

CHETTINAD ACADEMY OF RESEARCH AND EDUCATION

(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF THE UGC ACT, 1956)



FACULTY OF MEDICINE
M.D. GENERAL MEDICINE
REGULATIONS & SYLLABUS

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**CHETTINAD ACADEMY OF RESEARCH AND EDUCATION
REGULATIONS FOR M.D. & M.S. CLINICAL PROGRAMS**

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CHETTINAD ACADEMY OF RESEARCH AND EDUCATION

Regulations for M.D./M.S. Clinical Courses

1. INTRODUCTION:

M.D. / M.S. Clinical course is a three year post graduate program under the Faculty of Medicine for students with an Under Graduate Degree in Medicine. This program is taught course that covers relevant topics and a research project in the area of specialization. This program shall be competence based and learning shall be essentially autonomous and self directed and supplemented with practical and laboratory work. The curriculum shall have modular approach to learning. The research component is through original exploration and experiments culminating in the research project. This program shall impart advanced theoretical and practical aspects of subjects previously studied in a more general manner at the undergraduate level.

These courses are aimed at imparting higher-level training to qualified under graduate medical students in various branches of M.D./M.S. Clinical subjects and to involve the learning experiments to the needs of community.

In exercise of the powers conferred under sub rule (a) and (g) of Rule 8 (b) of Memorandum of Association and Clause 2.1, Chapter III of Bye-laws of Chettinad Academy of Research and Education, the Academic Council hereby makes the following regulations:

2. SHORT TITLE AND COMMENCEMENT:

These Regulations shall be called the "Regulations for M.D /M.S. Clinical Courses of Chettinad Academy of Research and Education. These regulations shall come into force from the academic year 2012-2013. These regulations are subject to modifications as may be approved by the Academic Council from time to time.

3. GOAL:

The goal of postgraduate medical education shall be to produce competent specialists and/or medical teachers:

- i) who shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
- ii) who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system.
- iii) who shall be aware of the contemporary advance and developments in the discipline concerned.
- iv) who shall have acquired a spirit of scientific inquiry and is oriented to the principals of research methodology and epidemiology and
- v) who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

4. AIMS AND OBJECTIVES:

At the end of the Post Graduate training in the discipline concerned the student shall be able to:

- i) Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.
- ii) Practice the speciality concerned ethically and in step to the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
- iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitating, preventive and primitive measures/strategies.
- v) Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- vi) Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.
- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
- viii) Demonstrate empathy and human approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
- ix) Play the assigned role in the implementation of National Health Programme effectively and responsibly.
- x) Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- xi) Develop skills as a self-directed learner, recognize continuing education needs: select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of Research Methodology and epidemiology, and be able to critically analyze relevant published research literature.
- xiii) Develop skills in using educational methods and techniques as applicable to the teaching of Medical/ Nursing students, General Physicians and Paramedical Health Workers.
- xiv) Function as an effective leader of a health team engaged in health care, research or training

5. COMPONENTS OF THE POSTGRADUATE CURRICULUM:

The major components of the Postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Writing Thesis/Research articles
- Attitudes including communication skills.
- Training in research methodology, Medical Ethics and Medicolegal aspects.

6. NOMENCLATURE OF POSTGRADUATE COURSES:

The nomenclature of Post Graduate Degree should be as laid down in the Post Graduate Medical Education Regulations prescribed by the Medical Council of India.

7. ELIGIBILITY FOR ADMISSION:

Every student, selected for admission to a post graduate medical course in Chettinad University on acquiring M.B.B.S degree or an equivalent qualification thereto shall have obtained permanent registration with the Medical Council of India, or any of the State Medical Council(s) or shall obtain the same within a period of one month from the date of his/her admission, failing which his/her admission shall stand cancelled.

Provided that in the case of a foreign national, the Medical Council of India may, on payment of the prescribed fee for registration, grant temporary registration, for the duration of the post graduate course limited to the medical college/institution to which the candidate is admitted for the time being exclusively for pursuing post graduate studies.

Provided further the temporary registration to such foreign national shall be subject to the condition that such person is duly registered with appropriate registering authority in his own country wherefrom he has obtained his basic medical qualification and is duly recognized by the corresponding Medical Council or concerned authority.

8. RECOGNITION FEE AND ELIGIBILITY CERTIFICATE:

Candidates who have passed the M.B.B.S Degree Examination other than that conducted by Chettinad Academy of Research and Education shall obtain Eligibility Certificate from this University at the time of admission and also remit recognition fee as prescribed.

9. REGISTRATION:

A candidate admitted to the Post Graduate Course shall register with the University by submitting the prescribed application form for registration, duly filled in along with the prescribed fee, through the Head of the Institution.

10. PERIOD OF TRAINING /DURATION OF THE COURSE:

The duration of certified study and training for the M.D. / M.S. Post Graduate Clinical Courses shall be three completed years including the period of examination.

Provided that in the case of students possessing a recognised two year postgraduate diploma course in the same subject, the period of training, including the period of examination, shall be two years.

11. COMMENCEMENT OF THE COURSE:

The course shall ordinarily commence from 2nd May of the academic year.

12. CUT OFF DATES FOR ADMISSION:

Candidates admitted up to 31st May of the Academic year shall be registered for the same Academic Year but shall be eligible to take up the final examination along with others students admitted prior to their admission. There shall be no admission of students in respect of any academic session beyond 31st May for postgraduate courses under any circumstances. The University shall not register any student admitted beyond the said date.

13. SYLLABUS:

The Syllabus for the course shall be as specified in the annexure to these Regulations.

14. MEDIUM OF INSTRUCTION:

English shall be the medium of instruction for all the subjects of study and for examination.

***15. WORKING DAYS / ATTENDANCE**

All the candidates joining the Post Graduate training program shall work as "Full Time Residents" during the period of training and shall attend not less than 85% (Eighty Five percent) of the imparted training during each academic year including assignments, assessed full time responsibilities and participation in all facets of the educational process as per MCI norms. 85% attendance is compulsory for all the Post Graduate students for every academic year. The Attendance details may be submitted to the Controller of Examinations at the end of every academic year. The student should also be intimated quarterly regarding the lack of attendance.

***16. CONDONATION FOR LACK OF ATTENDANCE:**

The discretionary power of condonation of shortage of attendance to appear for University Examination rests with the Vice Chancellor.

Lack of attendance can be condoned up to a maximum of 5% of the minimum attendance required

in the following exceptional circumstances:

- (i) Any illness/ accident (for which Medical certificate from a registered medical practitioner must be produced)
- (ii) Any unforeseen tragedy in the family (should produce the letter from the parent/guardian)
- (iii) Participation in NCC/NSS and other co-curricular activities representing the Institution / University. (Certificate from competent authority is required)

For any of the above reasons, request shall be made by the candidate with prescribed fees to the Controller of Examination through proper channel, ten days prior to the commencement of the theory examination. Based on the recommendation of the Head of the Institution, the Controller of Examination shall obtain the approval of the Vice Chancellor for admission of the candidate to the University Examination.

***SI.No.15 & 16 Amended vide XVIII meeting of Academic Council dated 15.04.2014 and to be**

replaced as detailed below:

In the existing regulations for M.D. Pre – Para and M.D./M.S. Clinical courses, it has been stipulated that 85% attendance is compulsory for all the Post graduate students for every academic year. This has been modified to 80% attendance in keeping with Statutory Body norms. There shall be no condonation for attendance. The attendance criteria will hence read as follow as in MCI regulations.

"All the candidates joining the Post Graduate training programme shall work as 'Full Time Residents' during the period of training and shall attend not less than 80%(Eighty percent) of the imparted training during each academic year including assignments, assessed full time responsibilities and participation in all facets of the educational process."

The Attendance details shall be submitted to the Controller of Examinations at the end of each academic year. The student should also be intimated quarterly regarding the lack of attendance.

16 (a) STIPEND AND GRANT OF LEAVE

The Post Graduate students undergoing Post Graduate Degree / Diploma/Super-Specialty course shall be paid stipend on par with the stipend being paid to the Post Graduate students of State Government Medical Institutions / Central Government Medical Institutions, in the State / Union Territory where the institution is located. Similarly, the matter of grant of leave to Post Graduate students shall be regulated as per the respective State Government rules.

17. MIGRATION / TRANSFER OF CANDIDATES:

Under no circumstances, Migration/transfer of student undergoing any Post Graduate degree course shall be permitted by the University/Authority

18. TRAINING PROGRAM:

The training given with due care to the Post Graduate students in the recognised institutions for the award of various Post Graduate medical degrees / super speciality degrees shall determine the expertise of the specialist and / or medical teachers produced as a result of the educational program during the period of stay in the institution.

The Post Graduate students of the institutions which are located in various States / Union Territories shall be paid remuneration at par with the remuneration being paid to the Post Graduate students of State Government medical institutions / Central Government Medical Institutions, in the State/Union Territory in which the institution is located. Similar procedure shall be followed in the matter of grant of leave to Post Graduate students.

- (a) Every institution undertaking Post Graduate 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 candidates and the Medical Council of India inspectors to assess the same at the time of inspection.

During the training for PG Degree Courses to be awarded in clinical disciplines, there shall be proper training in basic medical sciences related to the disciplines concerned; during the training for the degree to be awarded in basic medical sciences, there shall be training in applied aspects of the subject; and there shall be training in allied subjects related to the disciplines concerned. In all Post Graduate training programmes, both clinical and basic medical sciences, emphasis is to be laid on preventive and social aspects and

emergency care facilities for autopsies, biopsies, cytopsies, endoscopic and imaging etc. also be made available for training purposes. The Post Graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

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 Post Graduate students.

Implementation of the training programmes for the award of various Post Graduate Degree course shall include the following:

Basic Medical Sciences

- (i) 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 specialities.

Clinical disciplines

- (i) In service 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 Clinico - Pathological Conferences; practical training in Diagnosis and medical and Surgical treatment; training in the Basic Medical Sciences, as well as in allied clinical specialities.

The training program shall be on the same pattern as for M.D. / M.S. in clinical disciplines; practical training including advanced Diagnostic, Therapeutic and Laboratory techniques, relevant to the subject of specialization.

The Academic Council in its XV meeting held on 08.05.2013 resolved to approve the following Curriculum Committee’s recommendations.

- ❖ The members of Post Graduate Curriculum committee recommended that M.D/M.S. specialty Post Graduates can be posted to other department, so that it may give the Post Graduate an integrated approach.

MD PG Speciality	Departments to which they may be posted
Anaesthesia	Medicine, Obsterics and Gynaec
Dermatology	Medicine, Pulmonology
Pulmonology	Medicine, Cardiology, Cardio thoracic surgery
Obsterics and Gynaec	Medicine, Neonatology, Oncology
Orthopaedics	General Surgery
ENT	General Surgery
Ophthalmology	General Surgery, Medicine

19.MAINTENANCE OF LOG BOOK

- a) Every Post Graduate student shall maintain a record (Log) book containing skills, the candidate has acquired during the training period certified by the various heads of department where the candidate has undergone training including outside the institution.
- b) The students shall maintain a Record Book (Log Book) of the work carried out by them & training program undergone during the period of training including details of procedures carried out independently or assisted by the candidate. The log book will be checked by the faculty members imparting the training.
- c) At the end of the course, the candidate should summarise the contents and get the record (Log) book certified by the Head of the Department.
- d) The record (Log) book should be submitted at the time of practical examination for the scrutiny of the Board of Examiners.
- e) It would be the constant endeavour of the faculty to develop desirable attitudes in the PG trainees during the course by personal examples, interaction and group discussion. Constant watch will be maintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude, some aspects of this domain would be covered during the formative evaluation as noted below for continued internal assessment. Formative evaluation will be carried out over following activities of the P.G. resident.
 - i)Ward work
 - ii)Case presentation
 - iii)P.G.Lecture
 - iv)Journal club
 - v)General assessment of affective function attitude by medical & paramedical staff;
 - vi)Internal Assessment

Candidates can appear for theory examination only after being certified on the basis of Internal assessment.

20.THESIS / DISSERTATION AND EVALUATION

- a) All Candidates admitted to undergo Post Graduate Degree course shall be assigned a topic for dissertation / thesis by the Head of the concerned unit and the title of the topic assigned to the candidates be intimated to the Controller of Examination of the University by the Head of the Department through the Head of the Institution before end of the First year.
- b) The dissertation / thesis shall be a bound volume of minimum 50 pages and not exceeding 75 pages of typed matter (double line spacing and on one side only) excluding certification, acknowledgements, annexure and bibliography.
- c) Four copies of dissertation shall be submitted six months prior to the commencement of the examination on the prescribed date to the controller of examination of the University.

- d) Two copies are to be submitted as an electronic version of the entire dissertation in a standard C.D. format mentioning the details and technicalities used in the C.D. format.
- e) The concerned Professors / Readers are to supervise and to see that the dissertation is done properly utilising the clinical materials of their own department / institution. The students must learn the design and interpretation of research studies, responsible use of informed consent and research methodology and interpretation of data and statistical analysis. They should seek the help of qualified staff members in the conduct of research. They must learn to use library and the computer-based research. This training will help them to develop skills in planning, designing and conduct of research studies.
- f) All candidates on admission will be allotted one of the department faculties who have fulfilled the requirement to be guides for purposes of guiding Dissertation/thesis. The topic for dissertation shall be finalized and discussed in the departmental faculty meeting and allotted to the individual candidates before the completion of 3 months after admission. The purpose of dissertation is to develop in the candidate the ability to perform an independent study keeping the principles and research methodology in mind. The candidate will therefore work on the prospective problem either within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation work by the guides and co-guide and by the other department staff throughout the course. The candidate will present the progress of the dissertation to the faculty on the completion of 1 ½ years for monitoring and feedback. The completed dissertation should be submitted not later than 6 months before final examination.
- g) 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.
- h) 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. A candidate shall be allowed to appear for Theory and Practical/Clinical examination only after the acceptance of thesis by the examiners. The thesis shall be evaluated under the following heading:
 - 1) Approved
 - 2) Not approved

In all cases the approval shall be given before 3 months of the date of appearing for the examination and this will be essential before the candidate is allowed to appear for the written examination.

21. SCHEDULE OF EXAMINATIONS:

The examination for M.D./ MS, shall be held at the end of 3rd academic year. An academic term shall mean six month's training period."

22. *SCHEME OF EXAMINATIONS:

Post Graduate Examinations shall consist of Dissertation/Thesis, Written Paper (Theory), Practical/Clinical and Viva voce.

The examinations shall be organised on the basis of " Marking system" to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training.

- a. Dissertation/Thesis:** Every candidate shall carry out and submit a Dissertation/Thesis as explained and approval of Dissertation/Thesis shall be a precondition for a candidate to appear for the final year examination.
- b.** A postgraduate student of a postgraduate degree course would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
- c. Theory:** A Written Examination shall consist of four theory papers each of three hours duration. Each paper carries 100 marks (Total 400 marks). Out of these one shall be of Basic Medical Sciences and one shall be of Recent advances. The theory examinations shall be held well in advance than the Clinical and Practical examination, so that the answer books can be assessed and evaluated before the commencement of the Clinical/Practical and Oral examination.
- d. Clinical Examination:** Clinical examination for the subjects in Clinical sciences shall be conducted to test the knowledge and competence 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.
- e. Oral Examination:** The Oral examination shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination.

THEORY	
No. of Theory Papers	4
Marks for each Theory Paper	*100
Total marks for Theory Paper	400
Passing Minimum for Theory	200/400
Total Marks for CLINICAL	300
Passing Minimum for Clinical	150/300
Viva voce	100
Passing minimum for Clinical including Viva voce	200/400

(i) if any candidate fails even under one head, he/she has to re-appear for entire examination.

(ii) Theory paper consist of 2 essay questions of 25 marks each (2 X 25 = 50) & 5 short notes of 10 marks each (5 X 10 = 50). Total =100 marks each.

Sl.No.22 (ii) Amended vide XVIII meeting of Academic Council dated 15.04.2014 and to be replaced as detailed below:

Resolved to approve 2 Essay Questions (2 x 20 marks) and 10 short notes (10 x 6 marks) for all post graduate medical / broad and higher speciality courses which will take effect for the students appearing for first time examination from March 2015.

Sl.No.22(ii) Amended in XX Academic Council dated 25.03.2015.

Resolved to approve 2 essays (2 x 20 marks) and 6 short notes (6 x 10 marks) for theory paper in all M. D/ M.S. courses by the Academic Council in its XX meeting held on 25.03.2015.

***Resolved to approve that an examinee should obtain minimum 40% marks in each theory paper and not less than 50% marks cumulatively in all the four papers in P.G. degree examination to be cleared as passed which will be implemented prospectively. (Academic Council in its XX meeting held on 25.03.2015).**

23. EXAMINERS:

All the Post Graduate Examiners shall be recognized Post Graduate Teachers holding recognized post graduate qualification in the subject concerned. 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 / outside university. The remaining two will be internal examiners.

The qualification and teaching experience for appointment of examiner shall be as detailed below and by the guidelines of Medical Council of India issued from time to time.

No person shall be appointed as an internal examiner in any subject unless he/she has three years' experience as recognized PG teacher in the concerned subject. For external examiners, he/she should have minimum six years of experience as recognized PG teacher in the concerned subject'. "An examiner shall ordinarily be appointed for not more than two consecutive terms"

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

24. MAXIMUM NUMBER OF CANDIDATES:

The maximum number of candidates to be examined in clinical/practical and oral on any day shall not exceed eight for M.D./M.S. Clinical Courses.

25. *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. The examination shall be conducted in March and September.

***Sl. No.25 Amended in XXI meeting of Academic Council dated 22.07.2015.
Resolved to approve the commencement of M.D. /M.S. University examination in April**

(for Regular Batch) and October (for Supplementary Batch).

26. REVALUATION OF ANSWER PAPERS:

There shall be no revaluation of answer papers. However, re-totaling is allowed in the failed subjects with the payment of required fee fixed by the University within 15 days from the date of receipt of statement of marks.

SYLLABUS FOR M.D. GENERAL MEDICINE

- I. CARDINAL MANIFESTATIONS OF DISEASE
 1. Pain
 2. Alterations in body temperature
 3. Nervous system dysfunction
 4. Alterations in circulatory and respiratory function
 5. Alterations in gastrointestinal function
 6. Alterations in urinary function and electrolytes
 7. Alterations in reproductive and sexual function
 8. Alterations in the skin
 9. Hematologic alterations

- II. GENETICS, MOLECULAR MEDICINE

- III. CLINICAL PHARMACOLOGY

- IV. NUTRITION

- V. INFECTIOUS DISEASE
 1. Basic consideration in Infectious Disease
 2. Clinical syndromes – community acquired
 3. Clinical syndromes – nosocomial infections
 4. Bacterial disease - General consideration
 5. Diseases caused by gram-positive bacteria
 6. Diseases caused by gram-negative bacteria
 7. Miscellaneous bacterial infections
 8. Mycobacterial diseases
 9. Spirochetal diseases
 10. Rickettsia, Mycoplasma and Chlamydia
 11. Viral diseases
 12. DNA viruses
 13. DNA and RNA respiratory viruses
 14. RNA viruses
 15. Fungal infections
 16. Protozoal and helminthic infections: General considerations
 17. Protozoal infections
 18. Helminthic infections
 19. Ectoparasites
 20. HIV infection

- VI. DISEASES OF THE CARDIOVASCULAR SYSTEM
 - 1. Disorders of the heart
 - 2. Disorders of the vascular system
- VII. DISORDERS OF THE RESPIRATORY SYSTEM
- VIII. DISORDERS OF THE KIDNEY AND URINARY TRACT
- IX. DISORDERS OF THE GASTROINTESTINAL SYSTEM
 - 1. Disorders of the alimentary tract
 - 2. Liver and biliary tract disease
 - 3. Disorders of the pancreas.
- X. DISORDERS OF THE IMMUNE SYSTEM, CONNECTIVE TISSUE AND JOINTS
 - 1. Disorders of the immune system
 - 2. Disorders of the immune-mediated injury
 - 3. Disorders of the joints
- XI. HEMATOLOGY AND ONCOLOGY
 - 1. Disorders of the hematopoietic system
 - 2. Clotting disorders
 - 3. Neoplastic diseases
- XII. ENDOCRINOLOGY AND METABOLISM
 - 1. Endocrinology
 - 2. Disorders of intermediary metabolism
 - 3. Disorders of bone and mineral metabolism
- XIII. NEUROLOGIC DISORDERS
 - The central nervous system
 - Disease of nerve and muscle
 - Chronic fatigue syndrome
 - Psychiatric disorders
 - Alcoholism and drug dependency
- XIV. ENVIRONMENTAL AND OCCUPATIONAL HAZARDS
- XV. GERIATRICS
- XVI. LABORATORY MEDICINE (RADIOLOGY, ECG, ELECTROPHYSIOLOGY ETC.)

RESPONSIBILITIES & LEARNING ACTIVITIES OF POSTGRADUATES

Postgraduates' responsibilities may be discussed under the following headings.

1. O.P.D. Services
2. In-patient care
3. Academic activities

In-Patient Care

Doctor on Duty
Care of Sick Patients
Discharge of the Patient
Bedside Procedure

Academic Activities

Case Discussions
Radiology Conference
Mortality Conference
Journal Clubs
Clinical Combined Round (CCR)
Clinical Grand Round (CGR)
Clinics-Pathological Conference (CPC)

Other Research Activities

- A resident is free to involve himself/herself with other ongoing research activities with any consultant of the department
- During their training period PGs should compulsorily present a paper in a state/national conferences or publish in indexed journal.

Specialty clinics

Referral of Patients to these Clinics
Investigational Facilities and their utilization

TRAINING PROGRAM : SCHEDULE

The postgraduates in medicine undergo the following rotation-training during their 3 years' Course towards M D (Med.):

No.	Departments	Duration	Year of posting
1	Medicine Units	23 months	
2	Nephrology	1month	2nd year
3	Gastroentrology	1 month	2nd year
4	Dermatology/psychiatry/Paediatrics/hematology	2 months	1st year
5	Emergency medicine/toxicology/IMCU	3 months	1 month each year
6	Cardiology	2 months	1month in1st and 1 month 2nd year
7	Neurology	2months	1month in1st and 1 month 2nd year
8	Endocrinology/Radiology	1month	2nd year
9	Tuberculosis and chest diseases	1month	2nd year
	TOTAL	36 months	

TEACHING AND TRAINING PROGRAMME IN CARDIOLOGY

Clinical:

Clinical work of a postgraduates is closely guided and supervised by the Senior Resident /AP and the consultants.

Ward:

Duties include diagnostic case work up and day-to-day management of cases (rheumatic heart disease, ischemic heart disease (IHD), hypertension, congestive heart failure, congenital heart disease etc.)

ICU:

Duration 10-15 days. A PG acquires the expertise/knowledge to diagnose and manage acute myocardial infection and its complications, common arrhythmias, cardiogenic shock and pericardial tamponade etc. The resident also learn to perform the procedures and investigations (listed below) necessary to manage such patients in appropriate clinical setting.

OPD:

Work up and management of common OPD cases (Rheumatic heart disease, ischemic heart Disease, congestive heart failure, hypertension etc.)

Teaching

Two formal bedside case presentation by PG in a month (or more frequent if considered necessary). All formal bedside case presentations in any unit/specialty are supervised strictly by consultant(s).

Total of 3 classes for:

- Interpretation of investigations (ECG, TMT, Holter etc.).
- Principles of haemodynamics
- Procedures (cardioversion, pericardiocentesis etc.)

Procedures:

The junior residents are trained to carry out the following common procedures during their cardiology posting:

- Pericardiocentesis
- Cardioversion
- Defibrillation
- Intensive haemodynamic monitoring (including CVP and arterial line, Swan Ganz catheterization).
- Temporary pacemaker insertion

Investigations:

During their cardiology posting the PG is guided and helped in acquiring theoretical and practical knowledge about the following investigations and their interpretation and applications to the various clinical situations:

- Electrocardiogram
- TMT
- Holder monitoring
- Head-up tilt Test
- Nuclear cardiology (Technetium, Thallium scans, multigated acquisition * (MUGA) etc).
- Cardiac catheterisation and Electro-physiological studies.

TEACHING AND TRAINING PROGRAMME IN NEUROLOGY

The period of posting in neurology is 4 months. A PG, while rotating in the subspecialty of neurology, undergoes the following clinical/other teaching exercises and acquires knowledge and competencies of the following procedures/investigations

Clinical

(a) Ward:

At the end of the neurology posting the PG should be able to carry out diagnostic case work up and day-to-day management of the following cases:

- Meningitis, encephalitis, comatose patients, seizures, cerebrovascular accidents, systemic disease with CNS and spinal cord, metabolic and degenerative diseases of nervous system, polymyositis and other muscle disorders etc.

(b) OPD:

Twice a week. A PG is expected to work up patients, discuss them with the consultant(s) and suggest relevant investigations of common neurological problems, some of which are listed above.

Teaching Schedule

- a) Formal bedside case presentations by the Junior Residents at regular intervals. (at least 2 for each JR).
- b) Formal teaching classes on;
 - Managements of neurological emergencies (with special reference to status epilepticus).
 - Meningitis and cerebral malaria
 - Neurological Imaging
- c) Seminars and Journal clubs - once a week
- d) Radiology conference - once a week

Procedures and investigations:

At the end of the neurology posting the student should be able to perform the following:

- Muscle biopsy
- Nerve biopsy

Junior Resident should have practical and working knowledge of the following:

- Interpretation of plain x-ray-skull, CT scan and MRI scans.
- Interpretation of EEG record
- EMG
- Nerve conduction studies
- Evoked potential studies
- Prostigmin test
- Botulinum toxin injection

TEACHING AND TRAINING PROGRAMME IN GASTROENTROLOGY

The period of posting in Gastroenterology is 2 months. A PG, while posted in the subspeciality of Gastroenterology, undergoes the following clinical/other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical:

Clinical work of a resident is closely guided and supervised by Senior Residents/AP and consultants.

Ward:

By the end of the Gastroenterology posting a Junior Resident should become competent in diagnostic case work up and day-to-day management of the following cases:

- Acute viral hepatitis and its complications, chronic hepatitis, cirrhosis of liver and its complications, upper and lower gastrointestinal bleed, hepatic coma, acute abdomen (peritonitis, intestinal obstruction, and pancreatitis etc), liver abscess, inflammatory bowel disease and malabsorption, intestinal tuberculosis and its complications, malignant lesions of liver, gall bladder, stomach, pancreas and intestines etc.

Teaching

- a) Formal clinical bedside case presentations and discussions by junior residents - once every 15 days (or more frequent, if considered necessary).

- b) Regular teaching exercise in the department at 12.00 noon, 5 days a week (Monday-Friday)
- c) Gastroenterology lecture series

Procedures

At the end of the posting in Gastroenterology, the PG should have acquired practical knowledge of/and should be able to carry out the following:

- Per rectal examination and sigmoidoscopy
- Nasogastric intubation
- Ascetic tap
- Liver biopsy
- FNAC of abdominal masses (blind as well as under ultrasound guidance)
- Needle aspiration from liver abscess (blind as well as under ultrasound guidance).
-

At the end of the Gastroenterology posting the junior resident should have acquired practical knowledge of the following procedures (approximate minimum duration of time to be spent on each procedure is specified in brackets against each).

- Upper gastrointestinal endoscopy (3 hours)
- Colonoscopy (1 hour)
- Ultrasound examination of abdomen (3 hours)
- Laparoscopy (1 hour)
- ERCP (2 weeks)

Investigations

At the end of the Gastroenterology posting the PG should have acquired the theoretical/practical knowledge about following investigations:

1. Interpretation of plain X-ray of the abdomen, oral cholecystography, barium swallow, barium meal, barium enema, abdominal ultrasound, nuclear scan and CT scan of the abdomen.
2. Interpretation of liver biopsy in common disease (e.g. acute viral hepatitis, cirrhosis of the liver etc.).

TEACHING AND TRAINING PROGRAMME IN ENDOCRINOLOGY

The period of posting in Endocrinology is 2 months

A PG, while posted in the subspecialty of endocrinology, undergoes the following clinical/ other teaching exercises and acquires knowledge of following procedures/investigations.

Clinical

Clinical work of a PG is closely guided and supervised by Senior Residents/AP and consultants.

(a) Ward:

At the end of the endocrinology posting the junior Resident should be able to do diagnostic case work up the day-to-day management of the following common endocrine disorders; NIDDM and IDDM and their complications, hyperthyroidism and hypothyroidism, Cushing's

syndrome, Addison's disease, pituitary disorders (growth retardation, panhypopituitarism) hirsutism and virilisation, pubertal disorders, disorders of fertility and sexual potency etc.

(b) OPD: 3 days per week. A PG is expected to spend 6-8 hours/week in the OPD and work-up common endocrine disorders listed above.

Teaching

- a) Formal bedside case presentations by PG - once every 2 weeks. (or more frequent if considered necessary)
- b) A formal teaching class on investigations related to endocrine disease
- c) Journal clubs and seminars

Procedures and investigations

At the end of the endocrinology posting the PG should have practical knowledge and should be able to carry out following:

- a) Daily glucose monitoring with glucometer
- b) Photomotograms
- c) Stimulation tests (insulin hypoglycemia, RHRH/TRH/ACTH tests)
- d) Suppression tests (dexamethasone suppression tests, GH suppression test)
- e) Other - Prolonged fasting test, water deprivation test, phosphate excretion test, ammonium chloride acidification test etc.

TEACHING AND TRAINING PROGRAMME IN NEPHROLOGY

The period of posting in Nephrology is 2 months

A PG, while posted in the subspecialty of Nephrology, undergoes the following clinical/ other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by the Senior Residents and consultants.

(a) Ward: A PG is trained for carrying out diagnostic case work up and day-to-day management of the following cases:

- RPGN (rapidly progressive glomerulonephritis), ARF, CRF, Renal carcinoma, Obstructive uropathy,
- Congenital renal disorders, Renal calculus disease, Systemic diseases with renal involvement, urinary-tract infection, hypertension, renal transplant management, renal tubular disorders.

Teaching

- Theoretical and practical aspects of peritoneal and haemodialysis.
- Fluid and electrolyte management with a special reference to renal status.
- Journal clubs - Once a week
- Nephropathology conference - 2 per month
- Nephroradiology conference - once per week

- Dialysis - Transplantation review discussion - 1 per week

Procedures

At the end of the posting in Nephrology, the PG should have acquired the knowledge of and should be able to carry out the following procedures:

- Renal biopsy
- Peritoneal dialysis

Investigations

By the end of the Nephrology posting the PG should have practical and theoretical knowledge of following investigations:

- Urine examination – essential
- Serum and urine osmolality
- Glomerular and renal function test studies.
- Renal dynamic screening and imaging (esp. renal ultrasound).
- Immunological tests related to renal diseases
- Cyclosporin immuno-assay
- Interpretation of renal biopsy of common renal disease (e.g. Chronic Glomerulonephritis, chronic pyelonephritis etc.)

TEACHING AND TRAINING PROGRAMME IN EMERGENCY SERVICES

The period of posting in casualty is 2 months.

A PG, while rotating through Casualty, undergoes the following clinical/other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a PG is closely guided and supervised by the Senior Residents/AP and the consultants.

At the end of the Casualty posting the Junior Resident should be able to diagnose and manage the following medical problems in the casualty. Acute myocardial infarction, arrhythmias including complete heart block and ventricular tachycardia, cardiogenic asthma and COAD, lobar pneumonia, pneumothorax, massive pleural effusion, pulmonary thromboembolism, peritonitis, diabetic ketoacidosis, myxoedema coma, thyroid crisis, acute renal failure, dyselectrolytaemia, metabolic acidosis, cerebrovascular accidents, epilepsy, meningitis, cerebral malaria, coma, dehydration, diarrhea, septicemia, hypertensive emergencies, common poisonings, drowning, electrical injury etc.

Teaching

- (a) Formal case presentation - once a week
- (b) Teaching classes on;
 - cardiopulmonary resuscitation
 - Management of common poisonings
 - Acid - base balance

Procedures

At the end of the Casualty posting, PG should possess theoretical knowledge of, and should be able to perform the following procedures:

- External cardiac massage
- Use of defibrillator
- Emergency IV canula insertion and cutdown
- Emergency Ryle's tube insertion
- Gastric lavage in case of poisonings
- Thoracocentesis and thoracic tube insertion (in case of pleural effusion and pneumothorax respectively)
- Insertion of foley's catheter (both in males and females)
- CVP line insertion
- Assisted ventilation
- Arterial puncture and cannulation of internal jugular, and subclavian.
- Use of aerosol nebulisers
- Tracheostomy.

TEACHING AND TRAINING PROGRAMME IN INTENSIVE CARE UNIT (ICU)

During their posting in various medical units, the PG posted in the ICU are required to be physically present in the ICU during their hours of posting, including night duties. This posting is behind to provide an important component in the training of a resident in the Department of Medicine. The residents are required to mention special progress notes and chest used for monitoring patients in the ICU.

During their posting in the ICU, the PGs would be expected to acquire the following skills

- Providing assisted ventilation using correct modes and strategies using modern ventilations.
- Compute various parameters of lung mechanics and gas exchange.
- Insert central venous lines using Triple lumen catheters, record haemodynamics invasive methods.
- Make correct decision regarding weaning.
- To look after the nutritional requirements of the patients.
- To prevent various complications including barotraumas

SCHEME OF THEORY EXAMINATION

There will be four theory papers.

PAPER – I APPLIED BASIC SCIENCES 100 Marks

The aim of the examination is to assess the candidate's understanding of the Basic Sciences as applicable to Internal Medicine.

The six basic sciences to be assessed are:

1. Anatomy & Genetics
2. Physiology & Biochemistry

3. Pharmacology & Therapeutics
4. Pathology, Microbiology & Immunology

Paper – II: INTERNAL MEDICINE INCLUDING PEDIATRICS, PSYCHIATRY, DERMATOLOGY: 100 MARKS

Paper – III: TROPICAL MEDICINE: 100 MARKS

1. Infectious and non-infectious diseases of relevance to Indian Subcontinent
2. Environmental and occupational medicine relevant to tropics

Paper – IV: RECENT ADVANCES IN INTERNAL MEDICINE: 100 MARKS

Questions should be based on the topics from the following Journals: -

1. NEJM
2. BMJ
3. LANCET
4. Journal of Emergency Medicine
5. Journal of Critical Care Medicine
6. Post Graduate Medical Sciences
7. GUT
8. Thorax
9. The Heart

FORMAT AND ASSESSMENT

***LONG CASE: One (1 x 180 = 180 Marks)**

Need not be confined to nervous system. A case with meaningful history and multi-system diseases with clinical findings are preferred.

- Time for examination and write-up: 60 minutes
- Time for presentation and viva-voce: 20 minutes

Clinical viva will include discussions on relevant laboratory investigations, images and management plan. It will cover an analysis of the case including diagnostic and therapeutic approaches. It is recommended that essential investigations reports are given to the candidate to test competency as a consultant physician.

***SHORT CASES: Three (3 x 40 = 120 Marks)**

- Number of cases per candidate : Three
- Time for examination: 20 minutes for each case
- Time for presentation and viva-voce 10 minutes for each case
- 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.

***Amended in XX Acad. Meeting dt.25.03.2015 as**

1 Long case – 150 Marks
3 short cases – 50 Marks each

ORAL EXAMINATION: 100 Marks

- | | |
|-------------------------------------|------------|
| 1. ECG/ X-rays/CT/MRI/USG/ECHO | - 25 Marks |
| 2. Drugs | - 25 Marks |
| 3. Interpretation of Investigations | - 25 Marks |
| 4. Theory | - 25 Marks |

Recommended Text Books for reading:

1. Davidson's Principles & Practice of Medicine
2. Harrison's Principles of Internal Medicine
3. API Text Book of Medicine
4. Oxford Text Book of Medicine
5. Manson's Tropical Diseases