



**SRM**  
UNIVERSITY  
(Under section 3 of UGC Act 1956)



## **MD General Medicine**

Curriculum and Syllabus 2015

Branch Code: 25

**SRM Medical College Hospital & Research Centre**

SRM University

SRM Nagar, Kattankulathur

Kancheepuram (Dt). 603 203



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## MD GENERAL MEDICINE

### 1. A. GOALS

The goal of Post Graduate Medical Education in General Medicine is to produce competent Physician who:

- Recognizes the health needs of the individual, community and carry out professional obligations ethically and in keeping with the objectives of the National Health Policy;
- Have mastered most of the competencies pertaining to the General Medicine, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- Shall be aware of the recent advances and developments in General Medicine;
- Have acquired a spirit of scientific enquiry and is oriented to the principles of research methodology and epidemiology and
- Shall have acquired the basic skills in teaching of the medical and paramedical professionals.

### B.OBJECTIVES

At the end of the postgraduate training in General Medicine the student shall be able to

- Recognize the importance of General Medicine in the context of the health needs of the community and the national priorities in the health sector.
- Practice General Medicine ethically and in step with the principles of primary health care.
- Demonstrate sufficient understanding of the basic sciences relevant to General Medicine.
- Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive, and promotive measures/strategies.
- Diagnose and manage majority of the conditions in General Medicine on the basis of clinical assessment and appropriately selected and conducted investigations.
- Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability.
- Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.

- Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with society norms and expectations.
- Play the assigned role in the implementation of National Health Programmes, effectively and responsibly.
- Organise and supervise the chosen/ assigned health care services demonstrating adequate managerial skills in the clinic / hospital or the field situation.
- Develop skills as a self-directed learner; recognize continuing educational needs; select and use appropriate learning resources.
- Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- Develop skills in using educational methods and techniques as applicable to the teaching of medical / nursing students, general physicians and paramedical health workers.
- Function as an effective leader of a health team engaged in health care, research or training.

## **2. COURSE OVERVIEW**

### **DURATION OF THE COURSE**

The period of certified study and training for the Post-Graduate MD GENERAL MEDICINE shall be Three Academic years (six academic terms). The academic terms shall mean six months training period.

### **COMMENCEMENT OF ACADEMIC SESSION**

The academic session for the Post-Graduate shall commence from May /June of the Academic Year.

### **DATE OF EXAMINATION**

The students admitted up to May / June of the academic year shall be registered for that academic year and shall take up their Final Third Year regular examinations in April/October of the academic year after completion of 3 years/36 months.

## **NUMBER OF EXAMINATIONS**

The University shall conduct not more than two examinations in a year, for any subject, with an interval of not less than 4 and not more than 6 months between the two examinations.

## **ATTENDANCE**

All students joining the postgraduate training programme shall work as full time residents during the period of training, attending not less than 80% (eighty percent) of the training during each calendar year, and will be given full time responsibility, assignments and participation in all facets of the educational process.

The period of training for obtaining the degrees shall be three completed years including the period of examination.

## **3. DETAILED SYLLABUSES**

### **3.1 M.D. Br. I - GENERAL MEDICINE**

#### **APPLIED BASIC SCIENCES**

##### **ANATOMY INCLUDING HISTOLOGY:**

- ❖ Embryology - Development of Heart and Great Vessels Development of Brain and Spinal Cord.
- ❖ Anatomy of Brain and Spinal Cord with their Blood Supply and Venous Drainage.
- ❖ Cranial Nerves and Autonomic Nervous System.
- ❖ Nervous Control of Bladder and Rectum.
- ❖ Anatomy including Histopathology of Endocrine Glands.
- ❖ Anatomy of Liver, Pancreas and Portal Circulation.
- ❖ Anatomy including Histopathology of Kidneys.
- ❖ Anatomy including Histopathology of Spleen.
- ❖ Anatomy of Bronchopulmonary Segments, Pleura and Mediastinum.
- ❖ Surface Anatomy of Head and Neck, Thorax and Abdomen.

##### **PHYSIOLOGY INCLUDING BIOCHEMISTRY:**

- ❖ Liver: Laboratory tests of liver Function.
- ❖ Kidney: Laboratory Tests of Kidney Function.
- ❖ Exocrine and Endocrine function of pancreas.

- ❖ Hormones: Pituitary, Adrenal, Thyroid, Parathyroid, and Chemistry of Steroids - Various tests to study function of Endocrine Glands.
- ❖ Pulmonary Function Tests.
- ❖ The mechanism of Deglutition.
- ❖ Digestion: Gastric and Intestinal secretion and their Hormones- Mechanism of absorption of Fat, Proteins and Carbohydrates.
- ❖ Heart: Basic principles of condition system and electro-cardiogram - Circulation - Measurement of cardiac output - Factors controlling arterial blood pressure - Mechanism of production of cardiac failure and syndrome of shock.
- ❖ Blood, Plasma, proteins - Coagulation of blood RBC and WBC development - Platelets - Erythropoiesis and its regulation - Blood groups - Iron Metabolism.
- ❖ Physiology of Micturition and Defaecation.
- ❖ Fluid and electrolyte balance.
- ❖ Calcium and Phosphorous Metabolism.
- ❖ Carbohydrate metabolism.
- ❖ Fat metabolism
- ❖ Protein metabolism and electrophoresis.
- ❖ Inborn Errors of metabolism.
- ❖ Porphyrins and porphyrias.
- ❖ Jaundice - Types and Diagnosis.
- ❖ Metabolism of Haemoglobin and circulation of Bile pigments.
- ❖ Immunoglobulin and the Mechanism of Immunity.
- ❖ Physiology of consciousness.
- ❖ Physiology of sleep and disorders of sleep.
- ❖ Temperature regulation.
- ❖ Physiology of hunger and its disorders.

#### **PATHOLOGY INCLUDING MICROBIOLOGY:-**

Central nervous system: Brain and spinal cord Meningitis and Encephalitis, Abscess Tumors, Syphilis .of nervous system, Nutritional and metabolic disorders, epilepsy, vascular diseases.

- ❖ Heart: Rheumatic fever and carditis, Coronary artery diseases Hypertension, Atherosclerosis, Cardiomyopathy, Pericarditis, Specific and non specific arteritis, Congenital Heart diseases.
- ❖ Kidneys: Nephritis, Nephrosis, Kidney, changes in metabolic and collagen vascular diseases, Acute and chronic renal failure.

- ❖ Lungs: Pulmonary tuberculosis, atypical mycobacteria, Tumours of lung.
- ❖ Liver: Portal hypertension, Cirrhosis of liver, Tumors of liver.
- ❖ Bone: Disorders of Mineral and Bone matrix.
- ❖ Endocrine Glands: Myxoedema and Thyrotoxicosis, Hyper and hypoparathyroidism, disease of Pituitary, Adrenal Cortex and Medulla.
- ❖ Diabetes Mellitus and its complications – Pathological changes in Viscera.
- ❖ Gastro intestinal disorders: Peptic ulcer, Malabsorption syndrome, Ulcerative colitis, Amoebiasis (Intestinal and extraintestinal).
- ❖ Lymphomas. Leukemias and other blood dyscrasias.

### **PHARMACOLOGY:**

- ❖ Chemotherapy, Antibiotics and antimicrobials
- ❖ Antimalarial drugs.
- ❖ Antiamoebic drugs.
- ❖ Anthelmintics.
- ❖ Analgesics.
- ❖ Sedatives.
- ❖ Tranquilizers.
- ❖ Antiviral agents.
- ❖ Antimitotics.
- ❖ Drugs acting on Autonomic nervous system.
- ❖ Hormones.
- ❖ Drugs for Epilepsy.
- ❖ Diuretics.
- ❖ Cardiac glycosides.
- ❖ Antiarrhythmic drugs.
- ❖ Coagulants and anticoagulants.
- ❖ Histamine and antihistamine drugs.
- ❖ Alcohol.
- ❖ Vaccines and Immune Sera.
- ❖ Drug abuse, drug tolerance, drug addiction.
- ❖ Newer drug

### **3.2 SYLLABUS FOR PART II**

#### **(A) TROPICAL MEDICINE:**

- ❖ Diseases caused by Protozoa: Malaria, African and American Trypanosomiasis, Leishmaniasis, Toxoplasmosis, Coccidiosis and Pneumocystis infection, Ameobiasis, Giardiasis



- ❖ Diseases caused by Helminths: Filariasis, Other Nematode infestation, Trematode and Cestode infestation.
- ❖ Diseases caused by Viruses: Arbovirus diseases Pox diseases, other viruses' diseases: Measles, Infective Hepatitis, poliomyelitis, Rabies.
- ❖ Diseases caused by Bacteria: Leprosy, Tuberculosis, Plague, Meliodosis, Brucellosis Tularaemia, *Cholera*, Shigelloses and Diarrhoea, Salmonellosis, Tetanus, Anthrax, Tropical Pyomyositis, Rhinoscleroma, Meningitis.
- ❖ Diseases caused by Spirochetes: Relapsing fevers, Rat bite fever, Leptospirosis.
- ❖ Diseases caused by Rickettsiae and Bartonella
- ❖ Tropical Veneral Diseases: Lymphogranuloma Venereum, Granuloma Inguinale.
- ❖ Diseases caused by Fungi: Superficial Mycoses – Systemic Mycoses.
- ❖ Neurological Diseases, Neurasthenia in Tropics, Kuru
- ❖ Heart Disorders: Heat stroke and heat hyperpyrexia.
- ❖ Nutritional Diseases: Nutritional deficiency syndromes, Malabsorption in the Tropics, Vitamin deficiencies, Nutritional.
- ❖ Poisons: Chiggers, Mites and Animal poisons – plant poisons, leeches and Leech Infestation.
- ❖ Ophthalmology in the Tropics:

## **B. INTERNAL MEDICINE**

### **1. Introduction to Clinical Medicine:**

Headache – Pain in the chest, Abdominal pain, Pain in the back and neck, Pain in the extremities, Disturbances of heat regulation, Chills and fever, Nervousness, Anxiety and Depression, Lassitude and Asthenia, Faintness, Syncope and Episodic weakness, Motor paralysis, Tremor, Chorea, Athetosis, Ataxia and other abnormalities of Movement and Posture, Dizziness – Vertigo and Disorders of Gait, Common disturbances of Vision, Ocular movement and hearing, Disorders of sensation, Coma and related disturbances of consciousness – Sleep and its abnormalities, The Convulsive state, Affections of Speech, Delirium and other acute confusions states, Derangement of intellect and behaviour due to diffuse and focal cerebral disease, Dyspnoea, Cyanosis, Hypoxia and Polycythemia, Oedema, Palpitation, Hypotension and the Shock Syndrome, Elevation of Arterial Pressure – Sudden Cardiovascular Collapse and Death, Cough and Hemoptysis, Oral manifestations of disease, Dysphagia – indigestion, Anorexia, Nausea and vomiting, Constipation, Diarrhoea and disturbances of Anorectal

function, Hematemesis and Melena, Jaundice and Hepatomegaly, Abdominal swelling and Ascites, Loss of weight, Obesity, Dysuria, Incontinence and Enuresis, Oliguria, Polyuria and Nocturia, Hematuria, Disturbances of Menstruation - Disturbances of sexual function, Infertility, Pallor and Anemia, Bleeding, Enlargement of Lymph Nodes and Spleen, Alteration in Leukocytes.

## **2. Genetic Factors in Disease: Cell division and reproduction**

The nature of genetic material, The pattern of familial disorders, Visible abnormalities of Chromosomes - Genetic advice.

## **3. Immunological factors in disease:**

Components of the Immune System, Mechanism of the Immune Response, Immune deficiency and Lymphoproliferative disorders, Types of Immune reaction and their relation to human disease, Suppression of immune reactions and their effects.

## **4. Infections and diseases:**

Nature of Microorganism, Epidemiology and spread and infection, Defence of the human host, Diagnosis of infectious, disease, Pyrexia of unknown origin.

## **5. Infectious Diseases:**

Streptococcal infection, Staphylococcal Infection, Diphtheria, Typhoid, Bacterial food poisoning, Tetanus, Brucellosis, Gonorrhoe, Syphilis, Measles, Rubella.

## **6. Chemotherapy of infections:**

**7. Immunisations:** Active and passive.

## **8. Nutritional disorders:**

Protein - Calorie Malnutrition, Kwashiorkor, Marasmus, Nutritional dwarfing, Mineral deficiencies, Vitamin deficiencies, Obesity, Anorexia Nervosa, Bulimia.

## **9. Disturbances in water and electrolyte balance:**

Sodium depletion - Primary water depletion, Potassium excess and deficiency, Magnesium deficiency, Sodium and water accumulation, Disturbances in Hydrogen ion concentration.

#### **10. DISEASES OF CARDIOVASCULAR SYSTEM:**

Principles of clinical electrocardiogram, Cardiac dysarrhythmias, Cardiac failure, Rheumatic fever, Valvular diseases, Congenital heart diseases, Ischaemic heart disease, Pericardial diseases, Cardiomyopathies and Myocarditis, Cardiac tumours, Atherosclerosis, Hypertension, Diseases of Aorta, Peripheral vascular diseases, Cardiovascular syphilis.

#### **11. DISEASES OF THE RESPIRATORY SYSTEM:**

Disturbances of respiratory functions, diseases of upper respiratory tract, Obstructive Airway Diseases, Bronchiectasis - Lung Abscess, Broncholithiasis, Diffuse, infiltrative diseases of Lung, Pulmonary thromboembolism, Hypersensitivity reactions of Lung, Environmental Lung Diseases - Primary Pulmonary Hypertension, Neoplasms of Lung, Diseases of Pleura, Mediastinum and Diaphragm, Cor pulmonale, Acute Respiratory Failure.

#### **12. DISEASES OF THE DIGESTIVE SYSTEM:**

Diseases of Oesophagus, Peptic Ulcer, Gastritis and other diseases of Stomach including Carcinoma, Diseases of small intestine, Diseases of Colon and Rectum - Diseases of Peritoneum and Mesentery.

#### **13. DISEASES OF LIVER AND BILIARY TRACT:**

Diagnostic Procedures in Liver Diseases, Derangement of Hepatic Metabolism, Disturbance of Biliary Metabolism, Acute Hepatitis, Chronic Active Hepatitis, Cirrhosis of Liver, Tumours of Liver, Suppurative Diseases of Liver, Infiltrative and Metabolic Diseases affecting the Liver, Diseases of Gall bladder and Bile ducts.

#### **14. DISEASES OF PANCREAS:**

Acute and chronic pancreatitis, prognostic indicators, tumors of pancreas

#### **15. DISEASES OF KIDNEY AND URINARY SYSTEM:**

Acute and Chronic Renal Failure, Glomerulonephritis, Nephrotic Syndrome: Vascular Diseases of Kidney, Toxaemia of Pregnancy, Infections of the Urinary Tract, Obstructive Uropathy - Nephrolithiasis, Cystic Diseases of the Kidneys, Other Congenital and Hereditary Disorders of the Kidney and Urinary Tract, Tumours of the Urinary Tract.

## **16. DISEASES OF THE ENDOCRINE SYSTEM:**

The Hypothalamus and Pituitary Gland, Diseases of Anterior Lobe of Pituitary  
Diseases of Adrenal Cortex and Medulla, Diseases of Testis and Ovaries, Pineal  
Gland , Diabetes Mellitus, HyperInsulinism, Hypoglycemia, Glucagon Secretion.  
Diseases of Neurohypophysis, Diseases of Thyroid.

## **17. DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS**

ORGANS: Blood Formation Blood Destruction, Anemia, Bone Marrow failure,  
Blood Groups and Transfusions Polycythemia Rubra Vera, Abnormal  
Haemoglobin , Disorders of platelets, Haemorrhagic Disorder, Leukemia,  
Lymphomas, Diseases of spleen and Reticulo Endothelial system.

## **18. DISEASES OF CONNECTIVE TISSUES, JOINT AND BONES:**

Rheumatoid Arthritis, Ankylosing Spondylitis, Systemic Lupus Erythematosus,  
Scleroderma, Polymyalgia Rheumatica, Gout, Pseudo Gout, Osteoarthritis,  
Diseases of Bone, Metabolic and Endocrine Diseases, Tumors of Bone, Metabolic  
and Endocrine Diseases of Bone, Paget's Diseases.

## **19. DISEASES OF THE NERVOUS SYSTEM:**

Diagnostic Methods in Neurology, Coma, Headache, Epilepsy, Diseases of  
Peripheral Nervous System, Diseases of Cranial Nerves, Diseases of Spinal Cord,  
Cerebro vascular Diseases, Traumatic Diseases of brain, Neoplasms, Pyogenic  
Infection of Central Nervous System - Tuberculosis and Viral Infections,  
Multiple Sclerosis, Demyelinating diseases, Metabolic and Nutritional Diseases  
of Brain, Degenerative Diseases of Nervous system, Developmental and other  
Congenital Anomalies of Nervous Systems, Narcolepsy, Migraine, Disease of  
Extrapyramidal System, Muscle Disorders, Disorders of Myoneural Junction.

## **20. PSYCHIATRY:**

Neuroses, Antisocial Personality, Grief, Reactive Depression, Manic depressive  
Psychosis, Involutional Melancholia and Hypochondriacs, Schizophrenic  
Syndromes and related Psychoses.

## **21. ERRORS OF METABOLISM:**

Genetic Disorders of Amino acid Metabolism, Cystinuria, Renal Glycosuria  
Renal Tubular Acidosis, Carcinoid, Syndrome, Gout, Haemochromatosis,

Disorders of Porphyrin Metabolism, Hepatolenticular Degeneration, Disorders of Glycogen Synthesis and Mobilization, Galactosemia, Disorders of Lipid Metabolism, Amyloidosis.

## **22. DISORDERS DUE TO CHEMICAL AND PHYSICAL AGENTS INCLUDING NUCLEAR MEDICINE:**

Common Poisons, Heavy Metals, Alcohol, Opiates and other Synthetic Analgesic Drugs, Barbiturates, Depressants, Stimulants and Psychogenic Drugs, Disorders Caused by Venoms, Bites and Stings, Disorders due to Environment, temperature. Electric Shock, Lightning, Hanging, Disorders due to Alternations in Barometric Pressure Problems of Air and SpaceTravel –Radioactive Isotopes and Radiation injury Electrical Injuries, Immersion Injury and Drowning.

## **23. GERIATRIC MEDICINE:**

Problem of old age and disease, condition peculiar to the aged.

## **24. COMMUNITY MEDICINE:**

Problem of over population, Family Planning Programme, National health programmes

## **25. IATROGENIC DISORDERS:**

Induced by Drug and Other forms of Therapy.

## **26. DISEASES OF THE SKIN:**

Interpretation of alterations in the Skin, Lesions of General Medical significance, Generalized Pruritus, Pigmentatin of the Skin and Disorders of Melanin Metabolism, Photo sensitivity and other Reactions to Light, Hirsutism and Alopecia, Cutaneous Manifestations of Internal Malignancy, Psoriasis, Pemphigus, Scabies and fungal infections of the Skin.

## **27. DISEASES OF CHILDREN:**

Chromosomal Abnormalities, Social paediatrics, Preventive Paediatrics, Child Health in Developing Countries – Neonatal care – Nutritional Requirements and Nutritional Disturbances – Parenteral Fluid Therapy, Vomiting and Diarrhoeal Disorders – Cardiovascular Respiratory Diseases peculiar to children, Tuberculosis in children – Convulsive disorders, Developmental disorders – Psychiatric Disorders in Childhood – Immunodeficiency – Metabolic Disorders – Endocrine Disorders.

## 28. OTHERS

History of Medicine

Occupational hazards

Space medicine including high altitude

Problems in industrial medicine

Organ transplantation

Imaging technique including CT scan and MRI

### 5.3 PRACTICAL

#### **History and examination:**

History taking including psychosocial history, environmental history, physical examination including fundus examination and system examination.

Awareness towards current trends in tropical infectious disease and needs of investigative procedures and current treatment trends.

#### **Bedside procedures**

**Monitoring skills:** Temperature recording, capillary blood sampling, arterial blood sampling, basic life support skills, advanced life support skills and ventilator settings and monitoring.

**Therapeutic skills:** Nasogastric feeding, endotracheal intubation, cardiopulmonary resuscitation, administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, common dressings, abscess drainage and basic principles of rehabilitation.

**Investigative skills:** Lumbar puncture, bone marrow aspiration and biopsy, pleural, peritoneal, pericardial tap, ascitic fluid therapeutic and diagnostic tapping, biopsy of liver and kidney, collection of urine for culture, urethral catheterization, suprapubic aspiration.

**Beside investigations:** Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine routine and microscopic examination, stool microscopy including hanging drop preparation, examination of CSF and other body fluids, Gram stain and ZN stain.

**Interpretation**-X-rays of chest, abdomen, bone and head;  
ECG;  
ABG findings;  
CT/ MRI scan

### **Understanding of**

Common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.

## **4. THEMES AND TOPICS**

### **4.1 COMPONENTS OF THE POSTGRADUATE CURRICULUM:**

The major components of the postgraduate curriculum shall be:

- ❖ Theoretical knowledge
- ❖ Practical and clinical skills
- ❖ Thesis skills
- ❖ Attitudes including communication skills
- ❖ Training in research methodology

### **4.2 TRAINING PROGRAMME**

1. The training is given with due care to the postgraduate students in the recognized institutions for the award of M.D. General Medicine degree shall determine the expertise of the specialist produced as a result of the educational programme during the period of stay in the institution.
2. All students joining the postgraduate training programme shall work as full time residents during the period of training, attending not less than 80% (eighty percent) of the training during each calendar year, and given full time responsibility, assignments and participation in all facets of the educational process.
3.
  - a. Every institution undertaking postgraduate training programme shall set up an academic cell or a curriculum committee, under the chairmanship of a senior faculty member, which shall work out the details of the training programme in each speciality in consultation with other department faculty staff and also coordinate and monitor the implementation of these training programmes.
  - b. The training programmes shall be updated as and when required,

The structured training programme shall be written up and strictly followed, to enable the examiners to determine the training undergone by the students and the Medical Council of India inspectors to assess the same at the time of inspection.

- c. Postgraduate students shall maintain a record (log) book of the work carried out by them and the training programme undergone during the period of training.
4. During the training for Degree to be awarded, there shall be proper training in basic medical sciences related to the disciplines concerned; In all postgraduate training programmes, both clinical and basic medical sciences, emphasis to be laid on preventive and social aspects.
5. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
6. Training in Medical Audit, Management, Health Economics, Health Information System, basics of statistics, exposure to human behaviour studies, knowledge of pharmaco-economics and introduction to non-linear mathematics shall be imparted to the postgraduate students
7. Implementation of the training programmes for the award of various postgraduate degree shall include the following:

**(i) Basic Medical Sciences**

Lectures, Seminars, Journal Clubs, Group Discussions, Participation in laboratory and experimental work, and involvement in research studies in the concerned speciality and exposure to the applied aspects of the subject relevant to clinical specialties.

**(ii) Clinical Disciplines**

Inservice training, with the students being given graded responsibility in the management and treatment of patients entrusted to their care; participation in Seminars, Journal clubs, Group discussions, Clinical Meetings, Grand rounds, and Clinicopathological conferences; practical training in Diagnosis and medical and surgical treatment; training in the Basic Medical Sciences, as well as in allied clinical specialities. **OPD:** History and work up of all cases and presentation to the consultants



This includes all the special clinics

- |                            |   |         |              |
|----------------------------|---|---------|--------------|
| 1. Diabetology clinic      | - | Mon-Fri | - 8 - 10 Am  |
| 2. Hypertension            | - | Wed     | -10 - 12 pm  |
| 3. Hematology clinic       | - | Thurs   | -10 - 12 pm  |
| 4. Hypertension clinic     | - | Wed     | -10 - 12 pm  |
| 5. Cardiology clinic       | - | Mon     | - 10 - 12 pm |
| 6. Nephrology clinic       | - | Tues    | - 10 - 12 pm |
| 7. Endocrinology clinic    | - | Wed     | - 12 - 1 pm  |
| 8. Gastroenterology clinic | - | Fri     | - 10 - 12 pm |
| 9. Neurology clinic        | - | Sat     | -10 - 12 pm  |

Documentation, OPD card and register completion and maintenance

**Indoors:**

Casualty and IMCU Emergency

**Ward:** History and work up of all cases. Daily evening rounds and attending to emergencies whenever need arises.

Preparation of weekly, monthly & annual statistics

**Performing procedures:**

IV cannulation

Lumbar puncture

Bone marrow examination

Pleural tap, peritoneal tap, pericardial tap, central line insertion, renal biopsy, liver biopsy

Examination of all patients and documentation in the files.

Completion of files

Preparation of typed discharge summary

## 5. TEACHING SCHEDULE FOR POST GRADUATES

### 5.1 General Principles

Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training should be skill oriented.

Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are meant to supplement this core effort.

## **5.2. TEACHING SESSIONS**

1. Ward Rounds
2. O.P. & duty on admission days
3. Clinical case discussions: (bedside) – twice weekly
4. Theory classes twice weekly
5. Teaching rounds
6. Seminars/Symposium
7. Journal club
8. Group discussion
9. CME
10. Clinico pathological conference: monthly
11. Basic sciences classes six days in a week for first years
12. Specialty posting for second years
13. Paper / poster presentation in conferences
14. Paper publications in journals
15. Weekly Log book review
16. Weekly & Monthly dissertation review by unit chiefs & HOD respectively
17. Case presentation in weekly academic society meet
18. Statistical meeting: weekly
19. Mortality meeting
20. Medical Education certificate
21. BLS/ALS training

## 6. POSTINGS

### M.D. BRANCH - I TRAINING PROGRAMME

### GENERAL MEDICINE

#### FIRST YEAR

General Medical wards (including Diabetic OP)	- 6months
Dermatology & Venerology	- 15 days
Pulmonary Medicine	- 15 days
Pediatrics	- 15 days
Psychiatry	- 15 days
Endocrinology	- 15 days
Rheumatology	- 15 days
Oncology	-15 days
Radiology including Imaging Techniques	- 15 days
Hematology	- 15 days
Intensive Medical Care unit	- 30 days
Coronary care	- 15 days

**TOTAL : 12 months**

#### SECOND YEAR

Cardiology including	
Coronary Care unit	- 1 month
Nephrology	- 1 month
Neurology	- 1 month
Medical Gastroenterology	- 1 month
Intensive care	- 1 month
General Medical Ward	- 7 months
Total	<b>: 12 months</b>

#### THIRD YEAR

General Medical Wards	- 12 months
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**Note:** The Post-Graduate student should attend the regular outpatient departments of their parent Medical Unit and do the night duties in their parent

unit on every admission days. They should make a record of medical emergencies they have attended in their log books.

### **6.1 MAINTENANCE OF LOG BOOK**

**a)** Every Post-graduate student shall maintain a record of skills he has acquired during the three year training period certified by the various Heads of Department in which he had undergone training.

**b)** The students should also be required to participate in the teaching and training programme of under graduate students and interns

**c)** In addition, the Head of the Department shall involve their post-graduate students in Seminars, symposiums, journal Clubs, group discussions and participation in clinical and clinical-pathological conferences.

**d)** Every Post Graduate student should be encouraged to present short title papers in conferences and to make improvements on it and submit them for publication in reputed medical journals. Motivation by the Heads of Departments is essential in this area to sharpen the research skills of the Post-Graduate students.

**e)** The Head of the Department shall scrutinize the Log Book once in every three months.

**f)** At the end of the course, the student should summarize the contents and get the Log Book certified by the Head of the Department.

**g)** The Log Book should be submitted at the time of practical examination for the scrutiny of the Board of Examiners.

**6.2** It is preferable that a post graduate student during the course to present one poster presentation and /or to present one paper at a national /state conference and /or to present one research paper which can be published/accepted for publication/sent for publication during the period of his/her postgraduate studies.

## 7.THESIS

Every student registered as post graduate shall carry out work on an assigned research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a thesis.

Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the student to the techniques of research, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the theoretical and clinical / practical examination.

The thesis shall be a bound volume of a minimum of 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements, annexure and bibliography.

Thesis should consist of

- (a) Introduction
- (b) Review literature
- (c) Aims and objectives
- (d) Material and methods
- (e) Result
- (f) Discussion
- (g) Summary and conclusion
- (h) Tables
- (i) Annexure
- (j) Bibliography

Four copies of thesis shall be submitted six months prior to the commencement of the theory examinations on the date prescribed by the Controller of Examinations of this University. The thesis should be approved by the Professor of that branch and the same has to be forwarded to the Controller of Examinations, by the head of the department through the Dean of the college.

Two copies in addition are to be submitted as an electronic version of the entire thesis in a standard C.D. format by mentioning the details and technicalities used in the C.D. format.

The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory

and clinical; and on the acceptance of the thesis by two examiners, the student shall be allowed to appear for the final examination.

**EVALUATION OF THESIS :           ACCEPTED / NOT ACCEPTED**

No marks will be given

**8. SCHEME OF EXAMINATION - UNIVERSITY EXAMINATION PATTERN**

**8.1 EXAMINATIONS**

Basic Medical Sciences Examinations shall be conducted along with main papers at the end of 3 academic years. The examinations shall be organized on the basis of grading or marking system to evaluate and certify student's level of knowledge, skill and competence at the end of the training.

**8.2 NUMBER OF STUDENTS**

The maximum number of students to be examined in clinical / practical and oral on any day shall not exceed six for M.D.

**8.3 THEORY**

- (i) There shall be four theory papers
- (ii) Out of these one shall be of Basic Medical Science and one shall be of recent advances

**8.4 CLINICAL / PRACTICAL AND ORAL**

Clinical examination for the subjects in clinical sciences shall be conducted to test the knowledge and competence of the students for undertaking independent work as a specialist / teacher, for which students shall examine a minimum of one long case and three short cases.

The Viva Voce examination shall be thorough and shall aim at assessing the student's knowledge and competence about the subject, investigative procedures, therapeutic technique and recent advances of the speciality which form a part of the examination.

## 8.5 MARK DISTRIBUTION

### M.D. POST -GRADUATE DEGREE CLINICAL EXAMINATION

#### APPLIED BASIC SCIENCES Paper - I

**Time: 3 Hours**

**Maximum: 100 Marks**

- |                             |                           |
|-----------------------------|---------------------------|
| 1. Anatomy, Short Notes     | 3x5 Marks each = 15 Marks |
| 2. Physiology Short Notes   | 4x5 Marks each = 20 Marks |
| 3. Biochemistry Short Notes | 3x5 Marks each = 15 Marks |
| 4. Pharmacology Short Notes | 4x5 Marks each = 20 Marks |
| 5. Pathology Short Notes    | 3x5 Marks each = 15 Marks |
| 6. Microbiology Short Notes | 3x5 Marks each = 15 Marks |

**Total 100 Marks**

<b>Theory</b>	<b>Title</b>	<b>Duration in hours</b>	<b>Maximum Marks</b>
Paper - II	Medicine Including Psychiatry,Respiratory Diseases,Oncology, Neurology & Hematology	3	100
Paper - III	Tropical Medicine, Infections, Nutritional disorders & Cardiovascular diseases	3	100
Paper -IV	Medicine including Children disease, abdomen, Recent advances, poisons, Critical care & Rheumatology	3	100
	<b>Total</b>		----- 400 -----

**Clinical Examination:**

	<b>No. of cases</b>	<b>Duration</b>	<b>Marks</b>
Long Case	One	One Hour	80
Short Cases	Three	45 Mts.	120
			<b>200</b>

**Guidelines for Long Case:**

Long Case – 1 Hour- CNS or Multi System Involvement  
Including detailed case sheet writing.

**Guidelines for Short Cases:**

- 1. General Exam & CVS - 15 Mts.
  - 2. General Exam & R.S. - 15 Mts.
  - 3. General Exam of abdomen - 15 Mts.
- No case sheet writing

The students should be examined in each of the Systems  
(viz) C.N.S, C.V.S, R.S & Abdomen.

**Oral and Practical:**

- 1. Slide
  - 2. Specimen
  - 3. X-Ray and  
C.T. Scans
  - Ultra Sound
  - Echo Cardiograph
  - 4. E.C.G.
- 25marks

- 5. Orals 75 marks

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**100 Marks**

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**Total marks                    300**

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### **MARKS QUALIFYING FOR A PASS**

<b>MARKS QUALIFYING FOR A PASS</b>	<b>MAXIMUM MARKS</b>	<b>QUALIFYING FOR A PASS 50% MARKS</b>
Theory Examination	400	200
Practical Including clinical and Viva voce examination	300	150

A student shall secure not less than 50 % marks in each head of passing, which include 1.Theory 2.Practical including clinical and viva voce examination.

\* “The postgraduate medical students are required to pass theory and practical examinations separately. An examinee should obtain minimum 40% marks in each theory paper and not less than 50% marks cumulatively in all the four papers for Degree examination to be cleared as “Passed” at the said Degree examination”

*\*As per Medical Council of India notification date 03.09.2014 and the same approved in the 28<sup>th</sup> Academic council meet of SRM University held on 23/03/2015.*

## **8.6 EXAMINATION AND EVALUATION**

### **(1)EXAMINERS**

(a) All the Post Graduate Examiners shall be recognized Post Graduate Teachers holding recognized Post Graduate qualifications in the subject concerned.

(b) For all Post Graduate Examinations, the minimum number of Examiners shall be four, out of which at least two (50%) shall be External Examiners, who shall be invited from other recognized universities from outside the state and other two will be internal examiners for M.D.

(C) Under exceptional circumstances, examinations may be held with 3 (three) examiners provided two of them are external and Medical Council of India is intimated the justification of such action prior to published of result for approval. Under no circumstances, result shall be published in such cases without the approval of Medical Council of India.

(d) The guidelines regarding appointment of examiners are as follows:-

1. No person shall be appointed as an examiner in any subject unless he/she fulfills the minimum requirements for recognition as a post graduate teacher as laid down by the Medical Council of India and has teaching experience of 8 (eight) years as a Lecturer / Assistant Professor out of which he has not less than 5 (five) years teaching experience after obtaining Post Graduates degree. For external examiners, he should have minimum three years experience of Examinership for Post Graduate diploma in the concerned subject. Out of internal examiners, one examiner shall be a Professor and Head of the Department or Professor.

2. There shall be at least four examiners in each in each subject at an examination out of which at least 50%( Fifty percent) shall be external examiners. The external examiner who fulfills the condition laid down in clause - 1 above shall ordinarily be invited from another recognized university, from outside the State; provided that in exceptional circumstances examinations may be held with 3(three) examiners if two of them are external and Medical council of India is intimated with the justification of such examination and the result shall be published in such a case with the approval of Medical council of India.

3. An external examiner may be ordinarily been appointed for not more than three years consecutively. Thereafter he may be reappointed after an interval of two years.

4. The internal examiner in a subject shall not accept external examinership for a college from which external examiner is appointed in his subject.

5. The same set of examiners shall ordinarily be responsible for the written, practical or part of examination.

6. There shall be a chairman of the Board of paper-setters who shall be an external examiner and shall moderate the question papers.

7. The Head of the Department of the institution concerned shall ordinarily be one of the internal examiners and second internal examiner shall rotate after every two year.

(2) Number of candidates

The maximum number of candidates to be examined in clinical/ practical and oral on any day shall not exceed six for M.D. degree examination.

3) Number of examinations

The university shall conduct not more than two examinations in a year, for any subject, with an interval of not less than 4 and not more than 6 months between the two examinations.

4) Doctor of Medicine (M.D.) General Medicine

M.D. examination shall consist of Thesis, Theory papers, clinical practical and oral examinations.

(a) Thesis

Every candidate shall carry out work on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis.

Work for writing the thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the theoretical and clinical / practical examination.

The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for theory and clinical exams and on the acceptance of the thesis by two examiners, the candidate shall appear for the final examination.

(b) Theory

- (i) There shall be four theory papers.
- (ii) Out of these one shall be of basic medical sciences and one shall be of recent advances.
- (iii) The theory examinations shall be held sufficiently earlier than the clinical and practical examination, so that the answer books can be assessed and evaluated before the start of the clinical/practical and oral examination.

(c) Clinical /Practical and Oral Examination

- (i) Clinical examination for the subjects in clinical Sciences shall be conducted to test the knowledge and competency of the candidates for undertaking independent work as a specialist /Teacher, for which candidates shall examine a minimum one long case and two short cases.
- (ii) The Oral examination shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic techniques and other aspects of the speciality, which form a part of the examination.

### Evaluation of Answer Scripts

The answer books will be valued by two examiners, one of the two examiners will be from this university and the other will be from any other university. The average of the two marks secured by the candidate will be taken into account. If the difference between two marks exceeds 20%, the answer scripts shall be valued by the third examiner. The average of the nearest two marks shall be concerned as the final mark.

## 8.6 MODEL QUESTION PAPER

### M.D.DEGREE EXAMINATION BRANCH I - GENERAL MEDICINE APPLIED BASIC SCIENCES IN GENERAL MEDICINE

Time: 3 hours

MaximumMarks: 100

#### PART I

Answer All Questions in the same order.

Write notes on

20 x 5 = 100

#### I. ANATOMY

1. Circle of Willis & its importance.
2. Bronchopulmonary segments & its significance.
3. Facial nerve - course & applied Anatomy

#### II. PHYSIOLOGY

4. Conduction system of heart
5. Control of thyroid secretion
6. Urinary bladder control
7. Renal function tests.

#### III. BIOCHEMISTRY

8. Hydrochloric acid secretion in stomach
9. Bile pigment metabolism
10. Vitamin D- New concepts.

#### IV. PHARMACOLOGY

11. Angiotensin receptor blockers- clinical use.
12. Rosuvastatin - indications, mechanism of action, benefits.
13. Azithromycin - Indications, adverse reactions.
14. Newer Anti Diabetic Drugs.

## **V. PATHOLOGY**

15. Acute hepatitis – gross structure & microscopic appearance.
16. Post streptococcal Glomerulonephritis – microscopic appearance.
17. Structural lesions in chronic bronchitis.

## **VI. MICROBIOLOGY**

18. Structure and classification of Dengue virus
19. Lab diagnosis of tuberculosis
20. Microbiological diagnosis of Malaria.

# M.D.GENERAL MEDICINE

## PAPER - II

### MEDICINE INCLUDING PSYCHIATRY, RESPIRATORY SYSTEM, ONCOLOGY, NEUROLOGY & HEMATOLOGY

Time: 3 hours

Maximum marks: 100

Answer All Questions in the same order.

**I. Essay: 2 x20 = 40**

1. Classify different parenchymal Lung, diseases Describe in detail the clinical features and management of interstitial pneumonias.
2. Discuss the approach to a patient presenting with fever and head Ache. Describe the causes, diagnosis and management of bacterial Meningitis.

**II. Write notes on: 10 x 6 = 60**

1. Classify eating disorders. Mention the common characteristic and basic treatment for such disorders.
2. Enumerate the effects of alcohol on central nervous system. Discuss alcohol withdrawal state.
3. Etiology, clinical features of myoclonus.
4. Clinical manifestations and management of megaloblastic anemia.
5. Management of acute myeloid leukemia.
6. Environmental and personal factors of Para suicide.
7. Para neoplastic syndrome.
8. Cystic fibrosis of the lung.
9. Acute severe asthma.
10. Clinical features and management of sickle cell disease.

# M.D.GENERAL MEDICINE

## PAPER - III

### TROPICAL MEDICINE, INFECTIONS, NUTRITIONAL DISORDERS, CARDIOVASCULAR DISEASES

Time 3 hours

Maximum marks: 100

Answer all Questions in the same order.

I. Essay: 2 x 20 = 40

1. Discuss the Viral hemorrhagic fevers.
2. Discuss the clinical features, management of various arrhythmias.

II. Write notes on: 10 X 6 = 60

1. Discuss heat stroke.
2. Enumerate photosensitive dermatosis. Add a note on pellagra.
3. Cytomegalo viral infection.
4. Secondary Hypertension.
5. Dilated cardiomyopathy.
6. Clinical features and management of toxic shock syndrome.
7. Atypical mycobacterial infections.
8. Diagnosis and treatment of kala - azar.
9. Antifungal drugs.
10. Diagnosis and management of leptospirosis.



# M.D.GENERAL MEDICINE

## PAPER - IV

### MEDICINE INCLUDING CHILDREN DISEASES, ABDOMEN, RECENT ADVANCES, POISONS, CRITICAL CARE & RHEUMATOLOGY

Time 3 hours

Maximum marks: 100

Answer all Questions in the same order.

**I. Essay: 2 x 20 = 40**

1. Discuss in detail the etiopathogenesis, clinical features, investigations and management of hepatic encephalopathy.
2. Discuss the etiopathogenesis, clinical features, extra articular manifestation & management of rheumatoid arthritis.

**II. Write notes on: 10 X 6 = 60**

1. Tropical Splenomegaly.
2. Management of systemic lupus erythromatosis (SLE)
3. Pathological changes in osteoarthritis. Note on young onset OA.
4. Irritable bowel syndrome.
5. Classify portal hypertension. Enumerate the causes of extra hepatic portal hypertension.
6. Classify chronic gastritis. Note on treatment H.pylori infection.
7. Management of Hepatitis B infections.
8. Non cirrhotic portal hypertension.
9. Rifaxamin.
10. Management of Acute Pancreatitis.

## **9.RECOMMENDED LIST OF BOOKS AND JOURNALS**

### **9.1 TEXT BOOKS (Latest Edition)**

1. Harrison's Principles of Internal Medicine – Dennis Kasper et al. Volume No. 1&2, 19<sup>th</sup> Edition McGraw Hill, 2015.
2. Cecil-Text Book of Medicine – Lee Goldman. Volume 1 &2 24<sup>th</sup> Edition Saunders, 2012.
3. Oxford Text Book of Medicine – David Warrell et al. Volume 1 & 2, 5<sup>th</sup> Edition Oxford, 2010.
4. Davidson's Principles & Practice of Medicine – Brain Walker et al. 22<sup>nd</sup> Edition Churchill Livingstone, 2014.
5. A.P.I. Text Book of Medicine – Yash Pal Munjan et al. 2 vol. 10<sup>th</sup> Edition API, India, 2015.
6. Brain's Diseases of the Nervous System-Michael Donaghy. 12<sup>th</sup> Edition Oxford, 2009.
7. Crofton and Douglas's Respiratory Diseases – Anthony Seaton. 2 volume 5<sup>th</sup> Edition Wiley Black Well, 2008.
8. Braunwald's Heart Disease: A Text Book of Cardio Vascular Medicine-Douglas. L. Mann et al. 10<sup>th</sup> Edition Elsevier, 2015.
9. Brenner & Rector's The Kidney, Marten W. Tel et al. 9<sup>th</sup> Edition Saunders, 2012.
10. De Cruchy's – Clinical Hematology in Medical Practice – Firkin Frank. 5<sup>th</sup> Edition Black Well, 2006.
11. Sherlock Diseases of the Liver and Biliary System – James.S. Dodey. 12<sup>th</sup> Edition, Wiley Black Well, 2011.
12. Perloff's Clinical Recognition of Congenital Heart Disease. – Joseph.K Perloff 6<sup>th</sup> Edition Elsevier, 2012.
13. Current Medical Diagnosis and Treatment, Mazine Papedakis et al. McGraw Hill, 2015.

## **9.2 LIST OF CLINICAL TEXT BOOKS:-**

1. Hutchison's Clinical Methods – Michael Glynn / William M. Drake. 23<sup>rd</sup> Edition Saunders, 2012.
2. Macleod's Clinical Examination – Graham Douglas et al. 13<sup>th</sup> Edition Churchill Livingstone, 2013.
3. Chamberlain's & Symptoms & Signs in clinical medicine: an introduction to medical diagnosis, Andrew R Houghton & David Gray, 13<sup>th</sup> Edition, CRC press, 2010.
4. Neurological Differential Diagnosis by John Pattern. 2<sup>nd</sup> Edition Springer, 2005.
5. De Jong's the Neurologic Examination – William W Campbell. 7<sup>th</sup> Edition Lippincott, 2012.
6. Bicker staff's Neurological Examination in clinical practice, Kameshwar Prasad et al. 7<sup>th</sup> Edition adapted, Wiley, 2013.
7. Localisation in Clinical Neurology – Paul W. Braziz et al. 6<sup>th</sup> Edition Lippincott, 2011.
8. Leo Schamroth – ECG. 7<sup>th</sup> Edition Black Well, 2007.
9. Washington Manual of Medical Therapeutics – Hemant Godara. 34<sup>th</sup> Edition Lippincott, 2013.
10. Manual of Cardiovascular Medicine – Brian P. Griffin. 4<sup>th</sup> Edition Lippincott, 2012.

## **9.3 REFERENCE TEXT BOOKS:**

1. Adams and Victor's Principal of Neurology, Allan Ropper et al. 10<sup>th</sup> Edition, MGH, 2014.
2. Murray and Nadel's TB of preparatory medicine, Robert J Mason. 5<sup>th</sup> Edition 2 Vol. Saunders, 2010
3. Crofton & Douglas's Respiratory Diseases – Anthony Seaton. 2volume 5<sup>th</sup> Edition, Wiley, 2002.
4. Hurst's the Heart – Robert Harrington. 13<sup>th</sup> Edition 2volume. MGH, 2011.
5. The Kidney – Brenner & Rector. 2volume 8<sup>th</sup> Edition Saunders, 2008.
6. Wintrobe's Clinical Hematology – John.P. Greer et al. 13<sup>th</sup> Edition Lippincott, 2013.

7. Williams TB of Endocrinology, Shlomo Melmed et al. 12<sup>th</sup> Edition Saunders, 2012.
8. Devita, Hellman and Rosenberg's Cancer: Principles & Practice of oncology, Vincent T.Devita et al. 10<sup>th</sup> Edition, Lippincott, 2014
9. Bradley's Neurology in clinical practice -Robert.B.Daroff et al. 2volume 6<sup>th</sup> Edition, Saunders, 2012.

#### **9.4 JOURNALS:**

1. NEJM
2. North American Clinics
3. JAMA
4. I.J.C.P.
5. J.A.P.I
6. B.M.J.
7. British Journal of Clinical Practices.
8. The Lancet.
9. Mayo Clinic Proceedings.
10. Post-Graduate Medicine.
11. Annals of Internal Medicine
12. Indian journal of Tropical Medicine
13. Neurology India

*Success is the realization of the estimate you place upon yourself*  
- *Albert Hebert*