

***Residency Program
Doctor of Medicine (MD)
Curriculum (Phase-B)***

Internal Medicine



**Bangabandhu Sheikh Mujib Medical University
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Contents

| | | |
|-----|--|----|
| 01. | Introduction | 03 |
| 02. | Goals and Objectives | 05 |
| 03. | Admission requirement for Phase-B training | 06 |
| 04. | Content (Syllabus) Outline: Detail in section 11 | 06 |
| 05. | Teaching and Learning Methods | 07 |
| 06. | Record of Training | 08 |
| 07. | Research | 09 |
| 08. | Assessment | 09 |
| 09. | Supervision and Training Monitoring | 14 |
| 10. | Curriculum Implementation, Review and Updating | 15 |
| 11. | Detailed Content of Learning (The Syllabus) | 16 |
| 12. | Annexure 1-4 | 25 |

1. Introduction:

1.1. Overview of the Specialty

Internal Medicine is the medical specialty dealing with the prevention, diagnosis, and treatment of adult diseases with the skill of managing patients with undifferentiated or multi-system disorders. The term *internal medicine* comes from the German term *Innere Medizin*, popularized in Germany in the late 19th century to describe physicians who combined the science of the laboratory with the care of patients. But today this term has been used in all over the world. It is the parent specialty from which other subspecialties ramifies; therefore an internist needs to gain the capacity to explore the diversity of knowledge covering most of the general principles in the field of medicine. He should be equipped with every advancement in his field in a background of evidence-based medicine. Sometimes an internist is called a Generalist, but the term Family Physician or General Practitioner (GP) doesn't imply here as these people are also involved in treating patients with gynecology, surgery or whatever outpatient attends them.

Students attending specialty training in internal medicine has to attend the emergency and critically ill patients and spend a big deal of time in the hospital. So they have to be competent in treating acute illness. As most of these cases are undifferentiated, a great diagnostic difficulty arises and needs to be solved with prompt and judicious intervention. So an internist needs to be a great clinician as well as excellent interpreter of lab and imaging investigation reports.

This field has the greatest opportunity for research oriented works. The big bulk of patients attended by the physicians and diversity of illness make it a proper platform for research and clinical trials. So an internist needs to acquire the adequate

level of skill in biostatistics and public health informatics accordingly.

An internist also works as hospital based specialist and need to integrate their work with all other sub-specialties as per need. This harmonious path of managing patient with proper referral and help from other colleagues serves best for the patient and saves lives as well as supports the economy of the health system. People in resource constrain country like ours can best be served by the internists. The BSMMU Residency Program in Internal Medicine is aimed at to produce internists competent enough to give comprehensive care to the patients suffering from medical disorders home and abroad.

1.2. Program Overview

Internal Medicine Residency Program

Residents will undertake a three year intensive Phase B training after completion of Phase A training in order to achieve the levels of knowledge, skills and expertise required for clinical practice in the field of Internal Medicine. It is a competency-based program emphasizing on meaningful integration and contextualization. The two years phase A training program is designed to introduce and develop the broad range of core knowledge, skills, attitudes and behaviors required to become a competent physician. The knowledge and skills acquired during Phase A training are further focused and refined during Phase B training, which is a 3 year specialty-specific training in Internal Medicine.

The teaching, learning and assessment of the curriculum are facilitated by the provision of comprehensive, educationally oriented supervision and support, which is provided to all trainees across both the phases of the program.

2. Goals and Objectives:

2.1. Overall Goals:

- To prepare Internists who would be able to meet and respond to the changing healthcare needs and expectation of the society.
- To develop Internists who posses knowledge, skills and attitudes that will ensure that they are competent to practice medicine, safely and effectively.
- To ensure that they have appropriate foundation for lifelong learning and further training in their specialty.
- To enrich them with the knowledge of research oriented works.
- To help them develop to be critical thinkers and problem solvers when managing health problems in the community they serve.
- To guide them how to practice evidence-based medicine in their day to day patient management

2.2. Learning Objectives:

The educational and training process aims to produce internists who

- Can address all aspects of the healthcare needs of patients and their families
- Maintain the highest standards appropriate in their professional field
- Are aware of current thinking about ethical and legal issues
- Are able to act as safe independent practitioners whilst recognizing the limitation of their own expertise and are able to recognize their obligation to seek assistance of colleagues where appropriate
- Are aware of the procedures, and able to take appropriate action, when things go wrong, both in their own practice and in that of others

- Will be honest and objective when assessing the performance of those they have supervised and trained
- Can take advantage of information technology to enhance all aspects of patient care
- Can develop management plans for the "Whole patient" and maintain knowledge in other areas of medicine
- Understand that more effective communication between them and their patients can lead to more effective treatment and care
- Apply appropriate knowledge and skill in the diagnosis and management of patients.
- Establish a differential diagnosis for patients presenting with medical problems by the appropriate use of the clinical history, examination and investigations
- Are competent to perform the core investigations and procedures required for his patient
- Develop clinical practice which is based on an analysis of relevant clinical trials and to have an understanding of the research methodologies
- Are able to apply the knowledge of biological and behavioral sciences in clinical practice
- Are able to identify and take responsibility for their own educational needs and the attainment of these needs
- Have developed the skills for becoming an effective teacher

3. Admission Requirements for Phase B Training:

- Residents who has successfully completed Phase A training and passed Phase A Final Examination in Medicine and Allied are eligible for enrolment in the Phase B Program

4. Content (Syllabus) Outline: Detail content in section 11:

The Resident shall undergo through active and integrated learning process to acquire intended learning outcomes that

have been set to achieve the program objectives covering the domains of knowledge, skills and attitude demonstrated through behavior. In-depth specialty-specific educational and training program in this phase will make the resident competent and prepare them for the specialty qualification.

4.1 Educational Program: (Academic Module)

4.1.1. Applied Basic Medical Sciences

4.1.2. Basic Courses on:

- Research Methodology
- Medical Education (Basic Course)

4.2. Training Program: Block Rotations:

Internal Medicine advanced training comprises rotations in:

- | | |
|---|-------------|
| i) Internal Medicine including In- patients, and out-patients | - 30 months |
| ii) Emergency Medicine | - 1 month |
| iii) ICU | - 2 months |

5. Teaching and Learning Methods:

The bulk of learning occurs as a result of clinical experiences (experiential learning, on-the-job learning) and self-directed study. The degree of self-directed learning will increase as trainees became more experienced. Teaching and learning occurs using several methods that range from formal didactic lectures to planned clinical experiences. Aspects covered will include knowledge, skills and practices relevant to all fields of Medicine in order to achieve specific learning outcomes and competencies. The theoretical part of the curriculum presents the current body of knowledge necessary for practice of medicine. This can be imparted using lectures, grand teaching rounds, clinico-pathological meetings, morbidity/mortality review meetings, journal clubs, literature reviews, conferences, seminars and self-directed learning.

6. Record of Training:

The evidences require confirming progress through training include:

- Details of the training rotations, the training plan agreed with weekly timetables and duty rosters; and numbers of practical procedures and outcomes
- Confirmations of attendance at events in the educational program, at departmental and inter-departmental meetings and other educational events
- Confirmation (certificates) of attendance at subject-based/skills-training/instructional courses
- Recorded attendance at conference, seminars and meetings
- A properly completed **logbook** with entries capable of testifying to the training objectives which have been attained and the standard of performance achieved
- CME activities
- Supervisor's reports on observed performance (in the workplace): of duties, practical procedures, of presentations made and teaching activity: of advising and working with others, of standards of case notes, correspondence and communication with others.

6.1. Logbook:

Residents are required to maintain a logbook in which entries of academic/professional work done during the period of training should be made on a daily basis, and signed by the supervisor. Completed and duly certified logbook will form a part of the application for appearing in Phase B Final Examination.

7. Research:

Development of research competencies forms an important part of the Residency program curriculum as they are an essential set of skills for effective clinical practice. Undertaking research helps to develop critical thinking and the ability to review medical literature. Every resident shall carry out work on an assigned research project under the guidance of a recognized supervisor; the project shall be written and submitted in the form of a Thesis.

8. Assessment:

The assessment for certification of the MD degree of the University is comprehensive, integrated and phase-centered attempting to identify attributes expected of specialists for independent practice and lifelong learning and covers cognitive, psychomotor and affective domains. It keeps strict reference to the components, the contents, the competencies and the criteria laid down in the curriculum. Assessment includes both **Formative Assessment and Summative (Phase final) Examinations.**

8.1. Formative Assessment:

Formative assessment will be conducted throughout the training phases. It will be carried out for tracking the progress of residents, providing feedback, and preparing them for final assessment (Phase completion exams).

There will be Continuous (day-to-day) and Periodic type of formative assessment.

- **Continuous (day-to-day) formative assessment** in classroom and workplace settings provides guide to a resident's learning and a faculty's teaching / learning strategies to ensure formative lesson / training outcomes.

- **Periodic formative assessment** is quasi-formal and is directed to assessing the outcome of a **block placement** or **academic module completion**. It is held at the end of Block Placement and Academic Module Completion. The contents of such examinations include **Block Units** of the Training Curriculum and **Academic Module Units** of the Academic Curriculum.

8.1.1 End of Block Assessment (EBA):

End of Block Assessment (EBA) is a periodic formative assessment and is undertaken after completion of each training block, assessing knowledge, skills and attitude of the residents. Components of EBA are written examination, Structured clinical Assessment (SCA), medical record review, and logbook assessment. Unsatisfactory block training must be satisfactorily completed by undergoing further training for the block to be eligible for appearing in the next phase complete examination.

8.1.2 Formative assessment for Academic modules for Biostatistics and Research Methodology and Medical Education is done in the first nine months of Phase B training. Residents getting unsatisfactory grade must achieve satisfactory grade by appearing the re-evaluation examination before sitting for the Phase B Final Examination for certification.

8.2. Summative Examination:

Assessment will done in two broad compartments.

- a) **Compartment A:** Consist of 3 (three) components.
1. Written Examination (Consisting of 2 papers).

2. Clinical Examination (One long and four short cases).
3. SCA and Oral (10 stations SCA, Oral one board consisting of 2 examiners).

Every Resident must pass all the 3 components of compartment-A separately. Candidates will be declared failed if he/she fails in one or more component of the examination. He/she then have to appear all the 3 components in the next Phase Final Examination.

- b) **Compartment B:** Thesis and Thesis defense.

8.2.1. Written Examination:

Two Papers: Contents of written papers listed in Annexure 2

5.1.1. Question type and marks:

- Two Papers (Paper I and Paper II); 100 marks each; Time 3 hrs for each paper. Pass marks-60% or total of 2 papers.
- **Each paper will consist of Two Groups:**
- **Group A:**
 - 10 short questions (5 marks each)
 - These will assess the knowledge of different level and its application
- **Group B:**
 - 5 scenario based problem solving questions (10 marks for each).
 - The questions should focus to assess the capability of handling clinical problem independently and comprehensively as a specialist.
 - Suggested format:-
 - A scenario followed by question(s).
 - Questions may include diagnosis, differential diagnosis, investigation plan, treatment, follow up and patient education.

8.2.2. Clinical Examination: Long case and Short cases:

- There will be one long case and four short cases.
- i) **Long case: Marks-100**
 - Directly observed
 - Two examiners for each examinee.
 - History taking and examination by the examinee – 30min.
 - Discussion on the case 20 min.(Presentation 6min, Crossing 6x2min and Decision 2min).
 - Examiners will not ask any question nor stop the examinee in any way during history taking and physical examinations.
 - Discussion should be done as per structured format and proper weightage on different segments of clinical skills.
- ii) **Short cases : Marks-100**
 - Four in number
 - Time 20-30 min. (Time will be equally divided for each short case))
 - Crossing should be done with proper weightage on different segment of clinical skills.
- iii) **Pass marks: 60% of total of Long and Short Cases**

8.2.3. Structured Clinical Assessment (SCA): Marks-100

- 10 stations : 5 min each

8.2.4. Oral Examination: Marks-100

- One board consisting of 2 examiners.
- 20 minutes (9+9+2).

8.2.5. Pass marks in SCA and Oral: 60% of total (SCA and Oral.)**8.3 Thesis Evaluation:**

- **Marks: Thesis writing-200; Defense-100: Marks for acceptance-60% of total.**
- To be evaluated by 3 (three) evaluators:- 2 subject specialist and one academician involve in research and teaching research methodology.
- Among the subject specialists one should be external.
- Evaluators shall be in the rank of Professor/Assoc. Professor.
- Supervisor will attend the defense as an observer and may interact only when requested by the evaluators.
- Thesis must be submitted to the controller of Exam not later than 27 months of enrolment in Phase-B.
- Thesis must be sent to the evaluators 2 (Two) weeks prior to assessment date.
- Evaluation will cover Thesis writing and its defense.
- For thesis writing evaluator will mark on its structure, content, flow, scientific value, cohesion, etc.
- For defense – Candidate is expected to defend, justify and relate the work and its findings.
- Assessment must be completed in next 3 months.
- Outcome of the assessment shall be in 4 categories – “Accepted”, “Accepted with minor correction”, “Accepted with major correction” and “Not Accepted”.

8.3.1. Description of terms:

- **Accepted:** Assessors will sign the document and resident will bound it and submit to the Examination Department by 10 days of the examination.
- **Accepted with minor correction:** Minor correction shall include small inclusion/exclusion of section; identified missing references, correction of references and typographical and language problem. This should be corrected and submitted within 2 weeks.

- **Accepted with major correction:** Task is completed as per protocol with acceptable method but some re-analysis of result and corresponding discussion are to be modified.
 - To be corrected, confirmed by Supervisor and submit within 3 (Three) weeks.
- **Not Accepted:** When work is not done as per protocol or method was faulty or require further inclusion or confirmation of study.
 - To complete the suggested deficiencies and reappear in defense examination during its next Phase Final Examination.
 - Candidate has to submit his/her thesis and sit for examination and pay usual examination fess for the examination.

8.3.2. Residents must submit and appear Thesis defense at notified date and time. However nor- acceptance of the Thesis does not bar the resident in appearing the written, clinical and oral exam.

8.4. Qualifying for MD/MS Degree:

On passing both the compartments, the candidate will be conferred the degree of MD in Internal Medicine. If any candidate fails in one compartment he/she will appear in that compartment only in the subsequent Phase-B exam.

9. Supervision and Training Monitoring:

Training should incorporate the principle of gradually increasing responsibility, and provide each trainee with a sufficient scope, volume and variety of experiences in a range of settings that include inpatients, outpatients, emergency and intensive care. All elements of work in training rotation must be

supervised with the level of supervision varying depending on the experience of the trainee and the clinical exposure. Outpatient and referral supervision must routinely include the opportunity to personally discuss all cases. As training progresses the trainee should have the opportunity for increasing autonomy, consistent with safe and effective care for the patient. Trainees will at all times have a named Supervisor, responsible for overseeing their education.

Supervisors are responsible for supervision of learning throughout the program to ensure patient and / or laboratory safety, service delivery as well as the progress of the resident with learning and performance. They set the lesson plans based on the curriculum, undertake appraisal, review progress against the curriculum, give feedback on both formative and summative assessments as well as sign the logbook. The residents are made aware of their limitations and are encouraged to seek advice from the supervisor and receive help at all times.

The Course Coordinator of each department coordinates all training and academic activities of the program in collaboration with the **Course Manager**. The **Course Director** of each faculty directs, guides and manages curricular activities under his / her jurisdiction and is the person to be reported to for all events and performances of the residents and the supervisors.

10. Curriculum Implementation, Review and Updating:

Both Supervisors and Residents are expected to have a good knowledge of the curriculum and should use it as a guide for their training program. It can be changed with up gradation to meet the future changes in trend of disease and treatment modalities.

Residents and Supervisors are encouraged to discuss the curriculum and to give feedback on content and issue

regarding implementation to Residency Course Director. Review will be time tabled to occur annually for any minor changes to the curriculum. The curriculum development is a continuous process, will be reviewed and updated from time to time with the input from the various corners.

11. Detailed Content of Learning (The syllabus):

The educational process in Internal Medicine is aimed at to produce internists competent enough to give comprehensive care to the patients suffering from medical disorders both acute and chronic. The specialists in this field will be capable of (i) acquiring knowledge [of common medical conditions, emergency, and rehabilitations], and (ii) acquiring skills [diagnostic, clinical and decision making] and (iii) developing attitude [caring, learning & ethical]. The program also aims to introduce the candidate to the basics of scientific medical research and to be lifelong learner.

A. APPLIED BASIC MEDICAL SCIENCES

1. Explain physiological and anatomical aspects of various medical disorders
2. Explain biochemical disorders related to medical diseases
3. Apply clinical skills to diagnose and manage medical conditions
4. Use of laboratory medicine, radiology and imaging for diagnosis of patients

B. DISEASES AND PRESENTATIONS

I. Environmental issues in diseases

1. Assess major health hazards out of environmental pollution and manage those patients
2. Assess effects of extreme of temperature and manage those effects

II. Nutrition and diseases

1. Assess nutritional status of patients

2. Assess and treat under and over nutrition
3. Assess enteral and parenteral feeding

III. At risk individuals and groups

1. Assess and manage problems related to aging
2. Assess and manage medical conditions in patients who are pregnant, post partum period or planning for pregnancy

IV. Critical care

1. Assess and manage critically ill patients
2. Assess and treat cardiovascular, neurological, metabolic and other complications of critically ill patients
3. Assess and manage infection in critically ill patient

V. Poisoning and snake bite

1. Assess and manage patients presenting with unknown poisoning including commuter poisoning
2. Assess and treat OPC and related poisoning
3. Assess and treat sedative, hypnotic and antipsychotic drugs overdose
4. Assess and treat corrosive poisoning
5. Assess and manage snake bite and sting bites
6. Assess and treat puffer fish and other marine poisoning

VI. Infection and Tropical diseases

- Assess and manage various bacterial, viral, protozoan and fungal diseases affecting body system
- Assess and treat emerging and re-emerging infectious diseases
- Assess and treat neglected tropical diseases
- Assess and treat infections in the immunocompromised host

VII. Cardiovascular disease

- Assess and treat patients with hypertension
- Assess and treat patients with pulmonary hypertension

- Assess and treat patients with stable angina
- Assess and treat patients with acute coronary syndrome
- Assess and treat patients with acute heart failure
- Assess and treat patients with chronic heart failure
- Assess and treat patients with cardiac murmurs and valvular heart diseases
- Assess and treat patients with arrhythmias
- Assess and treat patients with, or at risk from, endocarditis
- Assess and treat patients with cardiomyopathies and myocarditis
- Assess and treat patients with peripheral vascular diseases including DVT
- Assess and treat patients with pericardial diseases
- Assess and manage patients with congenital and inherited heart diseases
- Assess and treat patients with systemic vascular diseases including diseases of aorta
- Assess and treat patients with lipid abnormalities

VIII. Respiratory diseases

1. Assess and treat bronchial asthma
2. Assess and treat COPD
3. Assess and treat Pneumonia
4. Assess and treat suppurative lung diseases
5. Assess and treat Pulmonary and extra pulmonary Tuberculosis
6. Assess and treat sleep disorders
7. Assess and manage respiratory failures and ARDS
8. Assess and manage diffuse parenchymal lung diseases
9. Assess and treat patients with pleural and mediastinal diseases
10. Assess and manage patients with lung tumors

IX. Neurological diseases

- a) Assess and treat patients with seizures
- b) Assess and manage patients with peripheral neuropathy
- c) Assess and manage patients with cranial nerve disorders
- d) Assess and treat patients with cerebro vascular diseases
- e) Assess and treat patients with motor neuron disease
- f) Assess and manage patients with spinal cord diseases
- g) Assess and manage patients with multiple sclerosis
- h) Assess and manage patients with CNS infection e.g., meningitis, encephalitis etc
- i) Assess and manage patients with Myasthenia gravis
- j) Assess and manage patients with Parkinson's diseases and complications out of treatment
- k) Assess and manage patients with dementia including Alzheimer's disease
- l) Assess and manage patients with paraplegia
- m) Assess and manage patients with muscle diseases

X. Renal diseases

1. Assess and manage patients with acute renal failure and AKI
2. Assess and manage patients with chronic renal failure and CKD
3. Assess and manage patients with urinary tract infections
4. Assess and manage patients with glomerular disease
5. Assess and manage patients with tubule-intestinal disease
6. Assess and manage patients with renovascular disease
7. Assess and manage patients with prostatic disease
8. Assess and manage patients with urinary incontinence
9. Assess and manage patients with cystic disease of the kidneys
10. Assessing scope of renal replacement therapy in an individual patient

XI. Gastrointestinal diseases

1. Assess and manage patients with diseases of oral cavity
2. Assess and manage patients with dysphasia

3. Assess and manage patients with diseases of stomach and duodenum
4. Assess and manage patients with diseases of small intestine
5. Assess and manage patients with diseases of colon and rectum
6. Assess and manage patients with diseases of pancreas
7. Assess and manage patients with inflammatory bowel diseases
8. Assess and manage patients with irritable bowel syndrome

XII. Hepatobiliary disease

1. Assess and manage patients with chronic liver diseases including cirrhosis of liver
2. Assess and manage patients with acute hepatitis
3. Assess and manage patients with acute fulminate hepatic failure
4. Assess and manage patients with non-alcoholic fatty liver disease
5. Assess and manage patients with liver abscess
6. Assess and manage patients with diseases of gall bladder and biliary tract
7. Assess and manage patients with tumors of liver
8. Assessing patients who need liver transplantation

XIII. Diabetes mellitus and other endocrine disorders

1. Assess and manage patients with diabetes mellitus and its complications
2. Assess and manage patients with thyroid disorders
3. Assess and manage patients with parathyroid disorders
4. Assess and manage patients with diseases of adrenal glands
5. Assess and manage patients with involvement of multiple endocrine glands

6. Assess and manage patients with diseases of the pituitary gland
7. Assess and manage patients with metabolic syndrome

XIV. Hematological diseases

1. Assess and manage patients with anemia
2. Assess and manage patients with pancytopenia
3. Assess and manage patients with acute and chronic leukemias
4. Assess and manage patients with myeloproliferative disorders
5. Assess and manage patients with myelodysplastic syndrome
6. Assess and manage patients with hemoglobinopathies
7. Assess and manage patients with multiple myeloma and other gammopathies
8. Assess and manage patients with lymphoid malignancies
9. Assess and manage patients with bleeding and coagulation disorders
10. Assess and manage patients with red blood cell disorders

XV. Rheumatic diseases

1. Assess and manage patients with Rheumatoid arthritis
2. Assess and manage patients with Spondyloarthropathies
3. Assess and manage patients with SLE
4. Assess and manage patients with osteoarthritis
5. Assess and manage patients with gout
6. Assess and manage patients with sarcoidosis
7. Assess and manage patients with vasculitis

XVI. Medical psychiatry

1. Assess and manage patients with stress disorders
2. Assess and manage patients with anxiety disorders
3. Assess and manage patients with depression

4. Assess and manage patients with schizophrenia
5. Assess and manage patients with eating disorders
6. Assess and manage patients with substance abuse

XVII. Diseases of skin and appendages

1. Assess and manage patients with rash
2. Assess and manage patients with urticaria and itching
3. Assess and manage patients with eczema
4. Assess and manage patients with psoriasis
5. Assess and manage patients with bulous lesions
6. Assess and manage patients with hyper and hypopigmentation

XVIII. Medical oncology

1. Assessment of a cancer patient
2. General management principles of cancer patients
3. Specific treatment modalities of cancer: radiotherapy, chemotherapy, hormone, biologics & surgery
4. Novel and targeted therapies

XIX. Palliative care

1. Assess and manage patients who needs palliative care
2. Assess and manage patients with pain and other symptoms in advanced diseases
3. End of life care issues

XX. Transfusion Medicine

- Blood products
- Safe transfusion procedures
- Adverse effects of transfusion

XXI. Genetic and chromosomal disorders

C. PRACTICAL PERFORMANCE, PROCEDURES AND INVESTIGATIONS

1. Longitudinal case studies (Annexure-3) :
Assess, follow up and manage patients with chronic illness
2. Insulin technique :
Perform the technique of Insulin administration
3. Splenic puncture :
Perform splenic aspiration for diagnosis of Kala-azar
4. Lumbar puncture :
Perform Lumbar puncture for diagnosis and management of meningitis and related disorders
5. Pleural fluid aspiration :
Perform Pleural fluid aspiration for evaluation and management of pleural effusion including pleurodesis
6. Abdominal paracentesis :
Perform abdominal paracentesis for evaluation and management of ascites
7. Bone marrow aspiration :
Perform Bone marrow aspiration for the evaluation of hematological and related disorders
8. Chest tube insertion :
Perform chest tube insertion for the drainage of pleural fluid
9. Needle aspiration of Pneumothorax :
Perform needle aspiration for the management of Pneumothorax
10. Joint fluid aspiration & I/A injection :
Perform aspiration of joint for collection of synovial fluid for diagnosis, treatment and intra articular injection
11. Endotracheal intubation :
Perform endotracheal intubation for the management of critically ill patient

12. Arterial puncture :
Perform arterial puncture for collection of blood and interpret ABG report
13. Central venous line insertion :
Perform Central venous line insertion
14. FNAC :
Perform FNA in thyroid nodule and other solid masses
15. Spirometry :
Perform and interpret Spirometry
16. Radio imaging and nuclear imaging :
Interpret X-rays, Ultrasonography, CT, and MRI done for various medical conditions, RAIU tests etc
17. Electrocardiography (ECG) :
Interpret ECG
18. Exercise testing :
Select patients for ETT and interpret
19. EMG/NCV study /EEG: Interpret :
20. Bone mineral densitometry (BMD) and FRAX :
Interpret BMD and calculate FRAX

Annexure 1: Block Rotations

| Block 1 | | | | | | | |
|----------------------------|---|-----|-----|-----|-----|-----|------------------|
| Months | 1st | 2nd | 3rd | 4th | 5th | 6th | |
| Academic activities | Research methodology, Medical statistics and Medical education Therapeutics and good prescribing, Laboratory Medicine, Environmental Issues in Disease, Nutrition & disease, Elderly Care Medicine, Medical consultation | | | | | | E O B A |
| Training Rotations | Internal Medicine | | | | | | |
| Progression of Thesis Work | Protocol development/Submission/IRB clearance | | | | | | |

| Block 2 | | | | | | | |
|----------------------------|--|----------|-------------------|-----------------|------|------|------------------|
| Months | 7th | 8th | 9th | 10th | 11th | 12th | |
| Academic activities | Cardiovascular diseases, Respiratory diseases, Neurologic diseases | | | | | | E O B A |
| Training Rotations | Emergency | Medicine | Internal Medicine | | | | |
| Progression of Thesis Work | Protocol development/Submission/IRB clearance | | | Data Collection | | | |

| Block 3 | | | | | | | |
|----------------------------|---|------|------|------|------|------|------------------|
| Months | 13th | 14th | 15th | 16th | 17th | 18th | |
| Academic activities | Endocrine diseases & Diabetes mellitus, Gastrointestinal diseases, Hepatobiliary diseases, Hematologic diseases, Medical Psychiatry, Genetic & chromosomal disorders, Miscellaneous | | | | | | E O B A |
| Training Rotations | Internal Medicine | | | | | | |
| Progression of Thesis Work | Data collection | | | | | | |

| Block 4 | | | | | | | |
|----------------------------|---|------|------|------|------|------|------------------|
| Months | 19th | 20th | 21st | 22nd | 23rd | 24th | |
| Academic activities | Rheumatic diseases, Renal diseases, Diseases of Skin & appendages | | | | | | E O B A |
| Training Rotations | Internal Medicine | | | | | | |
| Progression of Thesis Work | Data collection | | | | | | |

| Block 5 | | | | | | | |
|-----------------------------------|--|------|-------------------|------------------|------|------|------------------|
| Months | 25th | 26th | 27th | 28th | 29th | 30th | |
| Academic activities | Critical care, Poisoning and Snake bite, Medical Oncology, Palliative Care, Infectious & Tropical diseases | | | | | | E O B A |
| Training Rotations | ICU | | Internal Medicine | | | | |
| Progression of Thesis Work | Data analysis and thesis writing and submission of the thesis | | | Thesis Evolution | | | |

| Block 6 | | | | | | |
|-----------------------------------|---|------|------------------|--|------|------|
| Months | 31st | 32nd | 33rd | 34th | 35th | 36th |
| Academic activities | Endocrine disease and PM & Obstetric Metabolism | | E O B A | Eligibility Assessment and Phase B Final Examination | | |
| Training Rotations | Internal Medicine | | | | | |
| Progression of Thesis Work | | | | | | |

Annexure 2:**Contents of Paper I**

Therapeutics and good prescribing
 Laboratory Medicine
 Environmental Issues in Diseases
 Nutrition & diseases
 Genetic & chromosomal disorders
 Elderly Care Medicine
 Medical consultation
 Cardiovascular diseases
 Respiratory diseases
 Infectious diseases
 Hematological disorders
 Medical Oncology

Contents of Paper II

Neurologic diseases
 Endocrine diseases & Diabetes mellitus
 Gastrointestinal diseases
 Hepatobiliary diseases
 Rheumatic diseases
 Renal diseases
 Diseases of Skin & appendages
 Critical care
 Poisoning and Snake bite
 Palliative Care
 Obstetric Medicine
 Medical Psychiatry

Annexure 3:

List of diseases that can be selected for "Longitudinal study"

| | |
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| Cardiology 1. Acute pulmonary edema 2. Chronic heart failure 3. Atrial fibrillation 4. Hypertension 5. Stable and unstable angina 6. Valvular heart disease 7. Rheumatic fever 8. Infective endocarditis | Endocrinology 1. Cushing syndrome 2. Adrenal insufficiency 3. Hyperthyroidism 4. Hypothyroidism 5. Hypo and hypercalcaemia 6. Osteoporosis 7. Hypopituitarism 8. Hyper/hypoparathyroidism 9. Diabetes mellitus |
| Neurology 1. Peripheral neuropathy including CIDP 2. Stroke 3. Paraplegia 4. Parkinsonism 5. Rediculopathy | Infectious disease 1. Pyrexia of unknown origin 2. HIV & AIDS 3. Tuberculosis 4. Kala-azar 5. Leprosy |
| Rheumatology 1. Spondyloarthropathy 2. Rheumatoid arthritis 3. SLE 4. Dermatomyositis/polymyositis 5. MCTD/overlap syndromes 6. Scleroderma/ PSS | Renal disease 1. CKD 2. Electrolyte imbalance 3. Nephrotic syndrome 4. Polycystic Kidney diseases |
| Respiratory disease 1. Asthma 2. COPD 3. PTB | Hematology 1. Anemia 2. Congenital hemolytic anemia |

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| 4. DPLD 5. Bronchiectasis 6. Pleural effusion 7. Lung abscess | 3. Chronic leukemia 4. Myelofibrosis/MDS 5. ITP 6. Lymphomas 7. Bone marrow failure |
| Gastrointestinal diseases 1. Inflammatory bowel disease 2. Irritable bowel syndrome 3. Chronic diarrhea 4. Pancreatitis | Liver disease 1. Cirrhosis of liver 2. Ascites 3. Hepatitis B carrier 4. Upper GI bleeding |

