

**THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY,
No.69, Anna Salai, Guindy, Chennai – 600 032.**

**D.M/ M.Ch
SUPER SPECIALTY DEGREE COURSE**



SYLLABUS AND CURRICULUM

2017-2018

D.M. – NEUROLOGY

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI
Syllabus - D.M. NEUROLOGY

1.AIMS:

The aim of the course is to impart thorough and comprehensive training to the candidate in the various aspects of the specialty.

2.OBJECTIVES:

1. To function as Faculty/consultants in the specialty
2. To plan and set up independent Neurology Unit catering to clinical, investigative and management Neurology
3. To carry out and help in conducting applied research in Neurosciences..

3.THEORY SYLLABUS:

1. **Neuro Anatomy:** It includes anatomy of central and peripheral nervous system and muscles including microscopic appearance, relevant embryology and its application to be related developmental disorders.
2. **Neuro Physiology:** Physiology of central and peripheral nervous system and muscles.
3. **Neuro Biochemistry:** The normal biochemistry of the nervous system and muscles; and its application in different neurological disorders.
4. **Neuro Pathology:** Pathology of different diseases affecting the nervous system and muscles, including macroscopic appearances.
5. **Neuro-bacterio-virology:** With special reference to the various neurological Disorders.
6. **Neuro Genetics:** Normal as well as the abnormalities in different genetically inherited neurological disorders.
7. **Biostatistics and Clinical Epidemiology:** Fundamentals of biostatistics, ability to conduct a clinical trial independently and interpret the final reports.
8. **Neuro Immunology:** Normal and various abnormalities, seen in neuro Immunological disorders.
9. **Neuro Psychiatry:** Related neuropsychiatric disorders such as non-epileptic Seizure etc.
10. **Neuro Psychology.**
11. **Pediatric Neurology.**

12. **Neuro Radiology** including plain X-ray, CT scan, Angiogram, Magnetic Resonance Imaging, Myelogram etc.

13. **Electrophysiology:** Electrophysiology, nerve conduction studies, EEG including sleep EEG and Video EEG, evoked potentials Transcranial Doppler, Sleep lab including polysomnography.

14. Other Neurology oriented investigatory procedures in relation to neurology /Neuro ophthalmology etc.

15. Neurosurgery.

16. Clinical Neurology.

17. Neuro Pharmacology of various neurological disorders.

18. Bioethics and Health Communication.

Bioethics

1. Respect human life and the dignity of every individual.
2. Refrain from supporting or committing crimes against humanity and condemn all such acts.
3. Treat the sick and injured with competence and compassion and without prejudice and apply the knowledge and skills when needed.
4. Protect the privacy and confidentiality of those for whom we care and breach that confidence only when keeping it would seriously threaten their health and safety or that of others.
5. Work freely with colleagues to discover, develop, and promote advances in medicine and public health that ameliorate suffering and contribute to human well being.
6. Educate the public about present and future threats to the health of humanity.
7. Advocate for social, economic, educational and political changes that ameliorate suffering and contribute to human well being.
8. Teach and mentor those who follow us, for they are the future of our caring profession.

4. CLINICAL TRAINING

1. Case discussions
2. Bed side demonstrations
3. Tutorials
4. Group discussions
5. Workshops

6. Lectures

Ist YEAR:

During the first year, the student will be working fully in the Department of Neurology. In the morning time, he / she will be familiarized with clinical neurology, neurological examination, localization and differential diagnosis, relevant laboratory and radiological investigations and pharmacotherapeutics. He / she will attend all the outpatient services and get himself / herself aware of the common neurological problems. In addition, he / she will work in the electrophysiology laboratories and get himself /herself fully with EMG, evoked potential and electroencephalography (EEG). He / she should be competent to handle the equipments and report independently. In the afternoon, he / she will concentrate on the basic sciences and will undertake the research study within three months after admission.

IInd YEAR:

During II year, students are encouraged to undergo special postings for learning new advanced techniques / Procedure / Skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

Following will be the subject and duration of training:-

Neuropathology – 15 days.

Neuro-radiology– 15 days.

Interventional Neuro-radiology / Deep Brain Stimulation – 15 days.

Intensive Care in Neurology – 15 days.

Psychiatry – 15 days.

Paediatric Neurology – 30 days.

Neurosurgery – 30 days.

The Neurosurgery posting is applicable where neurology and neurosurgery department are separate and with independent H.O.Ds functioning independently. The posting of neurology postgraduates to neurosurgery and vice versa will be decided by the corresponding Head of the department.

IIIrd YEAR:

During the period, the candidate will work in the Neurology department concentrating on clinical and theoretical neurology, clinical psychiatric relevant investigations and medical as well as Para medical management of the patients. Besides, he shall handle and report the EEG and EMG by himself.

5. SKILL TRAINING REQUIREMENTS:

1. EEG
2. EMG
3. Neuroradiology
4. Journal club
5. Seminars
6. Teaching Medicine, Psychiatry, Physiology, Rehabilitation Medicine, Pediatric

residents if available as a part of training.

6. TEACHING METHODOLOGY:

1. Ward / OPD patient management.
2. Peri operative Management
3. Assisting / performing operative procedures.
4. Long and short topic presentations.
5. Ward rounds, case presentations and discussions. Combined ward rounds with Medical Gastroenterologist.
6. Clinicoradiological and clinicopathological conferences.
7. Inter-departmental Periodical meeting on relevant topics with Department of Anatomy, Physiology, Bio-chemistry and Microbiology, Radiology, Pathology etc.
8. Journal club.
9. Research review.
10. Problem solving sessions.
11. Weekly Tumour Board discussions with Radiation and Medical Oncologist.
12. Guest and in-house lectures. Conferences, seminars and CME's.
13. Participation in workshops, etc.
14. Teaching undergraduates / postgraduates / paramedical staff.
15. Weekly Surgical audit (patient care review meeting)
16. Biomedical equipments use and maintenance.

7. RESEARCH WORK:

The candidate will be trained in the ability to

- Frame a research question.
- Plan a study to answer the question.
- Collect the relevant information and
- Evaluate appropriately the collected data to draw a conclusion.

The candidate should become conversant with the reporting of these results as a research paper, in journals and as a presentation in conferences.

The activities would consist of:

Planning and organizing relevant animal / clinical studies to be submitted as a dissertation at the end of the course.

Students should compulsorily attend the Research Methodology workshop conducted by the University within first six months of D.M Course.

8. LOG BOOK:

The Postgraduate student of a Postgraduate Degree Course in Super specialties shall maintain Log Book of the work carried out by them and the training

programme undergone during the period of training including details of surgical operations assisted or done independently by.

The Log Book shall be checked and assessed by the faculty members imparting the training.

Periodical evaluation of Log Book to be done by the Head of the Department as per 52nd SAB.

The Evaluation of the candidates in both theory and practical aspects will help the candidate in the improvement of his/her knowledge skills & attitude.

9. COMPETENCY ASSESSMENT:

Overall:

1. Communication / Commitment / Contribution / Compassion towards patients and Innovation	-	10 Marks
2. Implementation of Newly learnt techniques	-	10 Marks
3. Documentation of case sheets / discharge Summary / Review	-	10 Marks
4. Number of cases presented in Clinical Meetings/ Journal Clubs / Seminars / Papers presented in Conference.	-	10 Marks
5. No. Of Medals/ Certificates won in the conference / Quiz competitions and other academic meetings with details.	-	10 Marks
Total		50 Marks

Assessment	I	- February	-	First Year
	II	- August	-	First Year
	III	- February	-	Second Year
	IV	- August	-	Second Year
	V	- February	-	Third Year
	VI	- May	-	Third Year

VIVA INCLUDING COMPETENCY ASSESSMENT – 100 Marks (50+50)

10. THEORY EXAMINATION:

PAPER - I	Basic Sciences (Consisting of Neuro anatomy, Neuro Physiology, Neuro chemistry, Neuro Pathology, Neuro Microbiology,
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	Parasitology, Immunology, Epidemiology and Genetics
PAPER -II	Neurology, Neuro Psychiatry, NeuroPsychology, Paediatric Neurology
PAPER -III	Neuro Radiology, Electro Physiology Neuro Otology, Neuro Ophthalmology and Other Investigatory Procedures
PAPER - IV	Recent Advances in Neurology

Each paper will contain:

1. Essay questions (2) - $2 \times 15 = 30$ Marks
2. Short Notes (10) - $10 \times 7 = 70$ Marks

Total 100 Marks

11. CLINICAL EXAMINATION:

Particulars	Time for candidate to examine the cases	Time for examiners to question the candidates	Maximum Marks
Long Case	1 Case x 60 Minutes	60 Minutes	100
Short Case	2 Cases x 15 Minutes	30 Minutes	100
Ward Rounds	3 Patients x 10 Minutes	30 Minutes	100
OSCE	5 Stations x 3 Minutes	15 Minutes	50
Viva Voce		15 Minutes	100
Log Book			50
Total			500

As per Medical Council of India Post Graduate Medical Education Regulations 2000 (amended upto 10th August 2016) clause **13.9 A Postgraduate student of a Postgraduate degree Course in broad specialties/ Super Specialties 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.**

Apart from Poster/Oral paper presentation in National/State conferences, the Research paper published by the candidate in the University Journal of Medical Sciences will be considered as equivalent to the Research Paper as mentioned in 13.9. clause. Case Reports can also be published in University Journal of Medical Sciences but case

reports will not be considered as Research Paper.

The candidate can also present Research Paper as per Clause 13.9 of Post Graduate Education Regulation 2000, and if the article sent for publication by the candidate as primary author or corresponding author which has not yet been published/accepted for publication, the candidate should submit a letter from the HOD, stating that the article sent for publication is of publishable merit and the proof of the Research Article submitted to the Journal for publication should be sent to the university forwarded through the HOD [as per 53rd SAB]

The student can submit articles for the University journal anytime from the time of registration in the University till 6 months prior to theory examination.

12. OSCE: (5 Stations)

1. EEG
2. Gross Pathology
3. Microscopy
4. Nerve conduction study
5. Evoked Potentials / Neuroradiology

13. REFERENCE BOOKS:

The editions are as applicable and the latest edition should be the part of the syllabi

1. Bradley's Neurology in Clinical practice, 7th edition. 2015.
2. Adams and Victor's Principles of Neurology, 10th edition. 2014
3. Harrison's Principles of Internal Medicine, 19th edition. 2015.
4. Dejong's The Neurologic Examination, 7th edition. 2013
5. Localisation in Clinical Neurology, Jose Biller and Paul W. Brazis, 6th edition, 2011
6. Caplan's Stroke: A Clinical Approach, 5th edition. 2016.
7. Neurology: A Queen Square Textbook. 2nd edition.
8. Principles and Practice of Movement Disorders, Joseph Jankovic, 2nd edition. 2011.
9. Oxford Textbook of Cognitive Neurology and Dementia, Masud Husain and Jonathan M. Schott. 2016.
10. Merritt's Neurology, 13th edition. 2015

11. Osborn's Brain – Imaging, Pathology and Anatomy, 1e, 2012

****Note:** The editions are as applicable and the latest editions shall be the part of the syllabi.

14. JOURNALS:

1. Continuum: Lifelong learning in Neurology
2. Neurologic Clinics of North America
3. New England Journal of Medicine
4. Current Opinion in Neurology
5. Nature Reviews Neurology
6. Lancet Neurology
7. Annals of Indian Academy of Neurology
8. Neurology India
9. Brain
10. JAMA Neurology
11. Practical Neurology, BMJ
12. Journal of Neurology, Neurosurgery and Psychiatry, BMJ
13. Muscle and Nerve.
