AMRITA VISHWA VIDYAPEETHAM

A Multi Campus University with 'A' Grade Accreditation by

AMRITA SCHOOL OF MEDICINE

Amrita Centre for Allied Health Sciences

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PROGRAM
MSc Neuroelectrophysiology

(Revised with effect from 2017-2018 onwards)

A Super Speciality Tertiary Care Hospital Accredited by ISO 9001-2008, NABL & NABH

Our Chancellor

SPIRITUAL PRINCIPLES IN EDUCATION

"In the gurukulas of ancient rishis, when the master spoke it was love that spoke; and at the receiving end disciple absorbed of nothing but love. Because of their love for their Master, the disciples' hearts were like a fertile field, ready to receive the knowledge imparted by the Master. Love given and love received. Love made them open to each other. True giving and receiving take place where love is present. Real listening and 'sraddha' is possible only where there is love, otherwise the listener will be closed. If you are closed you will be easily dominated by anger and resentment, and nothing can enter into you".

"Satguru Mata Amritanandamayi Devi"

Introducing AIMS

India is the second most populous nation on earth. This means that India's health problems are the world's health problems. And by the numbers, these problems are staggering 41 million cases of diabetes, nearly half the world's blind population, and 60% of the world's incidences of heart disease. But behind the numbers are human beings, and we believe that every human being has a right to high-quality healthcare.

Since opening its doors in 1998, AIMS, our 1,200 bed tertiary care hospital in Kochi, Kerala, has provided more than 4 billion rupees worth of charitable medical care; more than 3 million patients received completely free treatment. AIMS offers sophisticated and compassionate care in a serene and beautiful atmosphere, and is recognized as one of the premier hospitals in South Asia. Our commitment to serving the poor has attracted a dedicated team of highly qualified medical professionals from around the world.

The Amrita Institute of Medical Sciences is the adjunct to the term "New Universalism" coined by the World Health Organization. This massive healthcare infrastructure with over 3,330,000 sq. ft. of built-up area spread over 125 acres of land, supports a daily patient volume of about 3000 outpatients with 95 percent inpatient occupancy. Annual patient turnover touches an incredible figure of almost 800,000 outpatients and nearly 50,000 inpatients. There are 12 super specialty departments, 45 other departments, 4500 support staff and 670 faculty members.

With extensive facilities comprising 28 modern operating theatres, 230 equipped intensive-care beds, a fully computerized and networked Hospital Information System (HIS), a fully digital radiology department, 17 NABL accredited clinical laboratories and a 24/7 telemedicine service, AIMS offers a total and comprehensive healthcare solution comparable to the best hospitals in the world. The AIMS team comprises physicians, surgeons and other healthcare professionals of the highest caliber and experience.

AIMS features one of the most advanced hospital computer networks in India. The network supports more than 2000 computers and has computerized nearly every aspect of patient care including all patient information, lab testing and radiological imaging. A PET (Positron Emitting Tomography) CT scanner, the first of its kind in the state of Kerala and which is extremely useful for early detection of cancer, has been installed in AIMS and was inaugurated in July 2009 by Dr. A. P. J. Abdul Kalam, former President of India. The most recent addition is a 3 Tesla Silent MRI.

The educational institutions of Amrita Vishwa Vidya Peetham, a University established under section 3 of UGC Act 1956, has at its Health Sciences Campus in Kochi, the Amrita School of Medicine, the Amrita Centre for Nanosciences, the Amrita School of Dentistry, the Amrita College of Nursing, and the Amrita School of Pharmacy, committed to being centres of excellence providing value-based medical education, where the highest human qualities of compassion, dedication, purity and service are instilled in the youth. Amrita School of Ayurveda is located at Amritapuri, in the district of Kollam. Amrita University strives to help all students attain the competence and character to humbly serve humanity in accordance with the highest principles and standards of the healthcare profession.

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Part I – Rules and Regulations

Part I
Rules and Regulations

I. Post Graduate Programmes (Master of Sciences)

1. Details of Post Graduate Courses :			
Sl. No.	**Course**	**Duration**	**Eligibility for admission to the course**
1	Medical Laboratory Technology (MLT)	2 years	Pass in B.Sc MLT (4 year regular courses only)
2	Neuro-Electro Physiology		First Class in B.Sc with Physics as main subsidiary subject (OR) B.Sc Allied health sciences
3	Swallowing Disorders and Therapy		BASLP
4	Clinical Research		MBBS.BDS/BAMS/BHMS/B.Pharm/B.Sc Allied Health Sciences/B.Sc Biotechnology/B.Sc Nursing/B.Sc in any Life Sciences
5	Biostatistics		Graduates in Statistics/Mathematics with paper in Statistics
6	Respiratory Therapy		B.Sc Respiratory Therapy
7	M.Sc Diabetes Sciences		B.Sc Diabetes Sciences
8	M.Sc Cardiovascular Technology		B.Sc Cardiovascular Technology
9	M.Sc Trauma and Critical Care		B.Sc Emergency Medical Technology, B.Sc Respiratory Therapy, B.Sc Physician Assistant, B.Sc Anaesthesia Technology
10	M.Sc Physician Assistant – Medica Oncology		B.Sc Physician Assistant
11	M.Sc Dialysis Therapy		B.Sc Dialysis Therapy

Program Outcomes (PO)

1. PO1: Through knowledge on the subject.
2. PO2: Effective communication skills.
3. PO3: Knowledge in professional ethics.
4. P04: Leadership qualities and team work.

5. PO5: Problem Analysis and solving skills.
6. PO6: Detailed knowledge on research methodology.
7. PO7: Higher Technical skills and competencies.
8. PO8: Specilization in the subject
9. PO9: Employability in various sectors.
10. PO10: Employability in higher positions

Program Specific Outcomes (PSO)

1. PSO1: Advanced knowledge in Clinical neurolab procedures
2. POS3: To perform an interprete Nerve conduction studies (NCV)
3. POS4: Theoretical, technical and basic knowledge of procedures like Visual Evoked Po- tential (VEP), Somatosensory Evoked Potential (SSEP), Brainstem Auditory Evoked Response (BAER).
4. PSO5: Technical expertize to conduct the various clinical and technical tests in the autonomic lab.
5. PSO6: Teacahing expertise for all procedures in neuro lab.

ELECTIVE COURSE AND COURSE OUTCOMES

MNEP 40 Soft Skills

CO1: Attitude to continue lifelong learning.

CO2: Knowledge of gender issues and the attitude to handle such issues.

CO3: Knowledge of environmental issues and the attitude to work towards a sustainable future.

CO4: Competency to take decisions applying ethical values and knowledge of proper etiquette.

CO5: Competency to conduct research.

CO6: Communication skills including teaching skills.

I.2. Medium of Instruction:

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

II.3. Eligibility:

Essential qualifications for eligibility are mentioned under clause No. I.

II. General Rules:

Admissions to the courses will be governed by the conditions laid down by the University from time to time and as published in the Regulations for admissions each year.

I.1. Duration of the Course

Duration details are mentioned under clause No.I of this booklet.

Duration of the course	: Mentioned under clause No. I
Weeks available per year	: 52 weeks
Vacation / holidays	: 5 weeks (2 weeks vacation + 3 weeks calendar holidays)
Examination (including preparatory)	: 6 weeks
Extra curricular activities	: 2 weeks
Weeks available	: 39 weeks
Hours per week	: 40 hours
Hours available per academic year	: 1560 (39 weeks x 40 hours)

Internship wherever specified are integral part of the course and needs to be done in Amrita Institute of Medical Sciences, Centre for Allied Health Sciences, Kochi itself.

II.2. Discontinuation of studies

Rules for discontinuation of studies during the course period will be those decided by the Chairman /Admissions, Centre for Allied Health Sciences, and Published in the "Terms and Conditions" every year.

II.3. Educational Methodology

Learning occurs by attending didactic lectures, as part of regular work, from co-workers and senior faculty, through training offered in the workplace, through

reading or other forms of self-study, using materials available through work, using materials obtained through a professional association or union, using materials obtained on students own initiative, during working hours at no cost to the student.

II.4. Academic Calendar

Annual Scheme

FIRST YEAR

Commencement of classes – August
Sessional exam – March
University exam (with practical) – 15 June - 15 July

SECOND YEAR

Commencement of classes – August
Sessional exam – March
University exam (with practical) – 15 June - 15 July

III. Examination Regulations:

III.1. Attendance:

80% of attendance (physical presence) is mandatory. Medical leave or other types of sanctioned leaves will not be counted as physical presence. For those who possess a minimum of 75% attendance, deficiency up to 5% may be condoned on medical or other genuine grounds by the Principal at his sole discretion and as per the recommendation of the Heads of Departments concerned. Students are allowed such condonation only once for entire course of study. Condonation fee as decided by the Principal has to be paid. Attendance will be counted from the date of commencement of the session to the last day of the final examination in each subject.

III.2. Internal Assessment:

1. **Regular periodic assessment shall be conducted throughout the course. At least two sessional examinations in theory and pre-**

ferably two practical examinations should be conducted in each subject. The model examination should be of the same pattern of the University Examination. Average of the two examinations and the marks obtained in assignments / oral / viva / practicals also shall be taken to calculate the internal assessment.

2. **A candidate should secure a minimum of 35% marks in the internal assessment in each subject (separately in theory and practical) to be eligible to appear for the University examination.**
3. **The internal assessment will be done by the department twice during the course period in a gap of not more than six months and final model exam which will be the same pattern of university examination as third sessional examination.**
4. Each student should maintain a logbook and record the procedures they do and the work patterns they are undergoing. It shall be based on periodical assessment, evaluation of student assignment, preparation for seminar, clinical case presentation, assessment of candidate's performance in the sessional examinations, routine clinical works, logbook and record keeping etc.
5. Day to day assessment will be given importance during internal assessment, Weightage for internal assessment shall be 20% of the total marks in each subject.
6. Sessional examination as mentioned above and the marks will be conducted and secured by the students along with their attendance details shall be forwarded to the Principal Third sessional examinations (model exam) shall be held three to four weeks prior to the University Examination and the report shall be made available to the Principal ten days prior to the commencement of the university examination.

III.3. University Examinations:

- University Examination shall be conducted at the end of every academic year.

- A candidate who satisfies the requirement of attendance, internal assessment marks, as stipulated by the University shall be eligible to appear for the University Examination.
- One academic year will be twelve months including the days of the University Examination. Year will be counted from the date of commencement of classes which will include the inauguration day.
- The minimum pass for internal assessment is 35% and for the University Examination is 45%. However the student should score a total of 50% (adding the internal and external examination) to pass in each subject (separately for theory and practical)
- If a candidate fails in either theory or practical paper, he/she has to reappear for both the papers (theory and practical)
- Maximum number of attempts permitted for each paper is five (5) including the first attempt.
- The maximum period to complete the course shall not exceed 6 years.
- All practical examinations will be conducted in the respective clinical areas.
- Number of candidates for practical examination should be maximum 12 to 15 per day
- One internal and external examiner should jointly conduct the theory evaluation and practical examination for each student during the final year.

III.4. Eligibility to appear university Examination:

A student who has secured 35% marks for Internal Assessment is qualified to appear for University Examination provided he/she satisfies percentage of attendance requirement as already mentioned at the III (1) of the clause.

III.5. Valuation of Theory – Revaluation Papers:

1. Valuation work will be undertaken by the examiners in the premises of the Examination Control Division in the Health Sciences Campus.
2. There will be **Re-Valuation** for all the University examinations. Fees for revaluation will be decided by the Principal from time to time.

3. Application for revaluation should be submitted within 5 days from date of result of examination declared and it should be submitted to the office with payment of fees as decided by the Principal.

III.6. Supplementary Examinations:

Every main University examination will be followed by a supplementary examination which will normally be held within four to six months from the date of completion of the main examination.

As stipulated under clause No. 2 under Internal Assessment, HOD will hold an internal examination three to four weeks prior to the date of the University Examination. Marks secured in the said examination or the ones secured in the internal examination held prior to the earlier University Examination whichever is more only will be taken for the purpose of internal assessment. HODs will send such details to the Principal ten days prior to the date of commencement of University examination.

Students who have not passed / cleared all or any subjects in the first University examination will be permitted to attend the second year classes and also eligible to appear for second year university examination along with first year supplementary examination. However, he / she can appear for the third (final) year university examination, only if he / she clear all the subjects in the first as well as in the second year examinations.

Same attendance and internal marks of the main examination will be considered for the supplementary examination, unless the HOD furnishes fresh internal marks and attendance after conducting fresh examination.

Students of supplementary batches are expected to prepare themselves for the University Examinations. No extra coaching is expected to be provided by the Institution. In case at any time the Institution has to provide extra coaching, students will be required to pay fees as fixed by the Principal for the said coaching.

III.7. Rules regarding carryover subjects:

A candidate will be permitted to continue the second and third year respectively of the course even if he/she has failed in the first or second year university examinations.

A candidate must have passed in all subjects to become eligible to undergo compulsory internship of one year, for the candidates who have not passed all the subjects the duration of the third year shall be extended until they become eligible to undergo compulsory internship.

IV. Criteria for Pass in University Examination - Regulations:

IV.1. Eligibility criteria for pass in University Examination:

In each of the subjects, a candidate must obtain 50% in aggregate for a pass and the details are as follows:

- A separate minimum of 35% for Internal Assessment
- 45% in Theory & 35% in Oral / Viva
- A separate minimum of 50% in aggregate for Practicals / Clinics (University Examinations)
- Overall 50% is the minimum pass in subject aggregate (University Theory + Viva / Oral + Practicals + Internal Assessment)

IV.2. Evaluation and Grade:

1. Minimum mark for pass shall be 50% in each of the theory and practical papers separately (including internal assessment) in all subjects.
2. A candidate who passes the examination in all subjects within aggregate of 50% marks and above and less than 65% shall be declared to have passed the examination in the second class.
3. A candidate who passes the examination in all subjects in the first attempt obtaining not less than 65% of the aggregate marks for all the three years shall be declared to have passed the examination with First Class.
4. A candidate who secures an aggregate of 75% or above marks is awarded distinction. A candidate who secures not less than 75% marks in any subject will be deemed to have passed the subject with

distinction in that subject provided he / she passes the whole examination in the first attempt.

5. A candidate who takes more than one attempt in any subject and pass subsequently shall be ranked only in pass class.
6. A Candidate passing the entire course is placed in Second class / First class / Distinction based on the cumulative percentage of the aggregate marks of all the subjects in the I, II and III (Final) university examinations
7. Rank in the examination: - Aggregate marks of all three year regular examinations will be considered for awarding rank for the B.Sc Graduate Examination. For the courses where the number of students are more than 15 rank will be calculated as under :
    - Topmost score will be declared as First Rank
    - Second to the topmost will be declared as Second Rank
    - Third to the topmost will be declared as Third Rank

V. Internship:

V.1. Eligibility for Internship - Regulations:

Wherever internship is a part of the curriculum (in clause No. I), students will have to do the internship in Amrita Institute of Medical Sciences itself. A candidate must have passed in all subjects to become eligible to undergo compulsory internship of six months. For the candidates who have not passed all the subjects the duration of the third/final year shall be extended until they become eligible to undergo compulsory internship.

"Internship has to be done continuously for a period provided in the syllabus except in extra ordinary circumstances where subject to the approval of the Principal the same may be done in not more than two parts with an interruption not exceeding six months. In any case Internship shall be completed within 18 months from the date of acquiring eligibility to the internship.

V.2. Attendance and leave details during Internship:

For 30 days of duty an intern will be eligible for one casual leave and one weekly off. A Student will become eligible to receive his/her degree only after completion of internship to the complete satisfaction of the Principal.

VI. General considerations and teaching / learning approach:

There must be enough experience to be provided for self learning. The methods and techniques that would ensure this must become a part of teaching-learning process. Proper records of the work should be maintained which will form the basis for the students' assessment and should be available to any agency that is required to do statutory inspection of the school of the course.

Research Activities:

The candidate has to maintain a record of research activities done by him/her and keeps a project record (to be submitted to the Principal before Part II examination).

Part II
Syllabus

OVERALL OBJECTIVES

The student should be able to assess the patient and plan various advanced electrodiagnostic procedures and implement them.

The student should be able to achieve the following.

Plan long term monitoring and recording of seizures in epilepsy monitoring unit.

Analyse seizure semiology

Analyse and interpret interictal and ictal onset of the seizures and make electro clinical diagnosis.

Hands on training for extra operative seizure mapping and eloquent cortex mapping.

Acquire training for conducting patient management conference.

Will be acquiring skills for conducting sleep studies, diagnosis of sleep disorders, PAP titration and sleep scoring techniques.

Will be technically equipped to conduct complex nerve conduction studies including evoked potentials.

Will gain hands on experience on intra operative monitoring techniques including direct cortical stimulation and mapping, electrocorticogram, MEP etc.

Expertise in signal processing like HFO, epileptogenecity index calculation, seizure prediction techniques.

Expertise in various image fusion methods.

Syllabus for MSc Neuroelectrophysiology

Paper I Electro-encephalography and functional brain analysis (MNEP1)

CO1: Detailed knowledge in principles of EEG
CO2: Principles of EEG recording
CO3: Detailed knowledge in Recording techniques, Electrodes placement
CO4: Detailed knowledge in Normal Adult EEG
CO5: Detailed knowledge in Video EEG, Polysomnography.

EEG Topics

1. **Polarity and electrical field mapping.**
2. **Classification and identification of seizures**
3. **Analysis of Semiology**
4. Evaluation of refractory epilepsy
5. General principles of Presurgical evaluation of Epilepsy
6. long term VEEG monitoring and identification of abnormal patterns in the waves
7. Invasive EEG
    - Strip and grid implantation
    - SEEG
        (a) SEEG principles and methods of recording
        (b) HFO monitoring
8. fMRI and its clinical correlation
9. **General principles of cortical mapping by electrical stimulation**
10. Extra operative functional mapping
11. WADA test
12. Patient management conference.

Paper II Neuro-electrophysiology and sleep(MNEP2)

CO1: Advanced knowledge and technical expertise in EEG
CO2: Advaced knowledge in Epilepsies and technical expertise in its diagnostic procedures
CO3: Advanced Knowledge and technical expertise in Video EEG

Polysomnography

1. **Neurobiology of sleep.**
2. **Classification of sleep disorders**
3. **Parasomnias**

4. Sleep disordered breathing
5. **OSA detection and management**
    a.CPAP titration
    b. BIPAP titration
    c. Servo ventilation
6. Excessive day time somnolence
    a.MSLT
    b.MWT
7. Sleep disordered breathing in specific clinical settings
8. Paediatric sleep apnea syndromes
9. Sleep assessment techniques

Paper III Advanced Electro-encephalography and func-tional brain analysis(MNEP3)

CO1: Advanced knowledge and technical expertise in Nerve Conduction Techniques
CO2: Advanced knowledge and technical expertise in EMG
CO3: Advanced knowledge in evoked potenitals
CO4: Detailed knowledge in Magetoencephalography

NCV Topics:

1. **Plexus studies**
2. **Inching method in neuropathy**
3. **Repetitive Nerve Stimulation**
4. Somatosensory Evoked Potential
5. Electromyogram
6. Differentiating Guillain Barre syndrome from other peripheral neuropathies using NCV studies
7. Blink reflex
8. Assessment of Anomalous innervations
9. Brainstem Evoked Response Audiometry
10. IOM procedures including:
    - SSEP
    - MEP
    - NAP
    - ECoG
    - Direct Cortical stimulation and mapping
    - Central sulcus mapping
    - D- wave and I- wave stimulation during spine surgeries
    - VEP
    - BAEP
    - Monitoring during Carotid surgery

- Bulbocavernous reflex monitoring in lower spine surgeries
- Facial nerve monitoring

Image fusion techniques

1. **Brain lab techniques**
2. **Functional MRI**
3. MRI PET coregistratiomn
4. Digital Subtraction Angiography
5. MRI CT coregistration
6. SPECT post processing
7. Training on image processing software Curry/ Analyse

Paper IV Advanced Neuro-electrophysiology and sleep (MNEP4)

CO1: Core knowledge in Sleep Studies
CO2: Core knowledge in Autonomics function test
CO3:Teaching skills of all procedures in neurolab and recent advances in neuroelectrophysiology

Advanced EEG Analysis

1. High frequency oscillations
2. Ultra slow wave oscillations
3. Epileptogenic index calculation
4. Graph theory analysis
5. Granger causality

Knowledge about latest Research topics and ability to prepare and present research topics in scientific conventions

Course Syllabus

EEG Topics

13. Polarity and electrical field mapping.
14. Classification of seizures
15. Analysis of Semiology
16. Evaluation of refractory epilepsy
17. General principles of Presurgical evaluation of Epilepsy

18. long term VEEG monitoring
19. Invasive EEG
    - Strip and grid implantation
    - SEEG
      (c) SEEG principles and methods of recording
      (d) HFO monitoring
20. fMRI
21. General principles of cortical mapping by electrical stimulation
22. Extra operative functional mapping
23. WADA test
24. Patient management conference.

NCV Topics:

11. Plexus studies
12. Inching method in neuropathy
13. Repetitive Nerve Stimulation
14. Somatosensory Evoked Potential
15. Electromyogram
16. Blink reflex
17. Differentiating Guillain Barre syndrome from other peripheral neuropathies using NCV studies
18. Assessment of Anomalous innervation
19. IOM procedures including:
    - SSEP
    - MEP
    - NAP
    - ECoG
    - Direct Cortical stimulation and mapping
    - Central sulcus mapping
    - D- wave and I- wave stimulation during spine surgeries
    - VEP
    - BAEP
    - Monitoring during Carotid surgery
    - Bulbocavernous reflex monitoring in lower spine surgeries
    - Facial nerve monitoring

Polysomnography

10. Neurobiology of sleep including various stages of Rapid Eye Movement and Non-Rapid Eye Movement sleep
11. Classification of sleep disorders
12. Parasomnias
13. Sleep disordered breathing
14. OSA detection and management
    a.CPAP titration
    b. BIPAP titration
    c. Servo ventilation
15. Excessive day time somnolence
    a.MSLT
    b.MWT
16. Sleep disordered breathing in specific clinical settings
17. Paediatric sleep apnea syndromes
18. Sleep assessment techniques

Biophysics

1. Introduction to Signal analysis
2. Understanding the passive properties of a neuron, Action Potential, Resting membrane potential, Nernst equation .
3. Ion channels and its dynamics
4. Understanding Frequency-Current relationship
5. Effects of pharmacological blockers on action potential

Advanced EEG Analysis

6. High frequency oscillations
7. Ultra slow wave oscillations
8. Epileptogenic index calculation
9. Graph theory analysis
10. Granger causality
11. Video EEG

Image fusion techniques

8. Brain lab techniques
9. Functional MRI
10. MRI PET coregistratiomn
11. MRI CT coregistration
12. SPECT post processing
13. Training on image processing software Curry/ Analyse

References

1. Text book of Epilepsy Surgery – Hans O Luders
2. Current practice of Clinical electroencephalography - Third edition Timothy.A.Pedley.

3. Electroencephalography, 4 th ed, Basic principles, clinical applications& related fields; Ernst Niedermeyer
4. Treatment of epilepsy; Principles & practice; Wylie
5. Atlas of Pediatric Electroencephalopgraphy : Blume and Kaibar
6. Atlas of Adult Electroencephalopgraphy : Blume
7. Recent advances in Epilepsy : Pedley, Medrum
8. Typical absence and related epileptic syndromes: Duncan, Panayitopoulos
9. Basic mechanism of epilepsy : Jasper & Ward, Pope
10. Epilepsy in children: Aicardi
11. Neurology in clinical practice – fourth edition, Walter. G.Bradley
12. Electrodiagnosis in diseases of nerves & muscles: Kimura
13. Sleep medicine pearls : Richard & Berry
14. Principles and practice of sleep medicine: William C Dement
15. Sleep Disorders;Chokroverthy
16. Electrodiagnosis in diseases of nerves & muscles: Kimura
17. Manual of Nerve Conduction Velocity and Somatosensory Evoked potentials: Joel A Delisa
18. Focal peripheral neuropathy: Stewart
19. Intraoperative monitoring of neural function: Mark R Nuwer
20. The clinical neurophysiology primer: Andrew S Blum
21. EEG signal processing : Sacid Sanei & J A Chambers
22. Epilepsy : A comprehensive textbook: Jerome Engel, Jr, Timothy A Pedley
23. Neurophysiologic intraoperative monitoring : Aatif. M. Hussain
24. Intraoperative neurophysiology: Mirela V Simon
25. 25. Quantitative EEG analysis, Methods and clinical applications: Shanbao Tong, Nitish V Thakor

SCHEME OF EXAMINATION

M.Sc Neuroelectrophysiology Degree Examination

Distribution of Marks for each subject

Paper Code	Subject Name	University	Internal	Oral	Subject Total	Total	Aggregate
FIRST YEAR							**1000**
I	Paper I Electro-encephalography and functional brain analysis	100	20	30	150	300	
II	Paper II Neuro-electrophysiology and sleep	100	20	30	150		
SECOND YEAR							
III	Paper III Advanced Electro-encephalography and functional brain analysis	100	20	30	150	700	
IV	Paper IV Advanced Neuro-electrophysiology and sleep	100	20	30	150		

V	Project	100	50	50	200		
VI	Practical +Viva (150 + 50)	100	50	50	200		

IMPORTANT TELEPHONE NUMBERS

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