



# MGM INSTITUTE OF HEALTH SCIENCES

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

**Grade 'A' Accredited by NAAC**

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(with effect from 2021-2022 batch onwards)

## **Curriculum for Doctor of Medicine (MD) Emergency Medicine**

Amended as per AC- 49/2024, Dated 25/04/2024

### **Amended History**

1. Approved as per BOM– 43/2015, Dated 06/11/2015.
2. Amended as per BOM- 45/2016, [Resolution No.3.3 (a)], [Resolution No.3.4 ( d)], Dated 24/01/2016.
3. Amended as per BOM- 46/2016, [Resolution No. 1.v], [Resolution No. 5.9(b)]; Dated 11/08/2016.
4. Amended as per BOM- 48/2017, [Resolution No. 5.25]; Dated 24/01/2017.
- 5 . Amended as per BOM-51/2017, [Resolution No. 1.3.7.11], [Resolution No.1.3.23]; Dated 28/08/2017.
6. Amended as per BOM-55/2018, [Resolution No. 4.13], [Resolution No. 4.5.4.2], Dated 27/11/2018.
7. Amended as per BOM-57/2019, [Resolution No. 3.1.3.1], [Resolution No. 3.1.3.6], [Resolution No. 3.1.3.10], [Resolution No. 3.1.4.2], Dated 26/04/2019.
8. Amended as per AC- 49/2024, (Resolution No. 4.27], Dated 25/04/2024



**MGM INSTITUTE OF HEALTH SCIENCES**

**KAMOTHE MUMBAI -410209**

**CURRICULUM**

**FOR**

**POST GRADUATE DEGREE COURSE**

**IN EMERGENCY MEDICINE**

**M.D. (EM)**

## **CURRICULUM FOR POST GRAUDATE DEGREE COURSE IN EMERGENCY MEDICINE,M.D.(EM)**

The underlying philosophy of the residency is that optimal learning comes first and foremost by evaluating and treating patients. This clinical experience is strongly supplemented by formalized didactics and case-directed readings. The MGM Emergency Medicine Residency realizes these goals and philosophy through a comprehensive mixture of clinical exposure (both in and out of the ED) and instructive lectures. Training is provided in the administration of emergency departments and Emergency Medical Services systems

### **1. Goal :**

- ❖ To educate the residents in the diagnosis, treatment and disposition of patients with acute illness and injury.
- ❖ To provide the residents with the skills to analyze the medical literature and perform original research.
- ❖ To incorporate the residents into the administrative, emergency medical services and legal activities of the emergency department.
- ❖ To involve the residents in the training of medical students, and emergency nursing and paramedical personnel.
- ❖ To develop leaders in the field of Emergency Medicine

### **Objectives:**

- ❖ Recognize, evaluate, and treat all patients with life or limb threatening conditions presenting to the ED. This includes the ability to simultaneously manage multiple patients as well as direct or supervise resuscitation efforts
- ❖ Make a timely and appropriate disposition for all patients presenting to the ED. This includes the ability to effectively interact with the patients, family members, and consulting or private physicians.
- ❖ Manage and direct mass casualty situations and participate in disaster planning.
- ❖ Develop teaching skills suitable to disseminate information to all levels of care providers, particularly prehospital personnel.
- ❖ Interact effectively with prehospital care providers and function as a Base Station physician.
- ❖ Effectively perform administrative tasks necessary to manage an emergency medicine service including scheduling, risk management, continuous quality improvement, and the handling of patient complaints.
- ❖ Develop competence in evaluating the medical literature and understanding research methodology.
- ❖ Develop a system for life-long learning to meet your professional goals after residency.

### **2. Course Description**

Post Graduate degree course in M.D. (EM)  
MD (Emergency Medicine)  
Duration : 3 Yrs.



Eligibility : MBBS and completion of 1 year. Compulsory rotation housemanship /internship  
: Entry after PG CET MGMIHS

### 3. Rotations: Intramural and extramural

MD (Emergency Medicine)

Adult Emergency Medicine 18 months and Paediatrics 1 month.

Critical care (MICU, PICU, NICU, SICU) 6 months.

Rest in rotation in allied including –

General Medicine -1 months,

ED based trauma Surgery -1 month,

ED based orthopaedics-1 month,

OB/Gyn-1 month,

Anaesthesia-1 month,

Ophthalmology-2 weeks,

Skin-2 weeks

ENT-2 weeks,

ED based Psychiatry-2 weeks,

Radiology -2 weeks

Forensic Medicine-2 weeks,

Community medicine- 2 Weeks

Respiratory medicine-1 month

Elective-6 weeks

First year rotation plan : Emergency medicine 6 months, Anesthesia 1 Month, Respiratory medicine 1 Month, General medicine 1 Month, OBGY 1 month, Forensic medicine 2 Weeks, ENT 2 weeks, Radiology and Ophthalmology 2 Weeks Each.

Second year rotation plan: Emergency medicine 6 Months, Critical care (MICU,SICU,NICU,PICU) total duration of 6 months.

Third year rotation plan: Emergency medicine 6 months, ED based General Surgery 1 month, Orthopedics 1 Months, Pediatrics 1 month, Dermatology 2 weeks, Psychiatry 2 weeks and elective for 6 weeks duration.

During the month of MAY all PGs is begin their residency experience in the emergency department. At the beginning of the month there are shifts in the emergency department where the residents work with nursing staff and other ancillary personnel in their roles to learn how the ED functions as a team. Later in the month residents begin their physician roles with clinical shifts in the EMD.

In medical institutions having superspeciality departments, the students should be uniformly rotated through various super specialties namely Cardiology, Neurology, Nephrology, Trauma Surgery, Neurosurgery, etc. for minimum of 2 weeks each. The duration of training in the above mentioned super specialties shall be deducted out of the training period allocated for the allied broad specialties viz. General Medicine/General Surgery respectively.

### 4. Syllabus

i) Resuscitation, Prehospital Care & Disaster Preparedness

- Sudden cardiac death

- Basic cardiopulmonary Resuscitation adult / Neonates / Children / Pregnant

- patients
  - Acid base, disorder, blood gases, cardiac rhythm disturbances, fluid & blood resuscitation
  - Pharmacology of arrhythmics & vasopressor agents
  - Approach to a patient of shock, Anaphylaxis acute allergic reaction, Angioedema
  - Emergency medical services
  - Disaster preparedness & response, Natural disaster, Bomb blast & crush casualties
  - Bioterrorism recognition and response – implication for the emergency clinicians
  - Radiation injuries
- ii) Emergency wound management
  - Evaluation and wound preparation and postrepair wound care
  - Methods of wound closure
  - Laceration of face scalp, leg & foot
  - Injuries to arm hands, fingertips & nail
  - Soft tissue foreign body
  - Puncture wounds & bites
- iii) Analgesia Anaesthesia and procedural sedation
- iv) Resuscitative procedures
- v) Cardiovascular disease
  - Evaluation of chest pain & management
  - Acute coronary syndrome
  - Cardiogenic shock
  - Syncope, CHF
  - Valvular Emergencies
  - Cardiomyopathies and pericardical effusion
  - Systemic & pulmonary embolism
  - Dissection of aorta & aneurysms
  - Occlusive arterial disease
- vi) Pulmonary Emergencies
  - Respiratory distress / URT I / Acute bronchitis
  - Hemoptysis / Tuberculosis
  - CAP aspiration pneumonia, Noninfections Pulmonary infiltrates
  - Spontaneous / iatrogenic pneumothorax
  - Empyema & lung abscess
  - Asthma / COPD
- vii) Gastrointestinal emergencies
  - Pain in Abdomen, Nausea, Vomiting / Diarrhea, constipation
  - GERD, upper & lower GI bleeding, PUD & Gastritis
  - Pancreatitis, Cholecystitis, Diverticulitis, Appendicitis
  - Hepatic disorders
  - Bowel obstruction, volvulus, hernias
  - Anorectal disorders
  - Complication & general surgical procedures
- viii) Renal & genitourinary disorders
  - ARF, emergencies in RF & dialysis patients
  - Acute urinary retention / Male genital problems, UTI hematuria
  - Rhabdomyolysis : Urologic stone disease
  - Complication of urologic procedures and devices

ix) OBGYN

- Vaginal bleeding – Abdominal and pelvic pain in non pregnant patient
- Normal pregnancy and co-morbid disease in pregnancy / emergency delivery
- Ectopic pregnancy and emergencies in the 1<sup>st</sup> 20 wks & post partum period.
- PID / vulvovaginitis, breast disorders
- Complications of gynecologic procedures

x) Paediatrics

- Emergencies care of children, neonatal emergencies and common Neonatal problems
- SIDS, fever and bacterial illness
- Ear, Mastoid, eye problems in infants & children.
- Nose, mouth, sinuses, Throat, neck masses in children
- Stridor, drooling, wheezing, vomiting, diarrhea dehydration in children
- Paediatric heart disease – congenital and acquired urologic & gynaecologic problems in infants & children
- Renal emergencies
- Headaches, Scizures, altered mental status, Minor head injury in infants and children
- Musculoskeletal disorder in children
- Oncology & hematology emergencies in children sick cell
- Flypoglycaemia & metabolic emergencies in infants & children
- Syncope & sudden death in children
- Fluid, Electrolyte therapy in infants & children
- Behavioral & psychiatric disorder in children & infants

xi) Infectious disease

- STDs, HIV infection & AIDS, soft tissue infections
- Toxic shock syndrome & septic shock, disseminated viral infections
- Infective endocarditis teannus, Rabbies, Malaria, Food & waterbome, zoonotic diseases
- Occupational exposures, infection control & standard precautions
- Pharmacology Antimicrobials, Antifungals & Antivirals

xii) Toxicology and environmental injuries

xiii) Endocrine, hematologic and oncologic emergencies

xiv) Eyes, Ears, Nose, Throat and oral surgery & skin disorder

xv) Trauma & injuries to the bones and joints

- Trauma in adults, Paediatric geriatric & pregnant patients
- Trauma to face, neck, spine & spinal cord, abdominal cardiac, pulmonary, genitourinary & penetrating trauma
- Wound ballistics and forensics
- Initial evaluation and management of orthopaedics injuries
- Compartment syndromes
- Orthopaedics devices and reconstruction

xvi) Muskuloskeletal disorder

xvii) Psychosocial disorders, Abuse & assault

- Behavioural disorders – emergency assessment
- Child abuse & neglect
- Female & male sexual assault
- Intimate partner violence an abuse

- Abuse of elderly & impaired
- Violent patient
- xviii) Special situations
  - Infections drug users
  - The transplant patient
  - Grief, death and dying DNR/DNI orders. Delivering effect death notification in emergency department
  - Legal issues in emergency department
  - Management of prisoners attending the emergency department
- xix) Principles of imaging
  - Emergency ultrasonography, MRI, CT. Noninvasive myocardial imaging

## 5. List of skills :

- a) Elicitation of history from parents, guardians, relatives and patients regarding complaint, previous disease and therapy, development , diet, immunization, social and educational and economics background
- b) Thorough physical examination with due regards to bedside manners and skin
- c) Provide advice to parents and children regarding health and hygienic practices with a view to prevent disease, disorders, injuries, accidents and poisoning.
- d) Develop a diagnostic approach to any problem in adult, paediatric, geriatrics patients
- e) Develop communication skills between doctors & patients
  - To undertake relevant investigations for diagnostic and prognostic evaluation talking into considerations the risks, benefits & costs involved.
  - To convince patients to guardians regarding undertaking investigations and obtain their co-operation & valid informed legal consent
- f) Interpretation of lab reports ECG, EEG, USG counseling relative and parents
- g) Performance of diagnostics and therapeutic procedures
  - Venepuncture
  - Intravenous, intraosseous access for administration of drug and intravenous fluids
  - Lumbar puncture for cerebrospinal fluid evaluation
  - Ascitic tap for diagnostic & therapeutic purpose
  - Arterial blood collection for analysis of blood gases
  - Obtaining central venous access
  - Wound repair and post repair care
  - Non invasive airway management
  - Paediatrics airway management
  - Tracheal intubation and mechanical ventilation
  - Surgical airway management (percutaneous tracheostomy & cricothyrotomy)
  - Hemodynamic monitoring with arterial cannulation
  - Cardiac pacing
  - Defibrillation and cardioversion
  - Pericardiocentesis, Thoracocentesis
  - Slit lamp / nasal packing
  - Arthrocentesis, umbilical vein catheterisation
  - Venous cut down
  - Bedside ultrasound in emergency
  - Fracture reduction of splinting, jt reduction
  - Nasogastric aspiration, orogastric lavage, paracentesis, oesophageal balloon

- tamponade, Anoscopy, Hernia reduction, transabdominal feeding tube
- Normal Delivery
- Nursemaids elbow reduction
- Suprapubic catheterisation
- Bone marrow aspiration & biopsy – Tube thoracostomy, FB removal

#### **6. Teaching / learning activities and opportunities**

- Management of in & out patients
- Presentation of cases on clinical rounds
- Topic/Case presentation : once a week
- Mortality meeting review : once a month.
- Journal club article view : once a week.
- Simulation exercises
- Guest speakers from senior consultants : once in three months
- Lectures on the modular topic of the month – classroom and online :once a week
- Evidence based medicine
- Grand rounds : once a week
- Follow up cases discussion on patients admitted through the emergency department : once a week.
- Procedure and skill seminar
- Presentation by the residents
- Multidisciplinary case discussions
- Conferences
- Tutorials : once a week
- Seminars : once a week
- CME session, paper presentations
- Participation in workshops
- Teaching undergraduate students and paramedical staff
- Use & maintenance of biomedical equipments and gadgets
- Group discussion
- Assisting and performing diagnostic and therapeutic procedures

#### **7. Research**

Student will be encourage to initiate and conduct research projects pertinent to EM to write scholarly article that is worthy of publication. They will be expected to work on research project with the faculty and they will be required to submit one paper to a journal for potential publication.

A candidate registered for MD (EM) will be submitting a dissertation to the university. This will be a pre-requisite for appearing for MD examination. The dissertation will be done under the guidance and full satisfaction of the postgraduate teacher under whom the candidate is registered.

#### **8. Fundamentals of programme**

- a) Lectures on the modular topic of the month
- b) Evidence based medicine
- c) Journal club – for discussion and review of articles
- d) Grand rounds and guest speakers
- e) Mortality and morbidity conferences

- f) Follow up case discussions on patients admitted through the emergency department
- g) Procedures and skills seminar
- h) Presentations by the residents

#### 9). Maintenance of LOG BOOK

The candidate must maintain a log book for various procedural skills and procedures, post graduate activities and patients managed in emergency and various allied departments.

#### 10). Internal and external examiners for final examination

As in other specialties, final examination for postgraduates in EM should also have four examiners (two internal and two external). Internal examiners should be only those teachers who are working exclusively in the Department of EM. The Convener for the examination should not be below the rank of a Professor while the second examiner should not be below the rank of Associate Professor/Reader. External examiners should be appointed as per the MCI norms. Both the external examiners should not be below the rank of Professor/Additional Professor and should be only from the Departments of EM of various medical colleges running MCI-recognized postgraduate degree course in EM.

#### 11). Theory examination

As with other specialties, the final examination should have four question papers (3 hours each) as given below

Paper 1	Basic sciences as relevant to Emergency Medicine (Applied Anatomy, Clinical Physiology, Clinical Biochemistry, Clinical Pharmacology, Clinical Microbiology, Clinical Pathology, Research Methodology, Biostatistics)
Paper 2	Emergency Medicine (Medicine, Dermatology, Psychiatry)
Paper 3	Emergency Medicine (Surgery, Trauma, Orthopedics, Obstetrics, Anesthesia, Eye, ENT, Dental, Radiology)
Paper 4	Emergency Medicine including recent advances (Pediatrics, Principles of Pre-hospital Care, Disaster Medicine, Forensic Medicine)

#### 12). Composition of theory assessment

The theory papers should be based on as per the MGMIHS rule.

#### 13). Practical examination

Not more than 4 candidates should be examined in one day. The practical should have following composition:

1. Case work up (cases to be taken from ED who are under observation and from those who are not seriously ill and are admitted to a department)

- *Short cases:* Assessment should be based only on short cases. At least 10 cases should be given to each postgraduate student with distribution of cases as follows: two from medicine, one from surgery, one from trauma, one from pediatrics, and one each from dermatology, psychiatry, ophthalmology (trauma/fundus), ENT (ear, nose or throat acute problem) and obstetrics and gynecology.
2. Procedural skills: Ten procedures needs to be demonstrated on simulators or theoretically described on live persons by the candidate (if simulator is not available): (Example: Please describe the procedure for chest tube insertion.). The skills should include:
    - Ultrasound (at least two)
    - Cardiac resuscitation in adults, children and neonates
    - Trauma resuscitation
    - Other procedures
  3. Spotting: Twenty spotters should be given and these should include X-rays, ECG, CT/MRI imaging, instruments, blood gas and acid-base reports, ultrasound, clinical photographs.
  4. Objective Structured Clinical Examination (OSCE): Two cases (one single and one multiple patient encounters) should be given to test the candidates.
  5. Viva voce: Only questions relevant to EM should be asked in viva voce

#### 14). EMERGENCY MEDICINE CURRICULUM FOR MBBS COURSE

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The rotation in EM should be for one month followed by assessment. The student should do clinical shifts in the EM department during this rotation. He/she should attend all academic activities of the department, namely journal club, clinical presentations, seminars, etc. held in the department. It is recommended that the medical students learn in detail all fundamentals of resuscitation and also do various procedures in the ED under supervision of teachers and/or senior residents. A log book needs to be maintained where in the student should record all activities he or she has done during the rotation in EM.

- History ,clinical examination , documentation and critical difference in emergency medicine
- High risk emergency medicine
- Avoiding common medical error
- Risk reduction to enhance patient safety
- Resuscitation
- ECG
- Basics of ultrasound
- Common X rays ,CT scans and MRI images
- Approach to chest pain, shortness of breath, altered sensorium
- Management of pain anywhere in the body
- Approach to bleeding from anywhere in the body
- Medico- Legal issues with respect to emergency Patient
- Dermatological manifestation in emergency medicine
- Approach to poisonings.

### 15). Teachers eligibility qualifications for the department of emergency medicine

As per MCI Regulations, the minimum requirement of teachers for broad specialties or superspecialties shall be three full time faculty members belonging to the concerned disciplines of whom one shall be a Professor, one Associate Professor/Reader, and one Assistant Professor/Lecturer possessing requisite qualification and teaching experience prescribed by the MCI.

Since EM is not a well-established specialty in India and only a few colleges have this specialty, it may not be possible to get EM-qualified person for the faculty job during the initial few years. As per the MCI Regulations, for the Teachers Eligibility Qualifications in the department of EM, basic qualification should be MD/MS (or equivalent) in EM, general medicine, general surgery, anesthesia, orthopedics, or pulmonary medicine. Therefore, the faculty from other departments who are interested in EM may be asked to shift full time and permanently to EM and should not be shifted back to the parent department. This arrangement of selection from other specialties should continue till adequate EM-trained physicians become available in India. MCI has made provision for this for the next 10 years. The teachers' eligibility criteria may be reviewed after 10 years of existence of EM. Such selection should be based on open competition where faculty from other hospitals can also be considered for these posts.

In the current MCI Regulations, there is a need for 2-years training in EM before one can be considered for teaching posts in the department of EM; however since EM is not a well-established specialty in India, it may not be possible to get teachers having specific experience in the field of EM, especially at Professor and Associate Professor levels during the initial few years. The ACEE-India therefore proposes that the requirement of 2-year training in EM may be deleted; however, the teachers must fulfil the requirement of length of teaching experience in the parent specialty as specified by the MCI for the posts of Professor and Associate Professor/Reader respectively. During selection procedure of faculty, the ACEE-India is of strong view that physicians with training in EM like Fellowship of Academic College of Emergency Experts in India (FACEE) should be given preference as this fellowship is given after 1-year long program in which the physician has to become well versed with the whole body of knowledge of EM as well as acquire skills in various procedures. This fellowship can be achieved while one is working in his own discipline.

**If teachers qualified in EM are not available, it should be ensured that at least one teacher should be from the specialty of General Medicine and the other one from the specialty of General Surgery. The third teacher can be from any one of the remaining specialties already approved by the MCI viz. Anesthesia, Pulmonary Medicine, or Orthopedics. The posts should be widely advertised so that the department has faculty from different specialties and not from a single or two specialties.**

It has been observed that in many departments currently running MD course in EM, the existing teachers continue to work in their parent departments or in the Critical Care Units (CCUs) of the hospital, thus compromising the teaching facilities and patient care in the Department of EM. ACEE-India strongly feels that MCI must ensure that various medical institutions running MD course in EM must abstain from this practice and ensure that the teachers appointed in the Department of EM must be available on full time basis and should not be involved in the teaching/patient care activities of the parent departments.



## 16). List of books/journals relevant to Emergency Medicine

The list of the books is given below in the table attached.

## 17). Equipments

All the ICU/HDU beds in department of EM should have central oxygen and suction facility, bedside vital sign monitors (one per bed), ventilators (one per two beds), infusion pumps (two per bed), defibrillator with external pacer (one), and nebulizers (one per three beds). Other beds should also have central oxygen and suction facility, bedside vital sign monitors (one per seven beds), ventilators (one per seven beds), infusion pumps (two per seven beds) and nebulizers (one per seven beds). In addition, the department should have one portable ultrasound and echocardiography machine dedicated to EM.

The hospital should have in-house computed tomography (CT) scan with at least 10 scans performed per day. Department of EM should have a point-of-care (POC) laboratory for quantitative tests [arterial blood gas (ABG), serum electrolytes, cardiac enzymes, etc]. Facilities for analysis of body fluids and cultures should be available in the hospital round-the-clock.

List of equipment which should be available in the Department of EM is given below. Excellent simulators and mannequins should be available for training. Availability of Skills Laboratory for training is not mandated at present; however ACEE-India emphasizes its requirement for Department of EM. Establishment of Skills Laboratory should entitle the institution for higher gradation in accreditation.

## **Central Library**

### **Books**

Peter Rosen's Textbook on Emergency Medicine  
Tintinalli's Emergency Medicine  
Goldfrank's Toxicologic Emergencies

### **Journals**

American Journal of Emergency Medicine  
Annals of Emergency Medicine  
Clinical Toxicology  
European Journal of Emergency Medicine  
Human and Experimental Toxicology  
International Journal of Critical Illness and Injury Science  
Journal of Emergencies, Trauma and Shock  
Journal of Emergency Medicine  
Journal of Neurotrauma  
Journal of Trauma and Acute Care Surgery  
Shock

**Departmental Library: Total 40 (including two computers having facilities for e-books and e-journals)**

### **Books (latest editions)**

Tintinalli's Emergency Medicine  
Goldfrank's Toxicologic Emergencies  
Clinical Pharmacology  
Cardiology (relevant to EM)  
Nephrology (relevant to EM)  
Neurology (relevant to EM)  
Gastroenterology (relevant to EM)  
Endocrinology (relevant to EM)  
Surgery (relevant to EM)  
Pediatrics (relevant to EM)  
Orthopedics (relevant to EM)  
Obstetrics and Gynecology (relevant to EM)  
Forensic Medicine  
Internal Medicine (relevant to EM)  
Dermatology (relevant to EM)  
Psychiatry (relevant to EM)  
Trauma  
Anatomy  
Physiology  
Microbiology  
Biostatistics

### **Journals**

Annals of Emergency Medicine  
Clinical Toxicology  
International Journal of Critical Illness and Injury Science  
Journal of Emergencies, Trauma and Shock

### **Essential**

ICU beds – Six  
Central oxygen and suction points – Twenty  
Cardiac monitors (with ETCO<sub>2</sub> facility) – Eight  
Defibrillator with external pacer – One  
ECG machine – One  
ICU ventilators – Three  
Other ventilators – Two  
Trolleys/Fowler beds – Eighteen (including those for shifting of patients)  
Infusion pumps – Sixteen  
Portable ultrasound with multiple probes including echo probe – One  
Portable X-ray unit – One  
Resuscitation trolley – One  
Artificial breathing bag – Four  
Endotracheal tubes of all sizes  
Laryngoscope with all sized blades  
Chest tubes  
Point-of-care laboratory for quantitative estimation of cardiac enzymes, ABG and electrolytes  
Oxygen cylinders – Four  
Portable suction machines – Four  
Ultrasonic nebulizers – Four  
All essential life-saving drugs as per National Essential Drug List  
Cervical collars of all sizes  
Spine boards with slings and scotch tape all sizes – Two  
Splints for all types of fractures  
Glucometer – Two  
Central lines of all sizes – Ten

### **Desirable**

Simulators for teaching various emergencies  
Additional ICU ventilators – Two  
Additional cardiac monitors – Three  
Additional infusion pumps – Six

### **Resolution No. 4.27 of Academic Council (AC-49/2024):**

Resolved to include thesis assessment of 20 marks in practical examination for MD Emergency Medicine from batch admitted in academic year 2021-22 onwards, as per recent NMC guidelines [ANNEXURE-56A & 56B].

**PRACTICAL EXAMINATION**  
**M.D. (EMERGENCY MEDICINE)**  
**PROPOSED PATTERN FOR EXAMINATION**  
**AS PER NMC GUIDELINES**

TOTAL MARKS- 400

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**A) CLINICAL/ PRACTICAL – 280 MARKS**

1) CLINICAL CASES- 200 MARKS

a) Long Case- 100 marks ( Acute medical/ surgical/ trauma )

Duration for case taking- 60 mins

Assessment time- 15 mins

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b) Short Cases- Each case 50 marks ( Acute medical/ surgical/ trauma )

Total cases – 02

Total marks – 100

Duration for case taking- 30 mins

Assessment time- 8 mins for each case

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**2) OSCE- 80 Marks**

a) OSCE Stations

Candidate shall demonstrate the skills appropriate to the given scenario

Candidate is expected to narrate the steps of the procedure in a methodical manner.

I) Pediatrics- 20 Marks

II) Obstetrics- 20 Marks

III) Orthopedics- 20 Marks

IV) Resuscitation- 20 Marks

(BLS/ACLS/ATLS)

Max Marks-  $20 \times 4 = 80$  marks

Each station will have 7 mins- TOTAL TIME- 28 mins

## **B) Thesis/ Dissertation with recent advances- 20 marks**

Time of assessment- 5 min

Research aptitude and dissertation- 5 marks

Procedures performed and Log book- 5 marks

Journal article analysis, recent advances- 5 marks

Administrative skills- 5 marks

## **C) Viva-Voce (100Marks)**

### **1) SPOTTERS- 20 MARKS**

Each spot will have 2 marks- 10 spots

$10 \times 2 = 20$  Marks

Each spot for 3 mins

ENT

OPHTHAL

DERMATOLOGY

PSYCHIATRY

OMFS

TOXICOLOGY

## **2) PEDAGOGY-20 MARKS**

Candidate will be assessed on

Communication of the purpose of talk- 5 marks

Clarity of presentation – 5 marks

Time scheduling- 5 marks

Use of audio- visual aids- 5 marks

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## **3) Table Viva- Total 60 marks**

Max Marks- 4 x 15

Each table for 15 marks

Each table will have assessment time of 5 mins

I) Instruments, Equipment's and Emergency procedure - 15 marks

II) Drugs- 15 marks

III) ABG and ECG- 15 marks

IV) Radiology - 15 marks

( Xray, POCUS, point of care 2D echo, CT Scan, MRI )

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TOTAL MARKS- A (CLINICAL CASE/ PRACTICAL) +B

(Thesis/Dissertation) + C [(SPOTTERS + PEDAGOGY + Table VIVA)]

$$(280) + (20) + (20 + 20 + 60 = 100)$$

**400 MARKS**

As per NMC, eligibility for passing is 50 % overall in practical examination

## TIME FOR ASSESSMENT OF EACH STUDENT

### A) CLINICAL / PRACTICAL- 66 MINS

#### 1)CLINICAL CASE- 31 MINS

a) Long case – 15 mins

b) Short case – 2 x 8 mins= 16 mins

#### 2) OSCE- 28 MINS

OSCE- 4 x 7 mins = 28 mins

Total- 59 mins

### B) Thesis/ Dissertation with recent advances - 5 mins = 5mins

(By External Examiner Only)

### C) Viva-Voce

#### 1) SPOTTERS - 30 MINS

(10 x 3 mins- 30 mins)

#### 2) PEDAGOGY – 5 MINS

#### 3) Table VIVA – 20 MINS

(Table Viva- 4 x 5 mins = 20 mins)

Total duration for each student = Clinical / Practical + Thesis/ Dissertation +  
(Spotters + Pedagogy + Table Viva) Viva Voce

= 59 mins + 05 mins + (30 mins + 05 mins + 20mins = 55mins)

= 119 mins

Theory evaluation preferably to be carried out one day prior or after the date  
of practical examination by external/ internal examiner.



MGM Institute of Health Sciences, Navi Mumbai																	
Mark List for Practical and Viva- Voce Examination																	
Exam Centre :												Course/ Exam: PG					
Date of Examination:												Examination For: MD (Emergency Medicine)					
PG Practical Examination in MD Emergency Medicine																	
Clinical/Practical (280 marks)								Total (A)	Dissertation/ Thesis (B) (20 Marks)	Viva - Voce (100 marks)						Total ( C )	Grand Total Marks (A+B+C)
Roll No	Long case (100 marks) Acute medical / Surgical / Surgical / trauma	Short cases (100 marks) Acute medical / Surgical / trauma		OSCE (80 marks)						Spotters (10 X 2 marks) (20 marks)	Pedagogy (20 marks)	Table Viva (60 marks)					
		50 marks	50 marks	a	b	c	d					a	b	c	d		
		1	2	Pediatrics (20 marks)	Obstetrics (20 marks)	Orthopedics (20 marks)	Resuscitation (20 marks)	280	20			Instruments, Equipments & Emergency Procedure (15 marks)	Drugs (15 marks)	ABG & ECG (15 marks)	Radiology (15 marks)	100	400

Name of The Examiner	College	Signature with Date
1		
2		
3		
4		
5		





**Mahatma Gandhi Mission Medical College & Hospital  
Kamothe , Navi Mumbai**

Department of \_\_\_\_\_

**CERTIFICATE**

*This is to Certify that Dr \_\_\_\_\_ has  
successfully completed the requirement for the degree examination for  
Doctor / Master of \_\_\_\_\_ , MD/MS at MGM institute of  
health Sciences ( Deemed University ). The procedures and academic  
activities recorded in the book are as per the college / hospital records  
and have been carried out satisfactorily.*

Signature and Name of the  
PG Guide

Signature and Name of  
Head of the Department

**DISSERTATION / THESIS DETAILS**

**Title:**

**Date of Approval of Dissertation / Thesis from ethics committee:**

**Date of Submission of Dissertation / Thesis to the University :**

**Name of the PG Guide**

**Signature of the PG Guide**

**Approved / Not Approved**

**Date :**

**Sign and Seal of Dean**

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

**Item No. 5.9: BOS (Surgery and Allied) dated 21.09.2016**

**b) Structured ALS/BLS course**

BOM has already adopted following resolution on this matter:

**Resolution No. 3.4(d) of BOM-45/2016 dt. 28/04/2016:** As ALS/BLS is already included in the syllabus of MBBS/PG courses, hence there is no need to have separate structured programme.

**Resolution No. 1(v) of BOM-46/2016 dt. 11/08/2016:** Resolved to include 01 additional page in the Intern's log book indicating that the Students have undergone ALS/BLS training.

After deliberations on both the above resolutions, following resolution is adopted:

**Resolution No. 5.9(b):** It is resolved that as ALS/BLS is already a part of the syllabus of MBBS/PG courses, it is not necessary to have a separate structured programme for ALS/BLS. However looking at its importance, it becomes essential to retrain UG and PG students, therefore, it is also resolved to certify the interns and PG students during their internship and PG training respectively by incorporating a certificate of completion in the Intern's log book/PG log book indicating that the Students have undergone ALS/BLS training. This training can be imparted by Department of Emergency Medicine/Anaesthesia. This will be effective from the batch of internship during 2017 and PG batch of academic year 2015-16.

**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**

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**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:

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## 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:**

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### 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:**

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### Final Remarks

**Satisfactory / Average / Unsatisfactory**

**Director (Academics)**

**Dean**

**Date:**

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**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

For PG.

30 copies

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

MGM INSTITUTE OF HEALTH SCIENCES  
New Mumbai

Induction Program for newly admitted Postgraduate students

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

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)

**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.

**Resolution No. 4.13 of BOM-55/2018: Resolved as follows:-**

- (i) Slow learners must be re-designated as potential learners.
- (ii) Students scoring less than 35% marks in a particular subjects/course in the 1<sup>st</sup> formative exam are to be listed as potential learners. These learners must be constantly encouraged to perform better with the help of various remedial measures.
- (iii) Students scoring more than 75% marks in a particular subjects/course in the 1<sup>st</sup> formative exam are to be listed as advanced learners. These learners must be constantly encouraged to participate in various scholarly activities.

**Resolution No. 3.1.3.1 of BOM-57/2019:** It was resolved to approve the following list of books (new titles & reference books):

<b>Subject</b>	<b>UG</b>	<b>PG</b>	<b>Annexure</b>
General Medicine		√	<b>Annexure-12</b>
Respiratory Medicine		√	<b>Annexure-13</b>
Community Medicine	√		<b>Annexure-14</b>
Emergency Medicine		√	<b>Annexure-15</b>

## **Annexure - 15**

### **Books required for Emergency Medicine:**

#### **For PG course**

1. Emergency Medicine, An approach to clinical problem solving – Hamilton.-Quantity 02
2. Emergency Medicine, A comprehensive study guide - Judith E. Tintinalli, 8th Edition  
Quantity 01
3. Rosen's textbooks of emergency medicine - Quantity 01
4. Basic Life Support Manual – AHA.- Quantity 02
5. Advanced Cardiac Life Support Manual – AHA.- Quantity 02
6. Advanced Trauma Life Support manual - Quantity 02
7. Advanced Pediatric Life Support Manual - Quantity 02
8. Advanced Neonatal Life Support Manual – Quantity 02

**Resolution No. 3.1.3.6 of BOM-57/2019:** Resolved to approve addition of following topics on neurology in PG syllabus of Emergency Medicine to be applicable from PG batch admitted in 2019-20:

1. Neurologic Examination
- 2. Stroke Syndromes
3. Altered Mental Status
4. Vertigo
5. Seizures
6. Acute Peripheral Neurologic Disorders
7. CNS and Spinal Infections
8. CNS Procedures and Devices
9. Headache
10. Spontaneous SAH and ICH



**Resolution No. 3.1.3.10 of BOM-57/2019:** It was resolved to approve the Topics of integrated teaching in Dept of Emergency medicine for UG (from batch entering into 2<sup>nd</sup> MBBS from August 2019) & PG (from batch admitted in 2019-20). [**Annexure-18**]

## **Annexure - 18**

### **Emergency Medicine**

#### **Integrated Teaching:**

##### **A) Undergraduate topics**

1. History, Clinical Examination, Documentation and Critical difference in Emergency Medicine. ( Dept of Medicine)
2. High risk Emergency Medicine. ( Dept of Medicine)
3. Avoiding common medical error. ( Dept of Forensic Medicine)
4. Risk reduction to enhance patient safety.
5. Resuscitation. (Dept of Anesthesia)
6. ECG. (Dept of Medicine)
7. Basics of Ultrasound. ( Dept of Radiology)
8. Common X-ray, CT scan and MRI Images. ( Dept of Radiology)
9. Approach to chest pain, Shortness of breath, Altered sensorium. (Dept of Medicine)
10. Management of pain anywhere in the body. ( Dept of Anesthesia)
11. Medco-legal issues with respect to emergency patient. ( Dept of Forensic Medicine)
12. Dermatological manifestation in Emergency Medicine. ( Dept of Dermatology)
13. Approach to poisonings. ( Dept of Medicine)

##### **B) Postgraduate topics**

###### **Respiratory Medicine:**

1. Respiratory Distress /URTI / Acute Bronchitis
2. Hemoptysis / Tuberculosis
3. CAP aspiration pneumonia, Noninfections Pulmonary infiltrates
4. Spontaneous / iatrogenic pneumothorax
5. Empyema & lung abscess
6. Asthma / COPD

**Orthopedics:**

1. Trauma in adults, Paediatric geriatric & pregnant patients
2. Trauma to face, neck, spine & spinal cord, abdominal cardiac, pulmonary, genitourinary & penetrating trauma
3. Wound ballistics and forensics
4. Initial evaluation and management of orthopedics injuries
5. Compartment syndromes
6. Orthopaedics devices and reconstruction.

**Cardiology with Medicine:**

1. Evaluation of chest pain and management
2. Acute coronary syndrome
3. Cardiogenic shock
4. Syncope, CHF
5. Valvular Emergencies
6. Cardiomyopathies and pericardial effusion
7. Dissection of aorta and Aneurysms
8. Acid Base Disorder, Blood gases, cardiac rhythm disturbances, fluid and blood resuscitation.

**Anaesthesia**

1. Noninvasive Airway , Pediatric airway management , Surgical airway management
2. Tracheal Intubation & Mechanical Ventilation
3. Neonatal & Pediatric , intraosseous & Central Venous access
4. Venous & intraosseous access in Adults
5. Acute pain management in Adults & in infants & Children
6. Local & Regional Anesthesia.
7. Procedural sedation & Analgesia
8. Adults With Chronic pain

## **Radiology**

- 1) Fast Scan
- 2) MRI
- 3) C T Scan
- 4) X-Rays
- 5) Non-Invasive Myocardial Imaging

## **Topics For Forensic Medicine**

1. Examination female rape victim
2. Legal Issues in Emergency Department
3. Child /Abuse / Elderly Abuse
4. Domestic Violence
5. Labour Act
6. EMTALA Obligation ( Emergency Medical Transfer in Active Labour Act)
7. Issues in the ED Cases of Minor
8. Emergency Physicians and Death Certificate
9. Newborns Left at the ED

## **Case Based Learning:**

i-CBL ( Integrated Case Based Learning) has been included in our routine schedule. We have been conducting the sessions every 3 months.

**Resolution No. 3.1.4.2 of BOM-57/2019:**

- i. Resolved to include “Gender Sensitization” into UG (from new batch 2019-2020) and PG (from existing batches) curricula. [**Annexure-21**]
- ii. Resolved to align the module of “Gender Sensitization” with MCI CBME pattern for MBBS students.
- iii. Resolved that Dr. Swati Shiradkar, Prof., Dept. of OBGY., MGM Medical College, Aurangabad will coordinate this activity at both campuses.

## **Annexure - 21**

**Gender sensitization for UG (2<sup>nd</sup> , 3<sup>rd</sup> , 8<sup>th</sup> semesters) and PG (3 hours)**

### **INCLUSION OF “ GENDER SENSATIZATION” IN CURRICULUM**

#### **Introduction :**

The health care provider should have a healthy gender attitude, so that discrimination, stigmatization, bias while providing health care will be avoided. The health care provider should also be aware of certain medico legal issues related with sex & gender.

Society particularly youth & adolescents need medically accurate, culturally & agewise appropriate knowledge about sex, gender & sexuality. So we can train the trainers for the same. It is need of the hour to prevent sexual harassment & abuse .

To fulfill these objectives, some suggestions are there for approval of BOS.

#### **Outline**

1)For undergraduates :- Three sessions of two hours each, one in 2<sup>nd</sup> term, one in 3<sup>rd</sup> term & one in 8<sup>th</sup> term.

2)For Faculties and postgraduates :- One session of two hrs .

3)For those want to be trainers or interested for their ownself, value added course, which is optional about sex, gender, sexuality & related issues.

### **Responsibility**

ICC of MGM, MCHA , with necessary support from IQAC & respective departments.

### **Details of undergraduate sessions**

#### **1)First session in 2<sup>nd</sup> term**

**Aim** – To make Students aware about the concept of sexuality & gender.

To check accuracy of knowledge they have,

To make them comfortable with their own gender identify & related issues.

To make them aware about ICC & it is functioning.

**Mode** – Brain storming , Interactive power point presentation experience sharing.

**Duration** – Around two hours

**Evaluation** – Feedback from participants.

#### **2)Second session in 3<sup>rd</sup> / 4<sup>th</sup> term**

**Aim** – To ensure healthy gender attitude in these students as now they start interacting with patients.

To ensure that the maintain dignity privacy while interacting with patients and relatives, particularly gender related.

To make them aware about importance of confidentiality related with gender issues.

To encourage them to note gender related issues affecting health care & seek solutions.

Mode – focused group discussions on case studies, Role plays & discussion.

--3--

Duration – Around two hours.

Evaluation – Feedback from participants.

Third session in 8<sup>th</sup> term.

**Aim** – To understand effect of gender attitudes on health care in various subjects.

To develop healthy gender attitude while dealing with these issues.

**Mode** – Suggested PBL by departments individually. ( In collaboration with ICC till faculty sensitization is complete)

**Evaluation** – Feedback

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**FOR POSTGRADUATES**

Session of 2-3 hrs preferably in induction program.

**Aim** – To introduce medically accurate concept of gender, sex, gender role & sex role.

To ensure healthy gender attitude at workplace.

To understand gender associated concepts on health related issues & avoid such bias while providing health care.

To make them aware about ICC & its functioning.

**Mode** – Interactive PPT

Role plays & discussion

**Duration** – 2 to 3 hrs

**Evaluation** – Feedback.

**FOR FACULTIES**

Session of 2 hours may be during combined activities.

**Aim** – To ensure clarity of concept about gender & sex.

To discuss effect of these concept on health related issues.

To identify such gender & sex related issues in individual subject specialties.

To discuss methodology like PBL for under graduate students when they are in 7<sup>th</sup>-8<sup>th</sup> semester.

**Mode** – Role play

Focused group discussion

Case studies

**Evaluation** – Feed back.

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# MGM INSTITUTE OF HEALTH SCIENCES

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

**Grade 'A' Accredited by NAAC**

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