



# 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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**COMPETENCY BASED MEDICAL EDUCATION**

**(CBME)**

**(with effect from 2022-23 Batches)**

**Curriculum for  
Doctor of Medicine  
General Medicine**

Approved as per AC-46/2023, Dated 28/04/2023

## **Amended History**

1. Approved as per AC-44/2023, [Resolution No. 5.37] , Dated 09/12/2022.
2. Approved as per AC-46/2023, [ Resolution No. 7.1], Dated 28/04/2023

**M.G.M. INSTITUTE OF HEALTH SCIENCES**  
**CURRICULUM**

Sub : MD (General Medicine)

The purpose of post graduate (PG) education in General Medicine is to create specialists who would provide appropriate health care to the community and advance the cause of science through research, training and teaching the medical fraternity.

**GOAL**

A postgraduate in a general medicine is expected to diagnose and treat common medical illnesses and have a sufficient knowledge of rare diseases, advances and technologies in medicine. He should be able to manage medical emergencies and carry out research and undergraduate medical teaching.

**OBJECTIVES:** To achieve the goal following objectives must be fulfilled:

**A) COGNITIVE DOMAIN:**

1. Proper history, examination and diagnosis.
2. Relevant investigations, their interpretation with reasonable accuracy.
3. Appropriate treatment and early disposal.
4. Prompt diagnosis and management of emergencies.
5. Update knowledge
6. Teach and guide undergraduate (MBBS) students.
7. Carry out research and publication

## **B) PSYCHOMOTOR DOMAIN:**

### 1 Clinical Assessment Skills

- Elicit a detailed clinical history (PI)
- Perform a thorough physical examination of all the systems (PI)

### 2 Procedural skills

- Pleural tap (PI)
- Lumbar puncture (PI)
- Arterial puncture for ABG (PI)
- Bone marrow aspiration and biopsy (PI)
- Abdominal paracentesis - diagnostic (PI)
- Aspiration of liver abscess (PI)

### DESIRABLE

- Ultrasound abdomen at point of care (PI)
- Fine needle aspiration cytology (FNAC) from palpable lumps (PI)
- Pericardiocentesis (PS)
- Joint fluid aspiration (PI)
- Liver biopsy (PI)
- Kidney biopsy (PS)
- Cardiac-TMT (PS)
- Holter monitoring (PS)

- Echocardiography (point of care) (PS)
- Doppler studies (PS)

To be familiar with complication of procedures and be equipped in their management.

### Respiratory management

- Non-invasive and mechanical ventilation (PI)

### Critically ill person

- Monitoring a sick person (PI)
- Endotracheal intubation (PI)
- Cardio-pulmonary resuscitation(PI)
- Central vein cannulation and CVP monitoring (PI)
- Using a defibrillator (PI)
- Hemodialysis (PS)
- Certification of Brain death (PI)

### 3 Interpretation Skills

Interpretation of results of the following investigations, considering clinical data (history & examination findings).

- Treadmill testing (PI)
- ABG analysis (PI)
- Ultrasonography (PI)

- CT scan chest and abdomen (PI)
- CT scan head and spine (PI)
- MRI- Brain and spine (PI)
- Barium studies- desirable (PI)
- Pulmonary function tests (PI)
- Immunological investigations (PI)
- Nerve Conduction studies /EMG (PI)
- EEG (PI)
- Evoked Potential interpretation (PI)

#### 4 Communication skills (PI)

While eliciting clinical history and performing physical examination, emphasize on:

- Communicating health and disease,
- Pre-test and post-test counseling for HIV,
- Pedagogy: teaching students, other health functionaries: lectures, bedside clinics, discussions,
- Health education: prevention of common medical problems, promoting healthy life-style, immunization, periodic health screening, counseling skills in risk factors for common malignancies, cardiovascular disease, AIDS etc.
- Dietary counseling in health and disease,
- Linking patients with community resources,
- Providing referral,
- Genetic counseling,
- Communicating bad news to the patient and relatives.

#### 5 Others

- Demonstration of the following: (PI)
  - professionalism
  - ethical behavior (humane and professional care to patients)
- Utilization of information technology
  - Medline search, Internet access, computer usage
- Research methodology
  - designing a study
  - interpretation and presentation of scientific data
- Self-directed learning
  - identifying key information sources
  - literature searches
  - information management
- Therapeutic decision-making
  - managing multiple problems simultaneously
  - assessing risks, benefits and costs of treatment options
  - involving patients in decision-making
  - selecting specific drugs within classes
  - rational use of drugs

**C) AFFECTIVE DOMAIN:**

1. Ethical principles during work

2. Seek and give consultation when required.
3. Sympathetic behavior with patients and their relatives.
4. Respects patients' rights and privileges.
5. Supplement information about their illness.
6. Consider seeking second opinion when requested by patients.
7. Develop communication skills to interact with colleagues, senior and paramedical staff.
8. To realize that patient management is a team work

## **SUBJECT SPECIFIC OBJECTIVES**

Postgraduate training should enable the student to:

- Practice internal medicine with competence, with the help of scientific knowledge in an evidence based fashion.
- Conduct clinical examination and relevant investigations, diagnose medical conditions and refer early where indicated.
- Plan and deliver comprehensive treatment using the principles of rational drug therapy.
  
- Plan and advise measures for the prevention and rehabilitation of patients.
  
- Manage emergencies efficiently by providing Basic Life Support (BLS) and Advanced Life Support (ALS).
- Recognize conditions that may be outside of scope of general medicine and refer to an appropriate specialist.



- Exercise empathy and a caring attitude and maintain professional integrity, honesty and high ethical standards.
- Document case details including epidemiological data.
- Play the assigned role in the implementation of National Health Programs.
- Demonstrate competence in basic concepts of research methodology and clinical epidemiology; and preventive aspects of various disease states.

## **COURSE DESCRIPTION**

Duration: 3 years Residency program

## **SCOPE OF TRAINING**

Diseases related to general medicine, relevant radiology techniques, emergency and intensive care management, maintaining records, use of computers and basic research. Patient care in the settings of outdoor, day care, indoor, emergency and intensive/ critical care.

## **COURSE CONTENTS**

- 1) Knowledge
  - a) Applied basic science knowledge
  - b) Diseases with reference to General Medicine (Appendix -1)
  - c) Recent advances
  - d) Biostatistics and clinical epidemiology
- 2) Skills:-
  - a) Decision making

- b) Diagnostic investigation and procedures
- c) Monitoring seriously ill patients
- d) Counseling patients and relatives
- e) Ability to teach undergraduate students
- f) Ability to carry out research

## **TEACHING & LEARNING ACTIVITIES**

- a) Ward/OPD patient management
- b) Long and short topic presentations
- c) Ward rounds, case presentations and discussions
- d) Clinico-radiological and clinico-pathological conferences
- e) Journal conferences
- f) PG Case presentation clinics
- f) Research review
- g) In-house and guest lectures
- h) Conferences, symposia, seminars and CMEs
- i) Participations in workshops, updates, conferences
- j) Teaching undergraduates
- k) Use and maintenance of biomedical equipments

A. Lectures: Didactic lectures should be used sparingly. A minimum of 10 lectures per year in the concerned PG department is suggested. Topics are to be selected as per subject

B. Journal club: Minimum of once in 1-2 weeks is suggested.

C. Student Seminar: Minimum of once every 1-2 weeks is suggested

D. Student Symposium: Minimum of once every 3 months

- E. Bedside clinics: Minimum - once every 1-2 weeks
- F. Interdepartmental colloquium

## **STRUCTURED TRAINING PROGRAMME**

( Broadly conceived):

### **1) First Year Residency:**

- a) Outpatients/inpatients care
- b) Managing medical emergencies
- c) Learning diagnostic/ therapeutic procedures and interventions
- d) Interpreting Reports
- e) Starting Dissertation
- g) Use of computers in medicine

### **2) Second Year Residency:**

- a) Outpatients/inpatients care
- b) Rotation (six months to one year) in existing allied specialities such as Cardiology, Neurology, Endocrinology, Hematology, Nephrology and MICU, EMS.
- c) Conducting medical procedures independently.
- d) Continuation of dissertation work.

### **3) Third Year Residency:-**

- a) Out-patients and in-patients care
- b) Independent management of emergencies
- c) Teaching junior Residents / under-graduate students enrolled in the subject
- c) Finalisation and submission of dissertation.

### **DRP ( District residency program ) - In 3rd,4th & 5th term**

#### **DISSERTATION-**

- The topic should be assigned to the student by the end of 3rd month of enrollment.
- The topic should be submitted to scientific committee & ethical committee for due approval. Data collection should start after approval of ethical committee
- The duration of the study shall be upto 17 months.
- The last date of submission of the completed dissertation to the MGMIHS should be six months prior to the date of commencement of the degree examination.

**Course in Research Methodology:** All postgraduate students shall complete an online course in Research Methodology within six months of the commencement of the batch and generate the online certificate on successful completion of the course.

## EVALUATIONS-

Regular evaluation of the postgraduate will be carried out by evaluation at the end of each clinical posting including superspeciality postings.

(Appendix- 2 ) and assessment of postgraduate activity like case presentation, seminars etc will be carried out after each activity. (Appendix-3)

The overall performance has to be to the satisfaction of the HOD for recommendation of candidature for MD examinations ( Appendix 4 )

A progress report will be sent at the end of each term to Dean MGM Medical college.

Theory & practical exams will be conducted at regular intervals ( at end of every year ) during three years of residency.

## RECOMMENDED READING

Books.-

- Harrison's Principles of Medicine
- Oxford Textbook of Medicine
- Cecil Textbook of Medicine

Reference Books:

- API Text Book of Medicine
- Wintrobe's Hematology
- Kelly's Textbook of Rheumatology

- Patten's Neurology
- Brain's Neurology
- Crofton and Douglas Respiratory Medicine
- Hepatology by Sheila Sherlock
- Electrocardiography by Shamroth
- Braunwauld's Cardiology

Journals:

- Lancet
- British Medical Journal
- Chest
- ICMR Bulletin
- WHO Bulletin
- New England Journal of medicine
- Journal of Association of Physicians of India
- Journal of Postgraduate Medicine
- Annals of Internal Medicine
- APICON Medicine Update
- Medical Clinics of North America
- Indian Practitioner
- Journal of Applied Medicine
- Journal of General Medicine

## Appendix -1

### Syllabus

#### Basic Sciences

##### 1. Basics of human anatomy as relevant to clinical practice:

- Surface anatomy of various viscera
- Neuro-anatomy
- Important structures/organ's location in different anatomical locations in the body
- Histology of organs
- Blood supply, nerve supply to various organs

##### 2. Applied physiology of various organ systems:

- Basic functioning of various organ-system, control of vital functions.
- pathophysiological alteration in diseased states.
- interpretation of symptoms and signs in relation to pathophysiology.
- Physiology of temperature, sleep regulation.

##### 3. Applied biochemical basis of various diseases including fluid and electrolyte disorders:

- Acid - base disorders, disorders of carbohydrate, fat, protein, calcium, phosphorous and iron metabolism.
- Interpretation and clinical application of various biochemical tests.

##### 4. Applied pathology of different diseases.

- Common pathological changes in various organs associated with diseases and their correlation with clinical signs.
- Understanding of various pathogenic processes and possible therapeutic interventions, and
- Preventive measures at various levels to reverse or arrest the progression of diseases.

5. Knowledge about various microorganisms, their special characteristics important for their pathogenetic potential or of diagnostic help:

- Important organisms associated with tropical diseases, their growth pattern/life-cycles,
- Levels of therapeutic interventions possible in preventing and/or eradicating the organisms,
- Antimicrobial resistance,
- Antibiotic stewardship,
- Hospital infection control,
- Biomedical waste management,
- Vaccinology.

6. Knowledge about pharmacokinetics and pharmaco-dynamics of the drugs used for the management of common problems in a normal person and in patients with diseases of kidneys/liver/systemic disorders which may need alteration in doses due to abnormal metabolism/excretion of the drugs:

- pharmacokinetics and pharmaco-dynamics of drugs: principles and methodology
- Rational use of available drugs.
- Principles of drug therapy,
- Adverse drug reactions,



- Drug interaction,
- Pharmacovigilance,
- Drug abuse and addiction,
- Drug development,
- Pharmacoeconomics,
- Pharmacogenomics.

7. Research methodology, study designs, clinical epidemiology and biostatistics relevant to medical sciences.

8. National Health Programmes:

- investigation of community outbreak,
- public health policy,
- health promotion,
- prevention of communicable and non-communicable diseases.
- International health regulations,
- Travel medicine.

9. Knowledge about various poisons with specific reference to different geographical and clinical settings - their diagnosis and management.

- Knowledge about snake bite, other bites and stings,
- medicolegal aspects.

### **Systemic Medicine**

10. Preventive and environmental issues, including principles of preventive health care, immunization and occupational, environmental medicine and bioterrorism,

- Health tourism,

- Rehabilitation,
- Drowning,
- Heat and altitude related disorders.

#### 11. Geriatric Medicine:

- Physiology and biology of aging and various organ changes in elderly.
- Principles of geriatric medicine and uniqueness of geriatric presentation.
- Physical examination of geriatric patient.
- drug metabolism, laboratory tests in elderly.
- Management of unique problems related to elderly such as nutrition, falls, gait disorders, neuro- psychiatric problems etc.
- Mental health disorders,
- Elderly neglect and abuse,
- Social and family support and rehabilitation of elderly.
- Assessment of functional and cognitive aspects, counseling and communication with elderly.
- Appropriate medication and avoidance of poly-pharmacy.

#### 12. Genetics:

- Overview of the paradigm of genetic contribution to health and disease
- Principles of Human Genetics
- Genetic basis of medical disorders
- Single gene and chromosomal disorders
- Genetic counseling
- Prevention of genetic disorders
- Genetic analysis
- Gene therapy

#### 13. Immunology:

- Innate and adaptive immune systems

- Mechanisms of immune mediated cell injury
- HLA system, primary and secondary immune-deficiency,
- Allergic disorders: urticaria, angioedema, anaphylaxis and other allergic disorders.
- Transplantation immunology, immunocomplex disorders, organ specific and multisystem immune disorders, monoclonal antibodies.

#### 14. Cardio-vascular diseases:

- Approach to the patient with possible cardio-vascular diseases
- Investigative cardiology
- Heart failure
- Arrhythmias
- Hypertension
- Coronary artery disease
- Valvular heart disease
- Infective endocarditis
- Diseases of the myocardium and pericardium
- Diseases of the aorta and peripheral vascular system
- Congenital heart diseases
- Pulmonary arterial hypertension
- Cor pulmonale

#### 15. Respiratory system:

- Approach to the patient with respiratory diseases
- Investigative pulmonology
- Disorders of ventilation
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)

- Bronchiectasis
- Occupational lung diseases
- Interstitial lung diseases
- Hypersensitivity Pneumonitis
- Pneumonia and suppurative lung diseases
- Pulmonary embolism
- Cystic fibrosis
- Obstructive sleep apnoea syndrome and diseases of the chest wall, pleura and mediastinum
- Pulmonary manifestations of systemic diseases

## 16.Nephrology:

- Approach to the patient with renal diseases
- Acute kidney injury
- Chronic kidney disease
- Glomerular diseases
- Nephrotic syndrome
- Reno vascular hypertension
- Cystic Diseases of the kidney
- Tubulo-interstitial diseases
- Nephrolithiasis
- Urinary tract infection and pyelonephritis
- Diabetes and the kidney
- Obstructive uropathy and treatment of irreversible renal failure
- Dialysis
- Renal involvement in systemic diseases

## Gastro-intestinal diseases:

- Approach to the patient with gastrointestinal diseases

- Gastrointestinal endoscopy
- Motility disorders
- Diseases of the esophagus
- Acid peptic disease
- Functional gastrointestinal disorders
- Diarrhea
- Malabsorption syndromes
- Irritable bowel syndrome
- Inflammatory bowel diseases
- Mesenteric vascular insufficiency
- Diverticular disease
- Acute intestinal obstruction
- Peritonitis
- Diseases of the rectum and anus

### **17.Diseases of the liver and gall bladder:**

- Approach to the patient with liver disease
- Interpretation of liver function tests
- Hyperbilirubinemia
- Acute viral hepatitis
- Drug induced /toxic hepatitis
- Chronic hepatitis
- Alcoholic and non-alcoholic steatohepatitis
- Cirrhosis and its sequelae/ complications
- Portal hypertension
- Budd Chiari syndrome
- Hepatic failure and liver transplantation
- Diseases of the gall bladder and bile ducts
- Disease of pancreas including pancreatitis

### **18.Haematologic diseases:**

- Hematopoiesis
- Anemias
- Leucopenia and leukocytosis  
Myelo-proliferative disorders
- Bone marrow failure syndromes
- Plasma cell disorders
- Disorders of hemostasis and haemopoietic stem cell transplantation
- Platelet Disorders
- Hypercoagulable conditions
- Blood components and transfusion medicine

## **19.Oncology:**

- Epidemiology
- Biology and genetics of cancer
- Approach to patient with cancer
- Early detection or prevention of cancer
- Infection in cancer patients
- Oncological emergencies
- Paraneoplastic syndromes and endocrine manifestations of tumours
- Metastatic cancer of unknown primary site
- Hematological malignancies
- Cancers of various organ systems and cancer chemotherapy
- Rehabilitation and palliative care in cancer patients.

## **20.Metabolic diseases - inborn errors of metabolism and disorders of metabolism:**

- Hemochromatosis
- Wilson's disease
- Porphyrrias

- Other inborn errors of metabolism.

## **21.Nutritional diseases:**

- Nutritional assessment, Anthropometry
- Enteral and parenteral nutrition
- Obesity and eating disorders.
- Malnutrition
- Vitamin and trace element deficiencies and excess.

## **22.Endocrine diseases:**

- Approach to patients with endocrine disorders  
Disorders of Pituitary
- Disorders of thyroid gland
- Disorders of adrenal cortex
- Pheochromocytoma
- Multiple endocrine neoplasia
- Autoimmune polyendocrine syndromes
- Reproductive endocrinology including menopause and postmenopausal hormone therapy
- Diabetes mellitus
- Hypoglycemia
- Metabolic Syndrome
- Dyslipidemia
- Disorders of parathyroid gland
- Disorders of bone and mineral metabolism in health and disease
- Osteoporosis

## **23.Rheumatic diseases:**

- Approach to the patient with rheumatic diseases
- Osteoarthritis
- Rheumatoid arthritis

- Spondyloarthropathies
- Systemic lupus erythematosus (SLE)
- Sarcoidosis
- Sjogren's syndrome
- Systemic sclerosis
- Anti-phospholipid antibody syndrome
- Bechet's disease
- Vasculitis syndromes
- Acute rheumatic fever
- Inflammatory myopathies
- Arthritis associated with systemic diseases
- Gout and crystal associated arthritis
- Relapsing polychondritis
- IgG4 related disease
- Polymyalgia rheumatica
- Fibromyalgia
- Amyloidosis

## 24. Infectious diseases:

- Basic consideration in Infectious Diseases
- Clinical syndromes
- Community acquired clinical syndromes
- Nosocomial infections
- Infections in immunocompromised
- Bacterial diseases - General consideration, diseases caused by gram - positive bacteria, diseases caused by gram - negative bacteria, miscellaneous bacterial infections, Atypical bacterial infections - Mycobacterial diseases, Spirochetal diseases, Rickettsial disease,



Mycoplasma and Chlamydia.

- Viral diseases - DNA viruses, RNA viruses, HIV infection, Emerging viral diseases
  - Coronavirus, Nipha virus, H1N1 virus, Hantavirus.
- Fungal infections,
- Protozoal infections,
- Helminthic infections.

## 25.Neurology

- Approach to the patient with neurologic diseases,
- Diagnostic neurology,
- Localization of neurological disease/s,
- Headache,
- Seizure disorders and epilepsy,
- Coma,
- Disorders of sleep,
- Cerebrovascular diseases,
- Cranial neuropathy,
- Dementias and neurodegenerative diseases,
- Brain abscess,
- Demyelinating diseases,
- Parkinson's disease and other movement disorders,
- Motor neuron diseases,
- Ataxic and gait disorders,
- Meningitis and encephalitis,
- Prion diseases,
- Peripheral neuropathies,
- Muscle diseases,
- Diseases of spinal cord

- Diseases of neuromuscular transmission,
- Autonomic disorders and their management.

## **26.Psychiatric disorders**

Common psychiatric disorders in adult & geriatric population:

- Mood (affective) disorders,
- Anxiety disorders,
- Schizophrenia,
- Organic mental disorders,
- Eating disorders,
- Sexual disorders,
- Personality disorder and suicide and self-harm,
- Autistic disorders,
- Functional and psychosomatic disorder,
- Somatoform disorder,
- Dissociative/ conversion disorder.
- Substance use disorders.

## **27.Dermatology:**

- Structure and functions of skin.
- Infections of skin.
- Papulo-squamous and inflammatory skin rashes.
- Photo-dermatology.
- Erythroderma.
- Cutaneous manifestations of systematic diseases.
- Bullous diseases.
- Drug induced rashes.
- Disorders of hair and nails.
- Principles of topical therapy.

## **28.Critical care medicine**

- Approach to patient with critical illness.
- Acute respiratory distress syndrome.
- Mechanical ventilatory support.
- Approach to patient with shock.
- Sepsis and septic shock.
- Cardiogenic shock and pulmonary edema.
- Cardiovascular collapse and cardiac arrest.
- Cardiopulmonary resuscitation.

## **29.Miscellaneous**

- Medical illnesses in pregnancy
- Peri-operative evaluations

## Appendix 2

### Format for evaluation of clinical work-

#### FORMAT FOR EVALUATION

Schedule of Posting :

NAME :

RESIDENCY : JR-I / JR-II / JR-III

Department / Unit	Date of starting	Date of completion	Evaluation Score	Signature of Head of Unit / Department / Lecturer

Points to be evaluated-

Each to be evaluated as

Sr. No.	Points to be evaluated	0	1	2	3	4
		Poor	Below Average	Average	Above Average	Excellent
1.	Punctuality					
2.	Regularity of attendance :					
3	Quality of OPD work					
4	Quality of ward work					
5	Maintenance of case records:					
6	Presentation of cases during rounds (approach)					
7	Investigation work up :					
8	Procedural skills					
9	Bedside manners					
10	Rapport with patients					
11.	Rapport with colleagues :					

12.	Respect to Seniors / attitude towards seniors					
13.	Counseling patient's relatives					
14	Management of emergencies					
15	Knowledge of Medicine as a subject:					
16	UG teaching ( if applicable)					

### Appendix 3

#### Format for evaluation of teaching –learning activities-

#### 1 Evaluation Form for Postgraduate Seminars

Name :

Date:

Title of Seminar :

Mode of Presentation :

Objectives to be assessed	Poor (0)	Below Average (1)	Average (2)	Good (3)	Excellent (4)
Completeness of Preparation:					
Cogency of presentation:					
Use of audiovisual aids					
Understanding of subjects :					
Ability to answer questions:					
Time scheduling					

Quality of review of optimum relevant literature:					
Overall performance					

Name & signature of Evaluator

1.

2.

3.

Mean Score

## 2Evaluation Form for Case Presentation

Name :

Date:

Title of Case presentation :

Objectives to be assessed	Poor (0)	Below Average (1)	Average (2)	Good (3)	Excellent (4)
Logical order in presentation :					
Cogency of presentation :					

Complete/Relevant history:					
Accuracy of General Physical Examination:					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings :					
Order of differential diagnosis (logical):					
Investigations required: (Complete list, Relevant order, Interpretation of investigations Unnecessarily investigations asked)					
Treatment : Principles & details					
Patient/Relatives communication (Diagnosis & Management Health education)					
All signs elicited correctly.					
Abilities to react to questioning:					
Abilities to defend diagnosis :					
Ability to justify differential diagnosis:					
Acceptability of plan of management					

Confidence					
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Name & signature of Evaluator

1.

2.

3.

Mean score-

### 3Evaluation Form for Journal Club

Name :

Date:

Title of Journal presentation:

Objectives to be assessed	Poor (0)	Below Average (1)	Average (2)	Good (3)	Excellent (4)
Logical order in presentation:					
Cogency of presentation					
Choice of article relevant :					



Whether understood and conveyed the purpose of the article:					
How did he defend article:					
Whether cross references have seen consulted:					
Understood explained basics of statistic in article :					
Whether relevant information mentioned from other similar articles.					
Use of audio visual aids during presentation :					
Response to questioning :					

Name & signature of Evaluator

- 1.
- 2.
- 3.

Mean Score

#### **4 Evaluation Form for investigations**

**Name-**

**Date-**

**Investigation-**

**Mode of Presentation:**

Objectives to be assessed	Poor (0)	Below Average (1)	Average (2)	Good (3)	Excellent (4)
Logical order in presentation					
Cogency of Presentation:					
Presented all findings in report					
Identified diagnosis & differential diagnosis					
Defend diagnosis					
Ability to answer Question					
Overall performance					

Mean Score

Name & signature of evaluator-

## 5 EVALUATION FORM FOR THESIS REVIEW

Date-

Name of PG student

Name of PG guide-

Title-

Date of IEC clearance-

Points to be evaluated-

1 IEC approval letter shown- Yes/No

2 Aims & objectives presented clearly- Yes/No

3 Sample size-

4 Data collection till date-

5 Hard copies of CRF with consent forms shown- Yes/No

6 Problems phased by PG for data collection & /or other issues with dissertation

7 Overall performance till date- Satisfactory/Not satisfactory

Signature of PG guide

Signature of HOD

**Appendix 4**

Student appraisal form for MD in General Medicine											
	Element	Less than Satisfactory			Satisfactory			More than satisfactory			Comments
		1	2	3	4	5	6	7	8	9	
<b>1</b>	<b>Scholastic Aptitude and Learning</b>										
1.1	Has Knowledge appropriate for level of training										
1.2	Participation and contribution to learning activity (e.g., Journal Club, Seminars, bed side clinics)										
1.3	Conduct of research and other scholarly activity assigned (e.g Posters,publications etc)										
1.4	Documentation of acquisition of competence(eg Log book)										
1.5	Performance in work based assessments										
1.6	Self- directed Learning										
<b>2</b>	<b>Care of the patient</b>										
2.1	Ability to provide patient care appropriate to level of training										
2.2	Ability to work with other members of the health care team										
2.3	Ability to communicate appropriately and empathetically with patients families and care givers										
2.4	Ability to do procedures appropriate for the level of training and assigned role										

2.5	Ability to record and document work accurately and appropriate for level of training																			
2.6	Participation and contribution to health care quality improvement																			
<b>3</b>	<b>Professional attributes</b>																			
3.1	Responsibility and accountability																			
3.2	Contribution to growth of learning of the team																			
3.3	Conduct that is ethical appropriate and respectful at all times																			
<b>4</b>	<b>Space for additional comments</b>																			
<b>5</b>	<b>Disposition</b>																			
	Has this assessment been discussed with the trainee?	Yes	No																	
	If not explain																			
	Name and Signature of the assessee																			
	Name and Signature of the assessor/PG guide																			
	Date																			

HOD

Resolution No. 7.1 of Academic Council (AC-46/2023):

Resolved to approve the PG paperwise topics & question paper pattern for MD Medicine. [ANNEXURE-68].

Dr. Rajendra  
5.5.21



MAHATMA GANDHI MISSION  
MEDICAL COLLEGE & HOSPITAL  
Sector - 18, Kamothe, Navi Mumbai - 410 209  
**Dept. of General Medicine.**

MGMH/KAM/MED/

**Annexure 2**

**PAPER WISE DISTRIBUTION OF TOPIC IS AS GIVEN BELOW**

**Existing pattern**

**1.1 PG COURSES:- M.D**

**Pattern of paper- 10 SAQ to be attempted out of 11**

**Total marks- 100 in each paper**

<b>Paper</b>	<b>Pattern</b>	<b>Syllabus</b>
Paper I	10 SAQ out of 11	<b>Basic science in General Medicine, Genetics &amp; Molecular diseases, Nutrition, Immunology &amp; Allergy</b>
Paper II	10 SAQ out of 11	<b>Cardio Vascular system, Gastroenterology &amp; Hepatology, Rheumatology, Dermatology, Nephrology, Hematology, Oncology</b>
Paper III	10 SAQ out of 11	<b>Tropical Medicine &amp; infectious diseases, Nervous system, Psychiatry, Endocrinology, Metabolic diseases, Respiratory System &amp; Environmental Disorder</b>
Paper IV	10 SAQ out of 11	<b>Recent Advances in General medicine</b>

**Annexure 3**

**Revised pattern as per NMC guidelines Aug 2022**

**PG COURSE:- M.D**

**Pattern of paper- 10 SAQ to be attempted out of 11**

**Total marks- 100 in each paper**

<b>Paper</b>	<b>Pattern</b>	<b>Syllabus</b>
Paper I	10 SAQ out of 11	<b>Basic science in General Medicine, Genetics &amp; Molecular diseases, Nutrition, Immunology &amp; Allergy</b>
Paper II	10 SAQ out of 11	<b>Tropical Medicine &amp; infectious diseases Gastroenterology &amp; Hepatology, Rheumatology, Dermatology, Psychiatry, Nephrology, Hematology, Oncology</b>
Paper III	10 SAQ out of 11	<b>Cardio Vascular system,, Nervous system, Endocrinology, Metabolic diseases, Respiratory System &amp; Environmental Disorder</b>
Paper IV	10 SAQ out of 11	<b>Recent Advances in General medicine</b>

Passing criteria- Minimum 40 % in each paper & cumulative 50 % in all papers

HOD

Dept. of Medicine



## Appendix -1

### Syllabus

#### Basic Sciences

##### 1. Basics of human anatomy as relevant to clinical practice:

- Surface anatomy of various viscera
- Neuro-anatomy
- Important structures/organ's location in different anatomical locations in the body
- Histology of organs
- Blood supply, nerve supply to various organs

##### 2. Applied physiology of various organ systems:

- Basic functioning of various organ-system, control of vital functions.
- pathophysiological alteration in diseased states.
- interpretation of symptoms and signs in relation to pathophysiology.
- Physiology of temperature, sleep regulation.

##### 3. Applied biochemical basis of various diseases including fluid and electrolyte disorders:

- Acid - base disorders, disorders of carbohydrate, fat, protein, calcium, phosphorous and iron metabolism.
- Interpretation and clinical application of various biochemical tests.

##### 4. Applied pathology of different diseases.

- Common pathological changes in various organs associated with

diseases and their correlation with clinical signs.

- Understanding of various pathogenic processes and possible therapeutic interventions, and
- Preventive measures at various levels to reverse or arrest the progression of diseases.

5. Knowledge about various microorganisms, their special characteristics important for their pathogenetic potential or of diagnostic help:

- Important organisms associated with tropical diseases, their growth pattern/life-cycles,
- Levels of therapeutic interventions possible in preventing and/or eradicating the organisms,
- Antimicrobial resistance,
- Antibiotic stewardship,
- Hospital infection control,
- Biomedical waste management,
- Vaccinology.

6. Knowledge about pharmacokinetics and pharmaco-dynamics of the drugs used for the management of common problems in a normal person and in patients with diseases of kidneys/liver/systemic disorders which may need alteration in doses due to abnormal metabolism/excretion of the drugs:

- pharmacokinetics and pharmaco-dynamics of drugs: principles and methodology
- Rational use of available drugs.
- Principles of drug therapy,
- Adverse drug reactions,
- Drug interaction,

- Pharmacovigilance,
- Drug abuse and addiction,
- Drug development,
- Pharmacoeconomics,
- Pharmacogenomics.

7. Research methodology, study designs, clinical epidemiology and biostatistics relevant to medical sciences.

8. National Health Programmes:

- investigation of community outbreak,
- public health policy,
- health promotion,
- prevention of communicable and non-communicable diseases.
- International health regulations,
- Travel medicine.

9. Knowledge about various poisons with specific reference to different geographical and clinical settings - their diagnosis and management.

- Knowledge about snake bite, other bites and stings,
- medicolegal aspects.

### Systemic Medicine

10. Preventive and environmental issues, including principles of preventive health care, immunization and occupational, environmental medicine and bioterrorism,

- Health tourism,
- Rehabilitation,

- Drowning,
- Heat and altitude related disorders.

#### 11. Geriatric Medicine:

- Physiology and biology of aging and various organ changes in elderly.
- Principles of geriatric medicine and uniqueness of geriatric presentation.
- Physical examination of geriatric patient.
- drug metabolism, laboratory tests in elderly.
- Management of unique problems related to elderly such as nutrition, falls, gait disorders, neuro- psychiatric problems etc.
- Mental health disorders,
- Elderly neglect and abuse,
- Social and family support and rehabilitation of elderly.
- Assessment of functional and cognitive aspects, counseling and communication with elderly.
- Appropriate medication and avoidance of poly-pharmacy.

#### 12. Genetics:

- Overview of the paradigm of genetic contribution to health and disease
- Principles of Human Genetics
- Genetic basis of medical disorders
- Single gene and chromosomal disorders
- Genetic counseling
- Prevention of genetic disorders
- Genetic analysis
- Gene therapy

#### 13. Immunology:

- Innate and adaptive immune systems
- Mechanisms of immune mediated cell injury

- HLA system, primary and secondary immune-deficiency,
- Allergic disorders: urticaria, angioedema, anaphylaxis and other allergic disorders.
- Transplantation immunology, immunocomplex disorders, organ specific and multisystem immune disorders, monoclonal antibodies.

#### 14. Cardio-vascular diseases:

- Approach to the patient with possible cardio-vascular diseases
- Investigative cardiology
- Heart failure
- Arrhythmias
- Hypertension
- Coronary artery disease
- Valvular heart disease
- Infective endocarditis
- Diseases of the myocardium and pericardium
- Diseases of the aorta and peripheral vascular system
- Congenital heart diseases
- Pulmonary arterial hypertension
- Cor pulmonale

#### 15. Respiratory system:

- Approach to the patient with respiratory diseases
- Investigative pulmonology
- Disorders of ventilation
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)

- Bronchiectasis
- Occupational lung diseases
- Interstitial lung diseases
- Hypersensitivity Pneumonitis
- Pneumonia and suppurative lung diseases
- Pulmonary embolism
- Cystic fibrosis
- Obstructive sleep apnoea syndrome and diseases of the chest wall, pleura and mediastinum
- Pulmonary manifestations of systemic diseases

#### **16.Nephrology:**

- Approach to the patient with renal diseases
- Acute kidney injury
- Chronic kidney disease
- Glomerular diseases
- Nephrotic syndrome
- Reno vascular hypertension
- Cystic Diseases of the kidney
- Tubulo-interstitial diseases
- Nephrolithiasis
- Urinary tract infection and pyelonephritis
- Diabetes and the kidney
- Obstructive uropathy and treatment of irreversible renal failure
- Dialysis
- Renal involvement in systemic diseases

#### **Gastro-intestinal diseases:**

- Approach to the patient with gastrointestinal diseases

- Gastrointestinal endoscopy
- Motility disorders
- Diseases of the esophagus
- Acid peptic disease
- Functional gastrointestinal disorders
- Diarrhea
- Malabsorption syndromes
- Irritable bowel syndrome
- Inflammatory bowel diseases
- Mesenteric vascular insufficiency
- Diverticular disease
- Acute intestinal obstruction
- Peritonitis
- Diseases of the rectum and anus

#### **17. Diseases of the liver and gall bladder:**

- Approach to the patient with liver disease
- Interpretation of liver function tests
- Hyperbilirubinemia
- Acute viral hepatitis
- Drug induced /toxic hepatitis
- Chronic hepatitis
- Alcoholic and non-alcoholic steatohepatitis
- Cirrhosis and its sequelae/ complications
- Portal hypertension
- Budd Chiari syndrome
- Hepatic failure and liver transplantation
- Diseases of the gall bladder and bile ducts
- Disease of pancreas including pancreatitis

### **18. Haematologic diseases:**

- Hematopoiesis
- Anemias
- Leucopenia and leukocytosis  
Myelo-proliferative disorders
- Bone marrow failure syndromes
- Plasma cell disorders
- Disorders of hemostasis and haemopoietic stem cell transplantation
- Platelet Disorders
- Hypercoagulable conditions
- Blood components and transfusion medicine

### **19. Oncology:**

- Epidemiology
- Biology and genetics of cancer
- Approach to patient with cancer
- Early detection or prevention of cancer
- Infection in cancer patients
- Oncological emergencies
- Paraneoplastic syndromes and endocrine manifestations of tumours
- Metastatic cancer of unknown primary site
- Hematological malignancies
- Cancers of various organ systems and cancer chemotherapy
- Rehabilitation and palliative care in cancer patients.

### **20. Metabolic diseases - inborn errors of metabolism and disorders of metabolism:**

- Hemochromatosis
- Wilson's disease



- Porphyrias
- Other inborn errors of metabolism.

### **21. Nutritional diseases:**

- Nutritional assessment, Anthropometry
- Enteral and parenteral nutrition
- Obesity and eating disorders.
- Malnutrition
- Vitamin and trace element deficiencies and excess.

### **22. Endocrine diseases:**

- Approach to patients with endocrine disorders  
Disorders of Pituitary
- Disorders of thyroid gland
- Disorders of adrenal cortex
- Pheochromocytoma
- Multiple endocrine neoplasia
- Autoimmune polyendocrine syndromes
- Reproductive endocrinology including menopause and postmenopausal hormone therapy
- Diabetes mellitus
- Hypoglycemia
- Metabolic Syndrome
- Dyslipidemia
- Disorders of parathyroid gland
- Disorders of bone and mineral metabolism in health and disease
- Osteoporosis

### **23. Rheumatic diseases:**

- Approach to the patient with rheumatic diseases
- Osteoarthritis

- Rheumatoid arthritis
- Spondyloarthropathies
- Systemic lupus erythematosus (SLE)
- Sarcoidosis
- Sjogren's syndrome
- Systemic sclerosis
- Anti-phospholipid antibody syndrome
- Bechet's disease
- Vasculitis syndromes
- Acute rheumatic fever
- Inflammatory myopathies
- Arthritis associated with systemic diseases
- Gout and crystal associated arthritis
- Relapsing polychondritis
- IgG4 related disease
- Polymyalgia rheumatica
- Fibromyalgia
- Amyloidosis

#### **24. Infectious diseases:**

- Basic consideration in Infectious Diseases
- Clinical syndromes
- Community acquired clinical syndromes
- Nosocomial infections
- Infections in immunocompromised
- Bacterial diseases - General consideration, diseases caused by gram - positive bacteria, diseases caused by gram - negative bacteria, miscellaneous bacterial infections, Atypical bacterial infections -

Mycobacterial diseases, Spirochetal diseases, Rickettsial disease, Mycoplasma and Chlamydia.

- Viral diseases - DNA viruses, RNA viruses, HIV infection, Emerging viral diseases
  - Coronavirus, Nipha virus, H1N1 virus, Hantavirus.
- Fungal infections,
- Protozoal infections,
- Helminthic infections.

## 25. Neurology

- Approach to the patient with neurologic diseases,
- Diagnostic neurology,
- Localization of neurological disease/s,
- Headache,
- Seizure disorders and epilepsy,
- Coma,
- Disorders of sleep,
- Cerebrovascular diseases,
- Cranial neuropathy,
- Dementias and neurodegenerative diseases,
- Brain abscess,
- Demyelinating diseases,
- Parkinson's disease and other movement disorders,
- Motor neuron diseases,
- Ataxic and gait disorders,
- Meningitis and encephalitis,
- Prion diseases,
- Peripheral neuropathics,
- Muscle diseases,

- Diseases of spinal cord
- Diseases of neuromuscular transmission,
- Autonomic disorders and their management.

## **26. Psychiatric disorders**

Common psychiatric disorders in adult & geriatric population:

- Mood (affective) disorders,
- Anxiety disorders,
- Schizophrenia,
- Organic mental disorders,
- Eating disorders,
- Sexual disorders,
- Personality disorder and suicide and self-harm,
- Autistic disorders,
- Functional and psychosomatic disorder,
- Somatoform disorder,
- Dissociative/ conversion disorder.
- Substance use disorders.

## **27. Dermatology:**

- Structure and functions of skin.
- Infections of skin.
- Papulo-squamous and inflammatory skin rashes.
- Photo-dermatology.
- Erythroderma.
- Cutaneous manifestations of systematic diseases.
- Bullous diseases.
- Drug induced rashes.
- Disorders of hair and nails.

- Principles of topical therapy.

## **28. Critical care medicine**

- Approach to patient with critical illness.
- Acute respiratory distress syndrome.
- Mechanical ventilatory support.
- Approach to patient with shock.
- Sepsis and septic shock.
- Cardiogenic shock and pulmonary edema.
- Cardiovascular collapse and cardiac arrest.
- Cardiopulmonary resuscitation.

## **29. Miscellaneous**

- Medical illnesses in pregnancy
- Peri-operative evaluations

## Annexure-35 of AC-44/2022

### Annexure 4

#### Existing pattern of MD Medicine practical exam

Long case (case 1)	Short case 1 (case 2)	Short case 2 (case 3)	OSCE			Total case marks	Table viva 1	Table viva 2	Grand Total
			Station 1 Clinical skills	Station 2 Communication Skills	Station 3 Procedural skills				
150	50	50	30	10	10	300	50	50	400

### Annexure 5

**Revised pattern of MD Medicine practical exam**

**To be applicable for batch joined in FEB 2022 Appearing for exam in Jan 2025**

Sub – General Medicine

A- Cases of major systems- 1 long case & 3 short cases

Long case- Multisystem involvement in commonly encountered diseases by physician ( eg- Diabetes, Hypertension, Fever, connective tissue disorder, Anemia )

Short cases- Neuro/Abd/RS/CVS

OSCE – 1 Station each for clinical, procedural & communication skills

B- Oral viva-50 marks

A

Long case Case 1	Short case Case 2	Short case Case 3	Short case Case 4	Station 1 Procedural Skill	Station 2 Clinical Skills	Station 3 Communication Skills	Total Of clinical & Practical skills
150	50	50	50	20	20	10	350
Multisystem disease	Neuro /RS/Abd/CV	Neuro /RS/Abd/CV	Neuro /RS/Abd/CV				

	S	S	S				
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**B**

Oral Viva 1 Interpretation of Investigations ( Radiology, ECG, L reports)	Oral Viva 2 Grand viva	Total Of oral viva
25	25	50

**Grand total**

Total Of clinical & Practical skills A	Total Of oral viva B	Grand Total
350	50	400

Candidate need to score minimum 50 % marks in clinical cases & 50 % in oral viva for passing Exam will be conducted on two days with 7 students on each day & completing all exercises on that day



### Annexure 6

**Revised pattern as per NMC guidelines to be implemented from batch appearing in university exam in June 2023**

Long case Case 1	Short case Case 2	Short case Case 3	Short case Case 4	Station 1 Procedural Skill	Station 2 Clinical Skills	Station 3 Communication Skills	Total Of clinical & Practical skills
150	50	50	50	20	20	10	350
Neurology	/RS/Abd/CV S	/RS/Abd/CV S	/RS/Abd/CV S				

B

Oral Viva 1 Interpretation of Investigations ( Radiology, ECG, L reports)	Oral Viva 2 Grand viva	Total Of oral viva
25	25	50


Grand total

Total Of clinical & Practical skills A	Total Of oral viva B	Grand Total
350	50	400

Candidate need to score minimum 50 % marks in clinical cases & 50 % in oral viva for passing Exam will be conducted on two days with 7 students on each day & completing all exercises on that day



# MGM INSTITUTE OF HEALTH SCIENCES

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

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