

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 2531

(AUGUST 2020 EXAM SESSION)

B.Sc. NEURO ELECTRO PHYSIOLOGY

SECOND YEAR (Regulation 2018-2019)

PAPER I – ELECTROENCEPHALOGRAPHY AND ELECTRONICS

Q.P. Code : 802531

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. The international 10-20 system of electrode placements of standard EEG with neat diagram.
2. Describe the various wave patterns seen in normal EEG, its frequency, location, and its normal and pathological causes.
3. Describe clinical features of Juvenile myoclonic epilepsy along with EEG findings.

II. Write Notes on:

(8 x 5 = 40)

1. EEG in absence seizures.
2. EEG reporting format.
3. Hypsarrhythmia.
4. Triphasic waves.
5. Lennox gastaut syndrome.
6. Non convulsive status epilepticus.
7. Ocular artefacts.
8. Syncope versus seizure.

III. Short Answers on:

(10 x 3 = 30)

1. Brain death.
2. Gelastic Seizures.
3. EEG in children with RETT syndrome.
4. Sleep spindles.
5. Low voltage EEG.
6. Depth electrodes.
7. BIPLEDS.
8. Alpha wave.
9. Pulse artifact.
10. Electrode artefact.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 2531

**B.Sc. NEURO ELECTRO PHYSIOLOGY
SECOND YEAR (Regulation 2018-2019)
PAPER I – ELECTROENCEPHALOGRAPHY AND ELECTRONICS
Q.P. Code : 802531**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe the technique of photic stimulation and normal and abnormal response.
2. EEG artifacts and their recognition and elimination.
3. Describe the normal EEG Changes in sleep.

II. Write Notes on:

(8 x 5 = 40)

1. Centro temporal spikes
2. Infantile spasm
3. Various activation methods
4. Intracranial EEG monitoring
5. EEG patterns in a patient with CJD
6. Normal variants in EEG recording
7. Alpha blocking
8. Electroencephalography in liver or renal disease.

III. Short Answers on:

(10 x 3 = 30)

1. Breach Rhythm
2. Contraindications of hyperventilation
3. Limitations of EEG in intensive care unit
4. Disadvantages of monopolar montage
5. Continuous spikes and wakes during Sleep (CSWS)
6. EEG in (SSPE) Subacute Sclerosing Pan Encephalitis
7. Average reference montage
8. Vertex waves
9. FIRDA Frontal intermittent rhythmic delta activity
10. State Ohm's law

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 2531

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

**B.Sc. NEURO ELECTRO PHYSIOLOGY
SECOND YEAR – (Regulation from 2018-2019)
PAPER I – ELECTROENCEPHALOGRAPHY & ELECTRONICS**

Q.P. Code: 802531

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. EEG in central nervous system infections.
2. Activation Methods of EEG.
3. High-Pass, Low-Pass and Band-Pass Filters.

II. Write notes on:

(8 x 5 = 40)

1. Neurophysiologic basis of EEG and DC Potentials.
2. Ten–Twenty system of electrode placement.
3. Artifacts in EEG.
4. Role of EEG in presurgical evaluation of epilepsy.
5. Energy band diagram of semiconductors.
6. Computers in neurology equipment.
7. Block diagram of EMG machine.
8. Hazards and safety measure in medical equipment.

III. Short answers on:

(10 x 3 = 30)

1. Sleep EEG in preterm and term neonates.
2. Beta Waves.
3. Epileptic seizure EEG.
4. Long term EEG recording.
5. EEG in Metabolic disorders.
6. Resistors.
7. Conductors.
8. Transistors.
9. Voltage Regulators.
10. Depth Electrodes in EEG.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0423]

APRIL 2023

Sub. Code: 2531

**B.Sc. NEURO ELECTRO PHYSIOLOGY
SECOND YEAR – (Regulation 2018-2019 onwards)
PAPER I – ELECTROENCEPHALOGRAPHY & ELECTRONICS
Q.P. Code: 802531**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. EEG in Coma and Brain death.
2. Magnetoencephalography.
3. Calibration of Medical Equipment and their importance, dos and don'ts.

II. Write notes on:

(8 x 5 = 40)

1. Neurophysiologic basis of EEG and DC potentials.
2. Montages in EEG.
3. EEG monitoring in ICU.
4. Differential Amplifier.
5. Bio Potentials Electrodes.
6. Transducers.
7. Analog to digital convertor.
8. Diagnostic Medical Equipment.

III. Short answers on:

(10 x 3 = 30)

1. EEG abnormal waveforms.
2. Hyperventilation in EEG.
3. Photic Stimulation.
4. EEG in dementia.
5. Ground Electrode.
6. Kirchhoff's Current Law.
7. Resistors in Series and Parallel Combination with diagram.
8. Semiconductors.
9. Inductors.
10. Filters.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0424]

APRIL 2024

Sub. Code: 2531

B.Sc. NEURO ELECTRO PHYSIOLOGY
SECOND YEAR – (Regulation 2018-2019 onwards)
PAPER I – ELECTROENCEPHALOGRAPHY & ELECTRONICS
Q.P. Code: 802531

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: **(3 x 10 = 30)**

1. Mention the criteria of West Syndrome and describe its clinical features along with EEG findings.
2. Describe the technique of Photic Stimulation and Normal and Abnormal Responses.
3. Write the International 10-20 system of Electrode Placements of standard EEG with neat diagram.

II. Write notes on: **(8 x 5 = 40)**

1. Mu Rhythm.
2. Polysomnography.
3. Intracranial monitoring.
4. Block diagram.
5. Hypoxic brain injury.
6. EEG in stroke and in Post Hemicraniectomy patients.
7. Viral encephalitis.
8. Capacitors and Inductors.

III. Short answers on: **(10 x 3 = 30)**

1. Non convulsive status epilepticus.
2. Sphenoidal electrodes.
3. Absence seizures.
4. Generator of EEG.
5. Depth electrodes.
6. Long term EEG Recording.
7. Filters.
8. Burst Suppression.
9. Calibration.
10. Ground electrodes.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1125]

NOVEMBER 2025

Sub. Code: 2531

B.Sc. NEURO ELECTRO PHYSIOLOGY
SECOND YEAR – (Regulation 2018-2019 onwards)
PAPER I – ELECTROENCEPHALOGRAPHY & ELECTRONICS
Q.P. Code: 802531

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Analog Signal Recording Principles.
2. EEG in Status Epilepticus and Non-Convulsive Status Epilepticus.
3. Polysomnography – Procedure, recording methods, Indication and Interpretation.

II. Write notes on:

(8 x 5 = 40)

1. Activation methods.
2. Various montages in EEG recording.
3. Depth EEG recording.
4. Magneto – Encephalography.
5. EEG in Cerebrovascular diseases.
6. EEG in Psychiatric diseases.
7. Juvenile Myoclonic epilepsy- EEG recording.
8. EEG in Subacute Sclerosing Pan Encephalitis.

III. Short answers on:

(10 x 3 = 30)

1. Sleep spindles.
2. Alpha rhythm.
3. Spike and Sharp waves in EEG.
4. Non Epileptic form discharges.
5. Beta rhythm.
6. EEG in Alpha coma.
7. EEG in CJD.
8. Theta rhythm.
9. Physiological EEG Artifacts.
10. Contraindications for Hyperventilation.
