team, colleagues and other students.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific fora.

Skills:

- Take 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 condition.
- Perform minor operative procedures and common general-surgical operations independently and the major procedures with help from the senior surgeon.
- Provide basic and advance life saving support services (BLS and ALS) in emergency situations like bomb blasts.
- Manage acute abdominal emergencies and poly trauma.
- Undertake thorough wound management including burn wounds.
- Undertake complete patient monitoring including the pre operative and the post operative care of the patient.

Human value , Ethical practice and Communication abilities

- Adopt ethical principles in all aspects of his surgical practice. Professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of social status, cast, creed, or the religion of the patient.
- Develop communication skills In particular the skills to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and to get 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 limitations in his knowledge and skills and to ask for help from the colleagues when needed.
- Respect patients' rights and privilege including patients right to information and right to seek a second opinion.

Essential Knowledge:

The course contents have been identified and categorized as essential knowledge as under. This is to enable the student to achieve the objective of the course. It is recognized that the general surgery today mainly covers abdominal operations, thyroid and breast diseases. A general surgeon should also have knowledge of some common problems in allied specialities. Further he should be complications, current controversies and recent advances in these topics.

The topics are considered under:

- Basic sciences
- General Surgery topics and
- Specialty topics.

Some overlap between the later two categories is to be expected.

History

and pathology, as found in current textbooks. These standard topics are recommended to be studied in as much as they are applicable to the practice of surgery. The stress is on applied anatomy of the parts dealt with by the surgeon as defined by the skills list; patho-physiology and surgical pathology.

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original articles and their critical assessment. Understanding the value of retrospective, prospective, randomized trials and blinded studies, Understanding the meanings and principles of various biostatistical tests applied in these studies.

Medical ethics/ Social responsibilities of surgeons.

Use of computers in surgery- Components of a computer, its use in practice, principles of word processing, spread sheet function, database and presentation; the internet and its use, the value of computer based systems into bio medical components.

Health insurance, Health care financing.

Undertaking clinical audit

Prospective data collection /writing case reports and clinical papers.

Giving presentations /Computer presentations

Preoperative workup – concept of fitness for surgery, basic medical workup in special situation like diabetes, renal failure, cardiac and respiratory illnesses, risk stratification.

Principles of operative surgery like asepsis, anti sepsis, sterilization.

Surgical sutures, drains, prosthetic grafts

Post operative care – Concept of recovery room, airway management, assessment of wakefulness, assessment of cardiovascular instability in this period, criteria for shifting to a ward, pain management.

Basic surgical instrumentation – principles of surgical instrumentation, their maintenance and sterilization.

Surgical diathermy, lasers

Wound management – Wound healing, factors influencing healing, basic surgical techniques, properties of suture materials, appropriate use of sutures.

Assessment of head, chest and abdominal trauma and triage – Assessment of a trauma victim, resuscitation, care at the site, triage, care in the accident department, criteria for immediate surgery, immediate workup and logical referral criteria.

Fluid and electrolyte balance/ acid –base metabolism– The body fluid compartments, metabolism of water and electrolytes, factors maintaining homeostasis, cause for treatment of acidosis and alkalosis.

Blood transfusion – Blood grouping, cross matching, blood component therapy, Complications of blood transfusion, blood substitutes, auto trans fusion, cell savers

Surgical infections – asepsis and antisepsis, microbiological principles, rational use of antibiotics, special infections like synergistic gangrene and diabetic foot infection, hepatitis and AIDS.

Surgical nutrition – Nutritional assessment, metabolic response to stress, need for nutritional support, enteral nutrition, route of access to GI tract, paranal nutrition, use of central veins for nutritional support.

Principles of laparoscopy/ GI endoscopy – laproscopic instrumentation, physiology of pneumoperitoneum, complications of laparoscopy, diagnostic and

therapeutic applications, GI endoscopic instrumentation, diagnostic and therapeutic applications of upper GI, lower GI and ERCP studies.

Principles of oncology- cell kinetics, causation of tumor, principle of oncologic surgeries, radio therapy and chemo therapy, paraneoplastic syndrome, cancer pain management, palliative care.

Principle of burns management - types of thermal injury assessment of extent, immediate management, late management, skin cover, rehabilitation.

Principles of fracture management – fracture healing, principles of immobilization, complications, principles of internal fixation.

Airway obstruction – anatomy of the airway, principles of keeping airway patent Mouth to mouth resuscitation, oropharyngeal airway, endotracheal intubation, crico-thyroidectomy, tracheostomy.

Shock and pulmonary failure- types of shock, diagnosis, resuscitation, pharmacologic support, ARDS and its causes, prevention, ventilatory support.

Anesthesia – stages of anesthesia, pharmacology of inhalational, intravenous and regional, anesthesia. Muscle relaxants

Assessment of trauma – multiple injured patient/ close abdominal and chest Penetrating injuries; fracture pelvis; urological injuries; vascular injuries; trauma scores

Acute abdomen – appendicitis/ peritonitis/ perforated viscus/ intestinal obstruction.

Hernias – simple and complicated – various type of hernia; their repair, prosthetic materials

Critical care – cardio respiratory failure – management of shock; including monitoring; sepsis score; pharmacological support.

Pain control – acute and chronic pain; cancer and non cancer pain; patient controlled analgesia.

Breast disease – benign and malignant disease; diagnosis; investigation; screening for cancer; genetics of breast cancer.

Thyroid disease – solitary nodule; investigations; multi nodular goiter; Hashimoto's disease; cancer.

Upper GI disease- oesophageal and gastro duodenal disorders

Hepato-biliary disease

Pancreatic disease

Colo-rectal disease/Anal disease

Soft tissue neoplasm

Endocrine disease

The specialty topics includes the following:

- GI endoscopy and laproscopy

Principles of GI endoscopy

Complications including infective consideration

Diagnostic and therapeutic GI endoscopy including upper GI, lower GI, and pancreatobiliary system

Physiology of pneumoperitoneum

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Diagnostic laparoscopy

Laparoscopic therapeutic procedures

• Neurosurgery.

Head and neck trauma; acute management and rehabilitation

Concept of brain death/ medicolegal implication

Peripheral nerve injuries

Neoplasms of brain and meninges

Acute and chronic infections of brain and meninges

Hydrocephalus

Spinal injuries

Monitoring intracranial tension

• Urology

Urological injuries

Urothelial tumors/ chemotherapy

Prostatic hypertrophy

Hypospadias

Pyelonephritis/ perinephric abscess

GU tuberculosis

Scrotal disease

endourology

Peritone/ CAPD/ haemodialysis

Transplantation/ harvesting kidney

Urinary diversions

Infertility/ Vasectomy

Pyeloplasty / hydronephrosis.

• **Oncology**

Imaging CT/MRI; CT guided FNAB/C

Breast ,thyroid and GI malignancies

Head and neck tumors

Chemotherapy/Adjuvant therapy

Post excision reconstruction

Radiotherapy

• **Plastic surgery**

Burns management

Facial injuries

Principles of tissue transfer

Cleft lip and palate

Congenital defects of hand

Pressure sores

principles of microsurgery

Hypospadias

Details of skin flaps

Nerve repair

Vascular repair

Hand injuries/ tendon injuries

Cardio-thoracic surgery

Flail chest / thoracic trauma

Bronchogenic carcinoma

Lobectomies

Pneumonectomies

Endocarditis prophylaxis

Pulmonary function test

Control of major haemorrhage

Operations on the diaphragm

Coronary artery disease

Vascular heart disease

Lobectomies and pneumonectomies

Oesophageal diseases

Operations on thoracic aorta

Mediastinal tumors

Basics of congenital heart disease

Vascular surgery

Vascular imaging

A V malformation

Exposure of major arteries and veins/ vascular anatomy
--

Varicose veins

Chronic venous insufficiency

Vascular emergencies-trauma, embolism

Peripheral vascular disease-Atherosclerosis, arteritis
--

Details of vascular prosthesis

Paediatric surgery

Fluid and electrolyte management

Preparation for surgery / Post-op care
--

Hernias

Spinal fusion defects

Ventral defects

Undescended testes

Hypertrophic pyloric stenosis

Hirschsprung's disease

Diaphragmatic hernias

Tracheo-oesophageal fistula

Ano-rectal anomalies

Necrotizing enteritis

• **Gynaecological surgeries**

Pelvic inflammatory disease

Ectopic pregnancy

Ovarian cyst

Caesarean section

Family planning

Essential Surgical Skills

Surgery is a skill-based discipline. The following list is drawn up with a view to specifying basic minimum skills to be acquire. While an attempt has been made to specify the year wise distribution of learning of skills (in the latter part of this curriculum), it is recognized that the process is a continuous one. The principle of giving graded responsibility to the student is to be applied throughout the course. The year wise distribution of skills recommended is to be used as general guideline. Some overlap may be there. Provision of training in various specialty subjects has been made during the second year of the course. Skills in specialty subjects may be acquired both during the specialty posting and during the general surgery postings in the parent department, if the procedures are carried out. The list within the tables, indicates the surgical procedures that the students should, by the end of the course, be able to perform independently (**PI**) by himself/herself or should have performed with assistance (**PA**) during the course. The other category of surgical procedures mentioned form a general guide for the

procedures that the student should either have observed (O) or have assisted the operating surgeon (A). Note, for all category the student washes up in the operating room. There may be an overlap between the skill list of the general surgery list and the specialty lists. Where different numbers are mentioned for the same / similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Skills may be considered under the following headings

- a) Basic graduate skills
- b) War procedures
- c) ICU procedures
- d) Emergency room procedures
- e) Preoperative workup procedures
- f) Postoperative procedures
- g) Minor surgical procedures
- h) Major operating room techniques
- i) General surgical procedures
- j) Speciality surgical procedures
- k) Training to under graduate students and interns

A) Basic graduate skills

The student should have acquired the certain skills during his undergraduate and internship. These skills have to be reinforced at the beginning of the training period. These skills include

procedure	category	year	No.
Insertion of I.V lines, nesogastric tubes, urinary Catheter etc.	PI	I	50
Minor suturing and suture removal	PI	I	50
Removal of tubes and drains	PI	I	50
Routine wound dressing	PI	I	50

B) Ward procedures

Ward procedures forms an important part of the training of the surgeon. In addition to the routine examination of the patient with proper recording of findings, diligent practice of the following is recommended.

procedure	category	year	No.
Abdominal paracentesis including diagnostic Peritoneal lavage	PI	I	5
Ability to teach UGs and Interns	PI	I	NA
Blood sampling; venous and arterial	PI	I	NA
Bone marrow aspiration	PI	I	2
Burns dressing	PI	II	10
Communication skills with patients, relatives, Colleagues and practical staff.	PI	I	NA
Ordering of the requisite laboratory and Radiological Investigations and interpretation of	PI	I	NA

The reports in light of the clinical picture.			
Proficiency in common ward procedures	P	I	NA
Skills for per-rectal examination and proctoscopy	PI	I	NA
Thoracocentesis	PI	II	5
Universal precautions against communicable diseases	PI	I	5NA
Venesection	PI	I+II +III	5

NA; Not Applicable

c) ICU Procedures

procedure	category	year	No.
Insertion of arterial line	PI	II	10
Insertion of central venous line	PI	I	10
Insertion of endotracheal tube	PI	II	10
Insertion of peritoneal dialysis catheter	A/PA	I,II, III	5
Intercostals drainage	PI	II	5
Suprapubic cystostomy	PI	II	5
Tracheostomy	PI	I	2
Working knowledge of ventilators and monitors	PI	I	NA

Interpretation of arterial blood gases	PI	I	NA
Correction of electrolyte disturbances	PI	I	NA
Prescribing parenteral and enteral nutrition	PI	I	NA

c) Emergency room procedures

procedure	category	year	No.
Application of splints for fractures	PI	I	NA
Arterial and venous lines	PI	I	NA
Assessment and initial management of poly trauma	PI	I	NA
Cardiopulmonary resuscitation	PI	I	NA
Management of airway obstruction	PI	I	NA
Management of cardiac shock and respiratory failure	PI	I	NA
Recognition and initial management of Surgical emergencies	PI	I	NA
Suturing technique	PI	I	NA

Skills for proper fluid and antibiotic management	PI	I	NA
Stoma care	PI	I	NA

d) Pre operative workup

procedure	category	year	No.
Ability for adequate pre operative preparation in special situations like diabetes, renal failure, cardiac and respiratory failure etc. and risk stratification.	PI	I	NA
Communication skills with special reference to Obtaining informed consent.	PI	I	NA
Proper pre operative assessment and preparation of patients including DVT prophylaxis, blood transfusion and antibiotics	PI	I	NA

E) Postoperative care

procedure	category	year	No.
Airway management	PI	I	NA
Basic physiotherapy	PI	I	NA
Management of epidural analgesia	PI	I	NA
Management of fistula	PI	I	NA
Management of postoperative hyper/hypotension	PI	I	NA
Postoperative pain control	PI	I	NA
Skills for nutritional rehabilitation of patient	PI	I	NA

g) Minor O.T Procedures

Procedure	Category	Year	Number
Circumcision under local anaesthesia	PI	I	5
Drainage of local abscess	PI	I	5
FNAC	PI	I	5
Major Dressings	PI	I	20
Minor Anorectal Procedures(Haemorrhoids-Banding,Cryotherapy,Suturing etc.anal dilatation and fissures),Fistulectomy	PI	III	10
Minor Biopsies-Lymph Node,ulcer,Swellings etc.,	PI	I	20
Reduction and Plaster application of simple fractures and dislocation	PA	II	10
Removal of simple subcutaneous swellings	PI	I	10
Sigmoidoscopy and upper gi endoscopy(pref. in an endoscopy room)	PA/A/O	II	10
Suturing techniques	PI	I	20
Vasectomy	PI/PA	I	5
Wound debridement	PI	I	10

h)Major Operating Room Techniques

Procedure	Category	Year	Number
Instrument arrangement and trolley layout	PA	I	NA
Skills in sterilization techniques,O.T.Layout and asepsis	0	I	NA
Skin Separation	PI	I	NA
Techniques of scrubbing and gowning	PI	I	NA

i) General Surgical Operative Procedures

Procedure	Category	Year	Number
Appendicectomy	PA	I	10
Appendicectomy	PI	III	5
Cholecystectomy	PI & PA	III	1 & 3
Closure of Cholecystectomy	PA	III	2
Closure of peptic ulcer/under running of bleeding ulcer/vagotomy drainage	PI	III	3
Colostomy	PA	III	2
Cysts and sinuses of the neck	PA	III	2
Diagnostic laparoscopy	PA	III	3
Drainage of Breast Abscess/Excision of breast lump	PI	I	10
Groin Hernia Repair	PI	II/III	5
Gynaecomastia	PA	III	2
Haemorrhoidectomy/Fissurectomy/ Simple fistulectomy	See minor ot procedures		
Hemicolectomy	PA	III	1
Herniotomy/Orchidopexy in children	PA	III	3
Laparotomy for abdominal trauma/splenectomy	PI	III	3
Laparotomy for Intestinal obstruction/bowel resections/bowel anastomosis	PI	III	3
Management for complex wounds	PI	I	10
Mastectomy	PA/A	III	2
Opening and closing of the abdomen	PI	I	5
Opening and closing of the chest	PI	II/III	1
Parotidectomy	A	III	2
Release of bands and simple adhesive obstruction	PI	II	5
Thyroid Lobectomy	PA	III	3
UGI endoscopy/Flexible sigmoidoscopy	A/O	II/III	10
Ventilation	PI	II	5
Wide excision of breast tumours/mastectomy/microdochetomy	PA	III	3
Gastrostomy/Feeding Jejunostomy	PA	III	3

j)Specialty Procedures

There may be repetition of some of the procedures listed under this category and those listed under general surgical procedures. Where diff. numbers are mentioned for the same/similar procedures between the general surgery and speciality lists, the higher number is applicable as the prescribed number. (note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general and the speciality lists).

Laparoscopy and GI endoscopy.

Procedure	Category	Year	Number
Diagnostic and therapeutic Upper and lower GI endoscopy	PA	III	10
Diagnostic Laparoscopy	PA	III	3
Diagnostic upper GI endoscopy	PA	III	10
Laparoscopic Cholecystectomy	A	III	3

Neurosurgery.

Procedure	Category	Year	Number
Craniotomy	A	II	2
Management of paraplegia	A	II	2
Peripheral nerve repair	A	II	2
Prevention of nerve injury-specific operations	A	II	2
Suturing of complex scalp wounds	PI	II	2
Trephining	PA	II	2

Urology.

Procedure	Category	Year	Number
Carcinoma penis	PA/A	II	3
Circumcision	PI	I	10
Catheterisation	PI	I	NA
Diagnostic cystoscopy	PA/A	II	3
Inguinal Block Dissection	PA	II	1
Meatotomy	PI	II	3
Nephrectomy-Partial/total	A	II	3
Nephrolithotomy	A	II	3

Orchidectomy	PA/A	II	3
Orchidopexy	A	II	3
Retroperitoneal lymph node dissection	O	II/III	1
Supra pubic cystostomy	A	II	3
Total Amputation of penis	A	II	1
TUR/Open Prostatectomy	A	II	5
Ureterolithotomy	A	II	3
Urethral/Urogenital injuries	A	II	3
Urethral Dilatation	PI	I	5
Varicocoele	PA/A	II	3
Vasectomy	PI	I/II/III	10

Oncology.

Procedure	Category	Year	Number
All radical operations- Breast,Thyroid,GI and Maxillofacial Malignancies	A	II	2 each
Breast lumpectomy	PI	II	5
Functional neck node dissection	A	II	3
Gastrectomy/Bowel resection	A	II	3
Imprint cytology	PA	II	3
Metastatic work up	PA	II	5
Stoma care	PI	II	5
Thyroid surgery	A	II	5
U/s guided biopsy	A/O	II	3

Plastic Surgery.

Procedure	Category	Year	Number
Burn resuscitation	PI	I	5
Lip Surgery	A	II	5
Local blocks in anaesthesia	PI	I	10
Minor hand injuries	PI	II	5
Nerve repair	A	II	2
Post excision reconstruction	A	II	2
Re-implanation of digits	O	II	1
Skin flap surgery	O	II	2
Split skin Graft	PI	II	3

Stitch graft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I	10

Pediatric Surgery.

Procedure	Category	Year	Number
Anorectal Anomalies	A	II	2
Circumcision	PA	II	10
Herniotomy	PA	II/III	2
Intercostal Aspiration	PI	II	2
Laparotomy for peritonitis	PA	II	5
Lymph node Biopsy	PI	II/III	5
Nor-Operative treatment for volvulus	A/O	II	2
Orchicopexy	PA/A	II	5
Ostomies	PA	II	2
Pediatric emergencies	A/PA	II	10
Pyloromyotomy	PA/A	II/III	5

Cardiothoracic Surgery.

Procedure	Category	Year	Number
Canulation of artery and vein	A	II	2
Chest injuries	PA	II/III	5
Empyema drainage/decortication	PI	II	2
Endotracheal intubation	PI	I	10
Intercostal drainage	PI	I	5
ITU duties	PI	II/III	NA
Lobectomies and pneumonectomies	O	II	2
Oesophageal surgery	O	II/III	2
Opening and closing of the chest	PA	II	2
Pericardiectomy	O	II	2
Removal of fbs	A	II/III	2
Remove pulse generator	PA/A	II	1
Rib resection	PA	II/III	2
Tracheostomy	PI	II	5
Undertake sternostomies	PA	II/III	2

Vein and arterial harvesting	PA/A	II/III	2
Ventilator management	PA	I	+0

Vascular Surgery.

Procedure	Category	Year	Number
AV shunts for vascular access	PA	II/III	2
Bypass grafts –prosthetic	A	II/III	2
Conservative amputations	PI	II/III	5
Embolectomy	PA	II/III	2
Post traumatic aneurysms	A	II/III	2
Sympathectomy	PA	II/III	2
Use of heparin	PI	II/III	10
Varicose vein Surgery	PI	II/III	2
Vascular suturing	PA	II/III	2
Vein graft	A/O	II/III	2
Vein patch repair	A/O	II/III	2

Teaching and Learning activities.

A candidate pursuing the course should work in the institution as a full time student. No candidate should be allowed to run a clinic/lab/nursing home while studying pg course. Each year shall be taken as a unit for calculating the attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself/herself from work without-valid reasons.

A list of the teaching and learning activities designed to facilitate student s acquire knowledge and skills outlined is given below:

1. Lectures: Lectures are to be kept to a min. They may, however be employed for teaching certain topics. Lectures may be didactic or integrated.

a) Didactic Lectures: Recommended for selected common topics for post graduate students of all specialities. for e.g:-

- 1) Bio-Statics
- 2) Use of library

- 3) Research methods
- 4) Medical code of conduct and ethics
- 5) National health and disease control programmes.
- 6) Communication skills etc.

Topics may be preferably taken in the first few weeks of the first year.

b) Integrated lectures: These are recommended to be taken by multidisciplinary teams e.g.-Jaundice, diabetes mellitus.

2. Journal Clubs: Recommended to be held once in a week. All ten pg students are expected to attend and actively participate in the discussion and enter in the log book relevant details. Further every candidate must make a presentation from the allotted journals, selected articles at least four times in a year and a total of 12 seminar presentations in three years. The presentations should be evaluated using check lists and would carry weightage for internal assessment. A timetable with the names of the students and the moderator should be announced at the start of the year.

3. Subject Seminar: Recommended to be held once a week. All the pg students are expected to attend and actively participate in the discussion and enter in the log book relevant details. Further every candidate must make a presentation from the allotted journals, selected articles at least four times in a year and a total of 12 seminar presentations in three years. The presentations should be evaluated using check lists and would carry weightage for internal assessment. A timetable with the names of the students and the moderator should be announced at the start of the year.

4. Student symposium: Recommended as an optional multi disciplinary programme. The evaluation may be similar to that described for subject seminar.

5. Ward rounds: They may be service or teaching rounds.

a) Service rounds: Postgraduate students and interns should every day for the care of patients. Newly admitted patients should be worked up by the pgs and presented to the seniors the following day.

b) Teaching rounds: Every unit should have grand rounds for teaching purposes. A diary should be maintained for the day to day activities of the students.

6. Clinicopathological reference: recommended once a month for all students. presentation to be done by rotation. If cases are not available then they should be published by CPCs.

7. Interdepartmental Meetings: Strongly recommended particularly with the departments of pathology and Radiodiagnosis at least once in a week. These meetings should be attended by all pg students and relevant entries must be made in the log book.

Pathology: A dozen interesting cases may be chosen and discussed by the students. Slides should be shown to the students and the senior staff and final diagnosis should be confirmed. advance techniques of immuno-histochemistry and other recent developments should also be discussed.

Radiodiagnosis: Interesting cases and imaging modalities are discussed.

8. Teaching skills: Postgraduate students must teach undergraduates by taking demos, clinics, tutorials, lectures. assessment is made using a checklist by surgery faculty as well as students. Record of their participation is made in the log book. Training of post graduate students in educational technology is recommended

9. Continuing medical education programmes: should be attended by each student every three years.

10. Conferences: Attending is optional but encouraged.

Rotation and posting in other departments.

The listed knowledge and skills are to be learnt over 3 years. Recommended timing and period for posting in allied subjects is given below.

It is recommended that 2 years and 4 months be spent in the general surgery dept.

And 8 months in allied and speciality dept. Students must be on call on a regular basis. Total duration of posting in core and other specialities will be 8 months.

Basic Science.

Basic science should be an essential part of training. It should be done as concurrent part of training in the first year. At least two hours during the first 6 months of the course. In the first year during the morning session time is spent in the parent dept. In the afternoon session time is spent learning basic science in the respective dept.

Topics for study include

Anatomy, Physiology, Pathology, Microbiology, Pharmacology, Anaesthesia, and Radiology.

Pathology-Concurrent study-Recommended daily Grossing sessions, Weekly surgical pathology sessions and monthly CPCs.

Radiology-Concurrent study-adequate exposure to modern imaging modalities like u/s, CT, MRI and Angiography.

Allied Speciality Training.

Students are posted to core and allied speciality subjects Viz. Anesthesia and ICU for 1 month and orthopedics including trauma (Accident and emergency) for 2 months during the second year of training. Posting to the dept. of obstetrics and gynaec. for one month is optional. This posting may be in lieu of one other specialities depending on the choice of the candidate.

Other Surgical Speciality Subjects.

Postings to the other speciality dept. will be during the second year. The dept. and duration of postings are as under:

Department	Duration
Pediatric surgery	4 weeks
Plastic surgery	4 weeks
Cardiothoracic surgery	4 weeks
Vascular surgery	4 weeks
Neurosurgery	4 weeks
Urology	4 weeks
Oncology	4 weeks

Monitoring the learning process.

It is essential to monitor the learning process of each candidate through a series of continuous appraisal and regular assessment. It not only

helps teachers to evaluate students but the students to evaluate themselves. The monitoring be done by the staff of the dept. based on the participation of the students in various teaching/learning activities. It may be structured and assessment be done by using various checklists that assess various aspects.

The learning outcomes to be assessed should include: (i) Personal attitudes (ii) Acquisition of knowledge (iii) Clinical and operative skills (iv) Teaching skills and (v) Dissertation.

(i) Personal attitudes

- Caring attitudes

- Initiatives

- Organisational activities

- Potential to cope with stressful situations and undertake responsibility

- Trustworthiness and reliability

- To understand and communicate with patients and others

- To behave in a manner which establishes professional relationships with patients and others.

- Ability to work in a team

- A critical approach towards enquiring knowledge.

The methods used mainly consist of observation. It is appreciated that the items require a degree of subjective assessment by the guide, supervisors and peers.

- (ii) Acquisition of knowledge: The methods used comprise of Log book which participation in various teaching/learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be updated by the seniors. The list is never complete. Institute may include additional activities if desired. Journal Review meeting: The ability to do literature search, in depth study, presentation skills, and use of audio-visual aids are to be assessed. The assessment is made using a checklist.

Seminars/Symposium: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills, and use of audio-

visual aids are to be assessed. The assessment is made using a checklist.

Surgical Audit: Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in the clinical assessment.

(iii) Clinical Operative Skills.

Day to Day work: Skills in the opd and ward work should be assessed including the students sincerity and punctuality, analytical ability and communication skills.

Clinical meetings: Candidates should periodically present cases to peers and seniors.

Clinical and operative skills: The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by the direct observation. Particulars are recorded by the students in their log book.

Teaching Skills: Candidates should be encouraged to teach undergraduate and paramedical students. This assessment should be made by the faculty members of the dept.

(v) **Dissertation in the dept.:** Periodic presentations are to be made in the dept. Initially the topic selected is to be presented before submission to the university for registration, again before finalization for the critical evaluation and another before final submission of the completed work.

(vi) **Periodic tests:** The dept. may conduct three tests, two of them to be annual tests, one at the end of the first and the other at the end of the second year. The third test to be held three months before the final examination. The tests may include written papers, practicals/clinicals and viva voce.

(vii) **Work diary/log book:** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the dept. such as journal reviews, seminars, etc. Special mention may be made of the

presentations by the candidate as well as the details of clinical or laboratory procedures, of any conducted by the candidate.

(vii) Records: Records, log books and marks obtained in the tests will be maintained by the hod and will be made available to the MCI.

Log book.

The log book is a record of all the imp. Activities of the candidate during his training. Internal assessment should be based in the evaluation of the log book. Collectively the log book is a tool for evaluation of the training programme by external agencies. The record includes academic activities as well as the research programmes conducted by the candidate.

Format for the log book is given in the following pages.

Procedure for defaulters: Every dept. should have a committee to review such situations. The defaulting candidate is counseled by the guide. The candidate may be withheld from appearing for examinations.

Scheme of Examination.

- (i) Theory
- (ii) There shall be four papers, each of three hours duration. Each paper will consist of two long essay questions of 20 marks each and 6 short questions of ten marks each. Total marks for each paper will be 100 marks. Questions for recent advances can be asked in all the papers. details for each paper are as follows:

Paper I: Basic sciences-

1. Anatomy

2. Physiology

3. Other basic topics covered in syllabus.

Introduction to surgery, Basic surgical principles, wounds, tissue repair and scars. Critical care, fluid, electrolyte and acid base balance, blood transfusion. Nutritional support and rehab., Anesthesia and pain relief, Wound infection, special infection, AIDS, sterile precautions, transplantation, tumours, cysts, ulcers, sinuses, plastic and

reconstructive surgery, skin lesions and burns, arterial disorders, venous disorders, lymphatic system, day surgery, Audit in surgery and medical ethics.

Paper II:

Eye and orbit, Cleft lip and cleft palate, developmental abnormalities of the face, palate, jaws and teeth, Maxillofacial injuries, nose and sinuses, ear and oral and oropharyngeal cancer and precancer, Salivary gland disorders, pharynx, larynx and neck. Thyroid gland and the thyroglossal duct, Parathyroid glands and adrenal glands, breast thorax and heart.

Paper III:

Anastomoses, oesophagus, Stomach, duodenum, liver spleen, gall bladder, Pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small and large intestines, obstruction, appendix, rectum, anus and anal canal, hernias, umbilicus, abdominal wall, laparoscopic surgery.

Paper IV:

Orthopedics, musculoskeletal disorders, fractures and dislocations, diseases of bones and joints, wrist hand and foot, Nervous system: neurological disorders affecting the muscles, spinal column, cranium.

Genitourinary system: KUB, prostate and seminal vesicles, urethra penis testis and scrotum.

Recent advances in surgery and applied surgery.

Note: the dist. of chapters shown against papers are suggestive only

(ii) Clinical = 200 marks.

One long case and two short cases. Total of 200 marks.

(iii) Viva voce

1) Viva voce examination (80 marks)

all examiners will conduct the viva simultaneously on the basis of all the course contents and its comprehension by the candidate. In addition there will be charts reports x-rays, ct scans. USG etc, instruments, operative procedures and questions in the dissertation also.

- 2) Pedagogy examination: A topic will be given to the candidate and he must prepare a presentation on the same.

(iv) Max marks

Theory	Practical	Viva	Grand total
400	200	100	700

CHAPTER IV

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Procedure for defaulters: Every dept should have a committee to review such situations. The defaulting candidate is counseled by the guide. The candidate may be withheld from appearing for examinations.

MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI

MARKLIST FOR PRACTICAL AND VIVA-VOCE EXAMINATION

EXAM CENTRE: _____ COURSE / EXAM: PG –

DATE OF EXAMINATION: _____ EXAMINATION FOR: M.S. (GENERAL SURGERY)

Seat No,	1				2					Total	Grand Total Practical Total =400 Marks (1+2)
	Long Cases	2 Short Cases		Total	Viva						
		Case 1	Case 2		Table 1	Table 2	Table 3	Table 4	Dissertation Viva		
	100	50	50	200 marks	45	45	45	45	20		

NAME OF EXAMINER	COLLEGE	SIGNATURE WITH DATE
1.		
2.		
3.		
4.		

1.2. PG COURSES: - M.S.

Sr. No	COURSE	SUBJECT NAME	PAPER NO. & TOPICS
i)	M.S.	GENERAL SURGERY	I. Basic Sciences II. General Surgery Including Clinical Surgery III. General Surgery Including Subspecialities IV. Recent Advances
ii)	M.S.	OPHTHALMOLOGY	I. Anatomy, Physiology and optics of the eye. II. Ophthalmic Medicine and Surgery. III. Ophthalmology in relation to medicine IV. Newer Techniques and innovations in Ophthalmology.
iii)	M.S.	ORTHOPAEDICS	I. Basic and Applied Sciences as related to Orthopaedics II. Orthopaedics Traumatology III. Orthopaedic Diseases IV. Recent Advances
iv)	M.S.	OBSTETRICS AND GYNAECOLOGY	I. Basic Sciences in Obstetrics and Gynaecology including the diseases of the newborn. II. Clinical Obstetrics includes newborn. III. Clinical Gynaecology. IV. Recent Advances in Ob/Gy.

I	MD Emergency Medicine	I) Basic Sciences as relevant to Emergency Medicine (Applied Anatomy, Clinical Physiology, Clinical Biochemistry, Clinical Pharmacology, Clinical Microbiology, Clinical Pathology, Research Methodology, Biostatistics) II) Emergency Medicine (Medicine, Dermatology, Psychiatry) III) Emergency Medicine (Surgery Trauma, Orthopedics, Obstetrics, Anesthesia, Eye, ENT, Dental, Radiology) IV) Emergency Medicine including recent advances (Pediatrics, Principles of Pre hospital Care, Disaster Medicine, Forensic Medicine)
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IN PURSUIT OF EXCELLENCE

MGM DEEMED UNIVERSITY OF HEALTH SCIENCES

Constituent Colleges

Navi Mumbai



M.G.M. Medical College

M.G.M School of Biomedical Science

M.G.M School of Physiotherapy

M.G.M New Bombay College of Nursing

M.G.M College of Nursing

Aurangabad



M.G.M. Medical College

M.G.M School of Biomedical Science

M.G.M School of Physiotherapy

M.G.M College of Nursing



MAHATMA GANDHI MISSION



AURANGABAD

- MGM's Jawaharlal Nehru Engineering College
- MGM's Institute of Management
- MGM's Mother Teresa College of Nursing
- MGM's Mother Teresa Institute of Nursing Education
- MGM's College of Journalism & Media Science
- MGM's Medical Center & Research Institute
- MGM's College of Fine Arts
- MGM's Dr. D. Y. Pathnikar College of Comp. Sc. & Tech.
- MGM's Hospital & Research Center
- MGM's College of Agricultural Bio-Technology
- MGM's Dept. of Bio-Technology & Bio-informatics.
- MGM's Inst. of Hotel Management & Catering Tech.
- MGM's Institute of Indian & foreign Languages & Comm.
- MGM's College of Physiotherapy
- MGM's Hospital, Ajabnagar
- MGM's Sangeet Academy (Mahagami)
- MGM's Institute Naturopathy & Yoga
- MGM's Sports Club & Stadium
- MGM's Institute of Vocational Courses
- MGM's Horticulture
- MGM's Health Care Management
- MGM's Junior College of Education (Eng. & Mar.)
- MGM's Sanskar Vidyalaya (Pri. & Sec. - Mar.)
- MGM's Clover Dale School (Pri. & Sec. - Eng.)
- MGM's First Steps School (Pre-Primary - English)
- MGM's Sanskar Vidyalaya (Pre-Primary - Marathi)
- MGM's School of Biomedical Sciences

NAVI MUMBAI

- MGM's College of Engineering & Technology
- MGM's Institute of Management Studies & Research
- MGM's Dental College & Hospital
- MGM's College of Physiotherapy
- MGM's College of Media Science
- MGM's Institute of Research
- MGM's New Bombay Hospital, Vashi
- MGM's Hospital, CBD
- MGM's Hospital, Kamothe
- MGM's Hospital, Kalamboli
- MGM's Infotech & Research Centre
- MGM's Pre-Primary School (English & Marathi)
- MGM's Primary & Secondary School (Eng. & Mar.)
- MGM's Junior College Science
- MGM's Junior College of Vocational Courses
- MGM's Florence Nightingale Inst. Nursing Edu.
- MGM's College of Nursing
- MGM's College of Law

NANDED

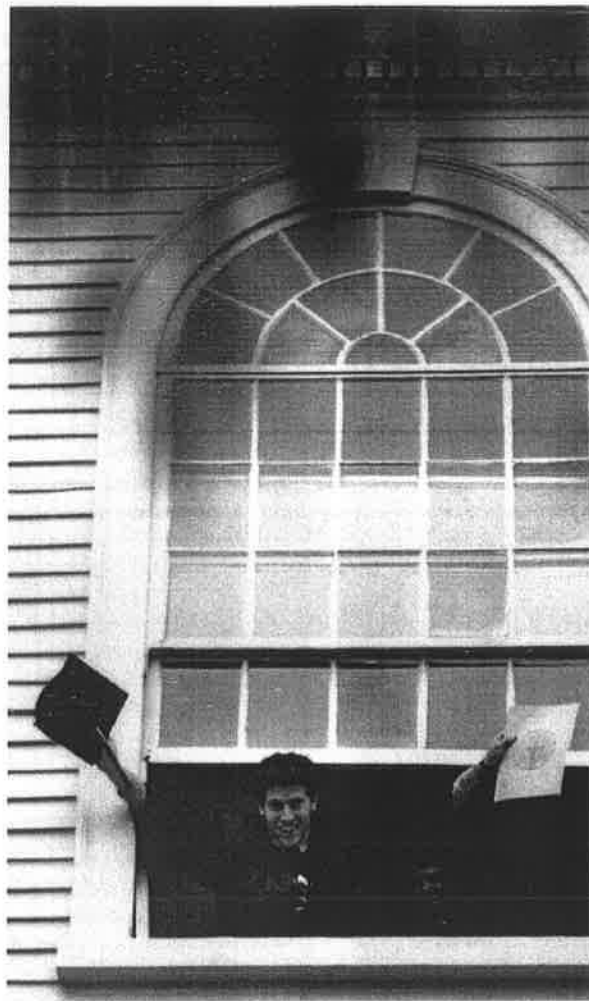
- MGM's College of Engineering
- MGM's College of Fine Arts
- MGM's College of Computer Science
- MGM's College of Journalism & Media Science
- MGM's Centre for Astronomy & Space Tech.
- MGM's College of Library & Information Science

PARBHANI

- MGM's College of Computer Science

NOIDA (U.P.)

- MGM's College of Engineering & Technology



MGM University of Health Sciences
(Education - Health Services - Research)
A Mission started, nurtured and Managed
by Professional Doctors, Scientists Engineers...



MGM INSTITUTE OF HEALTH SCIENCES

(Deemed University u/s 3 of UGC Act, 1956)



Post Box -6, MGM Educational Complex, Sector-18,
Kamothe, Navi Mumbai - 410209
Ph : - 022-27422471, 65168127, 65138121 Fax : 022-27420320
E-mail : mgmuniversity@mgmuhs.com
Website: www.mgmuhs.com

Resolution No. 1.3.7.11 (i) of BOM-51/2017: Resolved that the following Bioethics topics in PG Curriculum are to be included for PG students of all specialization and a sensitization of these topics can be done during PG Induction programme:

- Concept of Autonomy
- Informed Consent
- Confidentiality
- Communication Skills
- Patient rights
- Withholding / Withdrawing life-saving treatment
- Palliative Care
- Issues related to Organ Transplantation
- Surgical Research and Surgical Innovation
- Hospital Ethics Committee
- Doctor-Patient relationship

Att PG.
30 09/03

Resolution No. 1.3.23 of BOM-51/2017: Resolved to implement a Structured Induction programme (07 days) for PG students. [Annexure-XIV]



MGM INSTITUTE OF HEALTH SCIENCES
Navi Mumbai

Induction Program for newly admitted Postgraduate students

Day 1	<ul style="list-style-type: none"> • Address by Dean, Medical Suptd, Director (Academics) • Pre-test • Communication Skills • Universal Safety Precautions • Biomedical Waste Management • Infection Control Policy
Day 2	<ul style="list-style-type: none"> • Emergency services • Laboratory services ✓ Blood Bank services • Medicolegal issues • Prescription writing • Adverse Drug Reaction • Handling surgical specimens
Day 3	<ul style="list-style-type: none"> • Principles of Ethics • Professionalism • Research Ethics • Informed Consent • Confidentiality • Doctor-Patient relationship
Day 4	<ul style="list-style-type: none"> • Research Methodology
Day 5	<ul style="list-style-type: none"> • Synopsis writing
Day 6	<ul style="list-style-type: none"> • Dissertation writing
Day 7	<ul style="list-style-type: none"> • Statistics
Day 7	<ul style="list-style-type: none"> • ATLS • Post-test

The Induction Program will be conducted in the first week of June.

Timing: 9.30 am to 3.30 pm

(Prof. Dr. Siddharth P. Dubhashi)
Director (Academics)

MS General Surgery

Resolution No. 1.3.10.11 of BOM-51/2017: Resolved to have 50 hours of mandatory teaching per year for PG students. **Annexure XVIII**

Department of Surgery

50 hours lecture schedule:

1. Metabolic Response to Injury – I
2. Metabolic Response to Injury – II
3. Wound healing
4. Hemostasis and Blood Transfusion
5. General Considerations in Neoplasia
6. Shock
7. Burns
8. Surgical site infections
9. Nosocomial Infections
10. Electrocautery
11. Sterilization techniques
12. Autoimmunity
13. Fluid Electrolyte balance / disorders
14. Acid-Base balance / disorders
15. Genetic basis of diseases
16. Skin grafting
17. Graft rejection
18. Polytrauma – general considerations
19. Damage Control Surgery
20. Head Injury – I
21. Head Injury – II
22. Maxillofacial Injuries
23. Portal Hypertension – I
24. Portal Hypertension – II
25. Obstructive Jaundice
26. Principles of Minimal Access Surgery – I

27. Principles of Minimal Access Surgery - II
28. Tuberculosis – surgical considerations I
29. Tuberculosis – surgical considerations II
30. Ultrasound
31. Doppler
32. Barium studies
33. IVP
34. Mammography
35. Sentinel Node Biopsy
36. Cytology and Biopsy techniques
37. Cholangiography
38. ERCP / MRCP
39. Principles of Chemotherapy
40. Principles of Radiotherapy

Resolution No. 1.3.10.19 of BOM-51/2017: Resolved to approve the proposed change in the pattern of MS Surgery Practical Examination as given below from batch appearing in May/June 2018 examination onwards:

Clinical	One Long Case	100 Marks	300 marks
	Two Short Cases (50 marks each)	100 marks	
	Ward Rounds (4 cases; 25 marks each)	100 marks	

Viva	Surgical Anatomy	15 marks	Table 1 (45 marks)	100 marks
	Surgical Pathology	15Marks		
	Radiology	15 marks		
	Instruments, Catheters	20 marks	Table 2 (45 marks)	
	Operative Surgery	25 marks		
	Microteaching	10 marks		

Resolution No. 3.8.2 of BOM-52/2018: It was resolved to have the following Allied posting for PG students:

b) Surgery:

Mandatory postings:

I.	CVTS	60 days
II.	Urology	30 days
III.	SICU	30 days
IV.	Emergency Medicine	30 days
V.	Neurosurgery	30 days

Resolution passed in BOM – 48/2017, dated 24/01/2017

Resolution No. 5.25: Resolved to institute 6 monthly progress Report for PG Students of all Courses from the batches admitted in 2016-17. **[Annexure-XVII of BOM-48/2017]**



**Mahatma Gandhi Mission's Medical College and Hospital
Navi Mumbai**

Six monthly Progress Report for Postgraduate Students

PART A

Name of the PG student: _____

Department: _____

Admitted in (Month and Year): _____

Name of the PG guide: _____

Report for the period: _____ to _____

Attendance: _____ days (_____ %)

PART B

Grading as per performance

Grade	Percentage
A	80% and above
B	65% to 79%
C	50% to 64%
D	Below 50%

1. OPD work:
2. Ward work:
3. Lab work:
4. OT work:
5. ICU work:
6. Teaching assignments:

PART C

Progress of Thesis

PART D

Activities from serial No. 1 to 5 should be rated on a scale of 0 to 10.

1. Case Presentations

Sr. No.	Topic	Date	Guide	Marks

2. Microteaching

Sr. No.	Topic	Date	Guide	Marks

3. Recent Advances

Sr. No.	Topic	Date	Guide	Marks

4. Seminars

Sr. No.	Topic	Date	Guide	Marks

5. Journal Clubs

Sr. No.	Journal	Title of Paper	Date	Guide	Marks

6. Marks obtained in tests

Sr. No.	Date	Theory / Practical	Marks obtained

7. Any other academic activity conducted:

PART E

1. Papers presented

Sr. No.	Title of Paper	Authors	Event	Date

2. Posters presented

Sr. No.	Title of Poster	Authors	Event	Date

3. Publications

(Note: Mention only those publications that are published or are accepted for publication during the said period only)

Sr. No.	Title of Paper	Authors	Journal	Year/Vol/ Issue	Page Nos	Indexed/ Non-Indexed	Status

Certificate by the PG Guide

This is to certify that Dr. _____, has an attendance of _____% , during the period _____ to _____. His /Her performance during the said period has been **satisfactory/ average / unsatisfactory.**

Overall Grading: _____

Date: _____

Name and Signature of PG guide:

Certificate by the Head of Department

This is to certify that the performance of Dr. _____, during the period _____ to _____, has been **satisfactory/ average / unsatisfactory.**

Overall Grading: _____

Date: _____

Name and Signature of HOD:

Final Remarks

Satisfactory / Average / Unsatisfactory

Director (Academics)

Dean

Date:

Resolution No. 4.5.4.2 of BOM-55/2018: Resolved to have 10 short notes out of 11 (10 marks each) in all the papers in university examination for PG courses including superspeciality. To be implemented from batch appearing in April/May 2019 examination onwards for MD/MS/Diploma and August/September 2019 examination onwards for superspeciality.