



**YENEPOYA UNIVERSITY**

**Deralakatte, Mangalore - 575018**

**REGULATIONS AND CURRICULUM GOVERNING  
POSTGRADUATE PROGRAM (MD) IN  
GENERAL MEDICINE**

**(CURRICULUM - EFFECTIVE FROM 2010-11)**

**ATTESTED**  


**Dr.Gangadhara Somayaji K.S.  
Registrar  
Yenepoya(Deemed to be University)  
University Road, Deralakatte  
Mangalore-575 018, Karnataka**



Office of the Registrar  
University Road,  
Deralakatte  
Mangalore - 575018  
Ph: 0824-2204667/68/69/71  
Fax: 0824-2203943

Ref: No.YU/REG/ACA/5-ACM/2010

15.10.2010

**NOTIFICATION**

Sub: Curriculum and Syllabus governing the Postgraduate course in the  
Speciality of MD, General Medicine

Ref: Resolution of the Academic Council at its 5<sup>th</sup> Academic Council  
meeting held on 11.10.2010, vide agenda - 8

\*\*\*\*\*

The Academic Council at its 5<sup>th</sup> meeting held on 11.10.2010 and subsequently the 12<sup>th</sup>  
Board of Management at its meeting held on 12.10.2010 have resolved to approve the  
curriculum and syllabus governing the Postgraduate course in the speciality of MD,  
General Medicine

This notification is issued for implementation with effect from the academic year 2010-  
2011.



**REGISTRAR**

To:

The Principal - YMC

Copy to:

1. Controller of Examinations
2. Academic Section

---

## MD General Medicine

### Course Description

#### GOAL

The goal of post graduate course M.D. General Medicine is to train a MBBS graduate into a competent, caring and astute Physician who :

- Has acquired the competencies pertaining to medicine that are required to be practiced in the community, backed by scientific knowledge and skill base. Has acquired the skills to effectively communicate with the patient, family and the community.
- Is aware of the contemporary advances and developments in medical sciences related to Medicine and evidences keen interest in continuing medical education.
- Is oriented to principles of research methodology. Practice evidence based Medicine.
- Recognizes the health needs of the population and carries out professional obligations in keeping with the principles of National Health Policy and professional ethics and
- Be a motivated 'teacher' - defined as a doctor keen to share his knowledge & skills with his medical & paramedical professionals.
- Oriented to Ethical aspects in Medical Profession and Practice his specialty ethically.

#### OBJECTIVES:

- The following objectives are laid out to fulfill the goals of the course. These are to be achieved by the time the candidate completes the course.
- Practice the specialty of medicine maintaining high professional standards. Identify social, economic, environmental, biological determinants of an adult and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care.
- Collect detailed history, perform full physical examination and make proper clinical diagnosis. Perform relevant investigative and therapeutic procedures for the care of the patients and interpret important imaging and laboratory results.
- Diagnose illness based on the analysis of history, physical examination and confirm on further investigative work up. Plan and deliver comprehensive treatment using the principles of rational drug therapy.
- Manage emergencies efficiently by providing BLS and ALS in emergency situations.
- Demonstrate skills in documentation of case details including epidemiological data.
- Knowledge of basic sciences relevant to medicine appropriately.
- Recognize conditions that may be outside the area of the speciality / competence and to refer them to an appropriate specialist.  
Respect patient's rights and privileges including patients rights to information and right to seek a second opinion. Demonstrate empathy and humane approach towards patients amid their families and respect their sensibilities. Demonstrate communication skills in explaining management and prognosis, providing counseling and giving health education messages to patient's families and communities.
- Develop skills of a self directed learner, recognize continuing medical educational needs, use appropriate learning resources, and critically analyze

---

relevant published literature in order to practice evidence based medicine.

- Demonstrate competence in basic concepts of research methodology and epidemiology.
- Facilitate learning of medical / nursing students, practicing physicians, paramedical health workers and other providers as a teacher - trainer.
- Undertake audit, use information technology tools and carry out research - both basic and clinical, with the aim of publishing the work and presenting the work at various scientific forum.
- Professional honesty and integrity are to be maintained.
- Be humble and accept the limitation in the knowledge and skill and to seek help from colleagues when needed.

#### DURATION OF THE COURSE

The course of the study shall be for three years consisting of six terms and each year consisting of two terms.

#### COURSE CONTENT

##### Knowledge

##### 1. Basic sciences:

Applied aspects of Anatomy, Physiology, Biochemistry, Pathology, Hematology and Microbiology and Pharmacology

##### 2. General medical topics

##### a) the practice of medicine

The patient-physician relationship

Principles of patient care \_ evidence-based medicine

b) Decision Making in Clinical Medicine - clinical decision-making, quantitative methods to aid clinical decision-making, decision support tools, evidence-based medicine

##### c) principles of clinical pharmacology

-Principles of pharmacokinetics

-Principles of pharmacodynamics

-Principles of dose selection

-Effects of disease on drug concentration and response

-Genetic determinants of the response to drugs

-Interactions between drugs

-Adverse reactions to drugs

- Concept of Essential Drugs and Rational use of drugs.

##### d) screening and prevention of disease

##### e) women's health

##### f) medical disorders during pregnancy

##### g) medical evaluation of the surgical patient

- preoperative laboratory testing for healthy patients

-cardiac risk assessment

-preoperative pulmonary evaluation

-diabetes mellitus

##### h) geriatric medicine

-biology of aging

-principles of geriatric medicine

-Selected Age-Related Changes and Their Consequences

- Management of common geriatric conditions

---

- 
- j) palliative and end-of-life care, managing the last stages
  - k) complementary and alternative medicine
  - l) cardinal manifestations of disease
    - Pain
    - Alterations in body temperature
    - Nervous system dysfunction
      - Disorder of Eye, Ear, Nose and Throat
    - Alterations in circulatory and respiratory function
    - Alterations in gastrointestinal function
    - Alterations in urinary function and electrolytes
    - Alterations in reproductive and sexual function
    - Alterations in the skin
    - Hematologic alterations
  - 3. Genetics and disease, molecular medicine
  - 4. Nutrition
  - 5. Hematology and oncology
  - 6. Infectious disease
    - Basic consideration in Infectious Disease
    - Clinical syndromes – community acquired
    - Clinical syndromes – nosocomial infections
    - Bacterial disease - General consideration
    - Diseases caused by gram-positive bacteria
    - Diseases caused by gram-negative bacteria
    - Miscellaneous bacterial infections
    - Mycobacterium diseases
    - Spirochetal diseases
    - Rickettsia, Mycoplasma and Chlamydia
    - Viral diseases
    - DNA viruses
    - DNA and RNA respiratory viruses
    - RNA viruses
    - Fungal infections
    - Protozoal and helminthes infections: General considerations
    - Protozoal infections
    - Helminthes infections
    - Ectoparasites
    - HIV infection
  - 7. Bioterrorism and Clinical Medicine
  - 8. Diseases of the cardiovascular system
    - Disorders of the heart
    - Disorders of the vascular system
  - 9. Disorders of the respiratory system
  - 10.. Critical Care Medicine
    - Respiratory Critical Care
    - Shock and Cardiac arrest.
    - Neurological Critical Care
  - 11. Disorders of the kidney and urinary tract
  - 12. Disorders of the gastrointestinal system
    - Disorders of the alimentary tract
-

- 
- Liver and biliary tract disease
  - Disorders of the pancreas.
- 13 .Disorders of the immune system, connective tissue and joints
- Disorders of the immune system
  - Disorders of the immune-mediated injury
  - Disorders of the joints and adjacent Tissues.
14. Neurologic disorders
- Diagnosis of Neurological disorders
  - The central nervous system
  - Disease of nerve and muscle
  - Chronic fatigue syndrome
  - Psychiatric disorders
  - Alcoholism and drug dependency
15. Poisoning, Drug Overdose and Envenomation.
16. Environmental and occupational hazards
17. Laboratory medicine, radiology, ECG, Electrophysiology studies.
18. Statistics - Descriptive statistics, analytical statistics, qualitative research methodology, research design and critical review of statistical procedures.
19. Research Methodology
20. Research Ethics and clinical ethics.

## **SKILLS TO BE ACQUIRED**

### **Principal Areas of Competence**

- A) Clinical expertise and judgment
- B) Ability to establish effective relationships with patients
- C) Leadership and personal management skills
- D) Service management skills
- E) Treatment Skills

#### **A) Clinical Expertise and Judgment**

##### **1. Basic Clinical Skills**

The ability to obtain a reliable history and elicit abnormal physical signs.

The ability to interpret findings and the results of investigations.

The ability to perform the defined practical management. of medical emergencies.

##### **2. Clinical Reasoning**

The ability to assess and diagnose complex medical problems, particularly those involving multiple systems, and determine their relative priority.

##### **3. Expert Management**

The ability to investigate clinical problems in a prioritized, systematic, well informed and cost effective way.

The ability to recognize and manage all major medical emergencies and other acute Presentations of illness affecting concurrently one or more organ systems.

This should include the administration of all necessary immediate care and be in an Appropriate evidence-based way.

Expertise in the ongoing care and management of chronic diseases including

---

Preventive and public health medicine and the community aspects of disease.  
The ability to determine the appropriate time and conditions when referral to  
Another specialist is indicated or transfer to a specialist unit.  
The ability to manage patients in a holistic way, considering all psycho-social as well  
as medical factors for improving quality of life..  
The ability to determine when the emphasis of treatment should change from the  
Curative to the palliative in patients whose prognosis is limited.

**B) Establishing Effective Doctor / Patient Relationships**

1. Communication Skills:

The ability to promote trust and cooperation, and to help patients cope with  
Distressing or other emotions.

And to demonstrate the following skills: - active listening;

Understanding the need for and enabling the ventilation of feelings;

Warmth, support and empathy;

Respect; guidance; partnership.

The ability to educate and motivate patients towards co-operating with advice. And

To demonstrate the following skills: elicitation of existing views/ knowledge;

Offering clear explanation and instruction; checking understanding; evaluating

Problems; using positive attribution and praise.

Non-verbal communication.

Art of history taking in handicapped individuals like deaf, elderly, aphasics.

Ascertaining life history and life style.

Tactful elicitation of personal and confidential History

The ability to deal with special situations e.g. breaking bad news to patients and

Relatives; other sensitive issues;;

conducting family meetings & dealing with complaints etc.

Philosophical approach to life and death.

2. Ethical principles

The observation of clear ethical principles such as the respect and dignity of patients;

Their right to privacy and confidentiality; their right to the best possible care; Their

right to autonomy and informed consent; their right to decline treatment or to take

part in teaching or research etc. preparation for threatening procedures -obtaining

Informed consent;

**c) Leadership and personal management skills**

1. Personal achievement

The ability to exercise independent judgment and clinical self-confidence. The

Ability to be self-directed and to achieve objectives. The ability to have high internal Standards

and a desire to improve. The ability to maintain effective work performance under pressure when

appropriate and to cope with one's own emotions.

The ability to accept and act on constructive criticism. Sustained self directed

independent learning. Keeping abreast with advances in Medical practice. Internalizing the  
concept of lifelong learning.

Access to computer usage, including internet.

2. Interpersonal skills

The ability to initiate, build and maintain good relationships, both one to one and in Groups. The

ability to lead by example. The ability to put oneself in the place of another and correctly

interpret their concerns and feelings. The ability to calculate in Advance the likely effect of one's

words or actions on an individual or group in order to bring about a desired effect. The ability to

time ones actions or interventions in order to maximize their effectiveness.

Co-operate with: Medical colleagues, Non medical health care workers, Patient and his family organizations, Community services

3. Managing others

The ability to get others to work effectively by planning and delegating work especially to Junior PG and Interns. The ability to coach and supervise others and give clear feedback about performance, good or bad.

**D) Service Management skills**

The ability to conduct and administer a general medical service, including seeing Patient referrals

**E) Treatment skills.**

Promote compliance with prescribed treatment.

Basic prescribing skills for medical disorders commonly encountered (rational drug prescribing skills.)

Recognize earliest adverse effects of treatment and distinguish them from those of symptoms of illness

**Competency list**

Note: Figures shown against the items indicate minimum number. Key PI = Performs independently, PA = Performs under assistance

Description of competencies	Numbers
Clinical assessment skills( All PI)	
.Elicit a detailed clinical history including dietary recall, calorie and protein estimation	50
.Perform a thorough physical examination including anthropometry	10
Optic fundi examination	20
Pre rectal examination	05
Procedural skills (All PI)	10
Test dose	05
Sampling for fluid culture	10
IV- Injection	20
Intravenous cannulation	10
ECG recording	50
Pleural tap	10
Peritoneal tap	10
Pericardio-centesis (observe)	05
Lumbar puncture	15
Resuscitation	
BLS	30
ALS	10
Central line, CVP	05
Blood and blood component ( platelet, FFP, etc.,) transfusions	10
Arterial puncture for ABG	20
Liver biopsy	10
Liver abscess aspiration	05
Bone marrow aspiration and biopsy	10
Peritoneal/ pleural	2 each
Glucometer usage	30
Urine analysis	20



Urinary catheterisation	15
Ryle's , stomach tube use	20
Sputum- Gram's / AFB staining	10 each
<b>Respiratory management (All PI)</b>	
Nebulisation	30
Inhaler therapy	30
Oxygen therapy	30
List of PA skills: NIV, managing a patient on ventilator	30
Peritoneal dialysis	05
Haemodialysis	05
<b>Critically ill person (All PI skills)</b>	
Monitoring a sick person	50
Endotracheal intubations	20
CPR	10
Using a defibrillator	10
Pulse oximetry	50
Feeding tube use	10
Intercoastal tube Placement with underwater seal	10
Sedation	
Analgesia	
Venesection	
CUP monitoring	
<b>List of PA skills:</b>	
Assessment of brain death	10
Laboratory- Diagnostic Abilities (All PI) Urine protein, sugar, microscopy	10
Peripheral blood smear	10
Malaria smear	10
Ziel Nielsen method smear- sputum, gastric aspirate	10
Gram's stain smear- CSF, pus	10
Stool pH, occult blood, microscopy	10
KOH smear	2
Cell count- CSF, pleural, peritoneal, any serous fluid	20

### **Interpretation Skills (All PI)**

Clinical data (history and examination findings), formulating a differential diagnosis in order of priority, using principles of clinical decision - making, plan investigative work-up, keeping in mind the cost - effective approach Le., problem solving and clinical decision making.

Blood, urine, CSF and fluid investigations - hematology, biochemistry. X-ray chest, Abdomen, bone and joints.

ECG

Treadmill testing

ABG analysis

CT scan chest and abdomen CT scan head and spine Barium studies

IVP, VUR studies Ultrasound abdomen pulmonary function tests Immunological investigations

Echocardiographic studies

---

**Interpretation under supervision (PA)**

Description of competencies	Number
Hemodynamic monitoring	10
Handling Ventilators	10
GI Endoscopy - Upper GI Endoscopy- Lower	20 05
Bronchoscopy	05
Tracheostomy	05
U /S abdomen	20
U / S guided aspiration	10
ECHO	20
TMT	20
Nuclear isotope scanning	10
MRI scanning of head / chest	10

**To be familiar with**

Radio frequency ablation PICA & Stent  
Peripheral & Carotid Doppler  
Peripheral Angioplasty  
PFT  
Nerve Conduction Studies  
Interpretation Skills  
All Hematological & Biochemical investigations  
X-ray of chest, abdomen, bones & joints  
Barium studies  
ECG Echo TMT  
Ultra-sound abdomen  
Doppler Studies  
CT / MRI of head, chest & abdomen  
Immunological studies & Polymerase chain reaction  
PFT  
EEG / ENMG  
**Nutritional advice in**  
DM  
Obesity / Malnutrition  
Cirrhosis of liver  
Renal failure

---

---

Hypertension / Ischemic Heart Disease Diarrhoea

**Principles of Rehabilitation in**

Strokes & Neuro degenerative diseases

Muscular dystrophies

COPD / Supportive lung diseases

IHD

Epilepsy & Others

**Demonstrating** professionalism ethical behavior (humane and professional care of Patients), self directed learning Utilization of information technology, Medline search, Internet access, computer Usage, identifying key information sources, literature search, information management Research methodology -interpretation and presentation of scientific data

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

**Training Programme:**

To attain proficiency in the subject and to practice the post-graduate student has to be trained in an organized and structured manner. Graded responsibility is to be given to the post-graduate student on a progressive scale in an integrated manner in the three year course with the trainee being able to attain his / her identity as a physician capable of holistic approach to the patient care. Independent self - directed problem based learning. Skill acquisition oriented learning. Ambulatory and Emergency care.

**I year**

- Ability to obtain a clear and thorough history, physical examination and follow up notes.
- Capability to manage routine & on call duties of the wards.
- Supervising and follow up of investigations.
- Ability to develop a rational treatment plan. Initiate and carry out treatment.
- Identify emergency problems, seek help from seniors & initiate treatment so as to develop decision making and judgment skills.
- Supervise house- surgeon's work.
- To prepare synopsis for dissertation.

**II year**

- Develop basic knowledge of the specialty subject in the care of the patient. \* Witness / perform procedures in the specialty.
- Learn the indications and contraindications of the procedures.
- To learn when to refer a case to the sub-specialist.
- To know when to intervene and when not to intervene in a case.
- To carry out data collection for the dissertation.

**III year**

\* Able to handle case independently- diagnose and manage the cases in the unit! ward.

\* Diagnose and treat cases in emergency & ICU set up.

\* Problem identification of referral cases & advice suitably. Supervise I yr post-graduate students

\* Teach interns

---

- \* Teach undergraduates
- \* Help junior residents in his responsibilities at all levels and to intervene at appropriate time when the occasions demand
- \* In problem cases, to seek help from senior staff members.
- \* Successfully complete data collection, analysis and writing up and submission of dissertation.

## ROTATION POSTINGS

General Guidelines:

Department	Duration of posting	Year of posting
General Medicine	24 months	I/III
Emergency	2 months	II
I.C.U.	1 months	II
Cardiology Including ICCU	2 months	II
Neurology	2 months	II
Nephrology	1month	II
Gastroenterology	1month	II
Endocrinology	1month	II
Skin	15 Days	II
Psychiatry	15 Days	II
TB & Chest	15 Days	II
Radiology	15 Days	II

iii) In addition, a minimum number of cases of the following sub- specialites must be seen and entered in the log book:

Psychiatry - 10  
 Der matology - 10  
 Endocrinology 5

### Scheme of Examination

M.D. Degree examination in General Medicine shall consist of dissertation, written ~ papers (Theory), Practical/Clinical and Viva voce

*Dissertation:* Every candidate shall submit a dissertation as indicated . Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination

---

### A. Written Papers (Theory) Total marks 400

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions, each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows \*

**Paper - I** - Basic Sciences - Applied aspects of clinical Anatomy, clinical Physiology, Clinical Biochemistry; Pathology, Microbiology, Pharmacology; General Medical Topics, Genetics, Immunology, Fluid & Electrolyte balance, Pre anesthetic and post operative medical problems.

**Paper - II** – Systemic Medicine, cardiovascular disease, Gastro-Intestinal and Hepatobiliary system, Diseases and Disorders of Pancreas.

**Paper - III** – Infectious Diseases and Tropical Medicine, Respiratory Medicine, Central Nervous system, Rheumatology and Connective Tissue Disorders.

**Paper - IV** – Recent Advances and Research methodology, Nephrology, Endocrinology and Metabolism, Hematology, Medical Oncology, Psychiatry, Dermatology, STD, Occupational Diseases

\*The topics assigned to the different papers are generally evaluated under those sections,

However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics

### B. Clinical Examination Total marks 200

It should aim at examining skills and competence of candidate for undertaking ~ independent work as a specialist. Each candidate should examine:

One Long Case = 100 marks (time-45 minutes)

Two Short Cases = 50 marks for each case (time - 30 minutes for each case)

### C. Viva Voice Examination Marks 100

- Viva-voice Examination: (80 marks)

All examiners will conduct viva-voice conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, ECGs, charts, gross specimens, Drugs, Histopathology slides, x-rays, ultrasound, CT& MRI scan images, etc., for interpretation. Questions on use of instruments will be asked. It includes discussion on dissertation.

- Pedagogy Exercise (Teaching skills) + OSCE /SPOTTERS : (10 + 10 = 20 marks)

A topic be given to each candidate in advance. He/she is asked to make a presentation on the topic for 8-10 minutes and assessed

### D) Maximum marks

Theory	Practical	Viva	Grand total
400	200	100	700

### FORMAT AND ASSESSMENT

**LONG CASE** : Nervous system case preferably. However, a case with meaningful history and multi-system findings cardiovascular, respiratory & abdomen cases is acceptable.

\* Time for examination and write-up : 60 minutes.

\*Time for presentation and assessment : 20 minutes.

---

---

Clinical assessment will cover an analysis including diagnostic and therapeutic approaches. It is recommended that essential investigation reports are given to the candidate to test competency as a consultant physician.

**SHORT CASES;**

Number of cases per candidate : Two (Cardiovascular, Respiratory, Central nervous system & abdomen cases).

System evaluated in long case will be excluded in short case examination.

Time for examination (Total) : 30 minutes for each case

Time for presentation and

Viva-voce (Total) : 20 minutes for each case

Essential history may be briefly elicited whenever necessary.

To improve relevance and validity, the candidate may be asked to make a brief write up on the case as a note to the referring doctor.

To improve validity, the candidate can be given laboratory reports relevant to the case during viva-voce. The competence in clinical skills as well as approach to solving the problem should be taken into account for assessment.

Award of marks: It is to be done individually by Examiners at first. At the end, the final marks of the candidate will be decided by consensus.

**Viva-voce Examination**

**FORMAT**

The following areas are to be assessed:

- Thesis
- General viva including recent advances, therapeutics, etc.
- Discussion on ECG/X-ray and other lab. reports including 2-D echocardiographic and CT scan / MRI images
- SPOTTERS (Including OSCE): 5 in number / stations (e.g. fundus examination of eye, diabetic foot, myotonia, myxedema, leprosy, rheumatoid deformity etc. and specimens, charts, etc.).