SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Osudu, Agaram Village, Kudapakkam Post, Pondicherry – 605 502.

DEPARTMENT OF PHYSIOLOGY

Date: 04.12.2018

From
Dr.V.Senthil kumar
Professor and Head,
Physiology
Sri Lakshmi Narayana Institute of Medical sciences
Puducherry

To
The Dean,
Sri Lakshmi Narayana institute of Medical sciences
Puducherry

Sub: Permission to conduct value-added course: Certificate course in EEG interpretation & Code: PHY C10

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: Certificate course in EEG interpretation & Code: PHY C10 February 2019 -April 2019 We solicit your kind permission for the same.

Kind Regards

Dr.V.Senthil kumar

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean:Dr.G.Jayalakshmi

The HOD: Dr.V.Senthil kumar

The Expert:Dr.V.Anebaracy

The committee has discussed about the course and is approved.

Dean (Sign &Seal)

DEAN
LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE,
KOODAPAKKAM POST,
PUDUCHERRY - 605 502

Subject Expert. (Sign &Seal)

HOD (Sign &Seal)

PROFESSOR & HOD
DEPARTMENT OF PHYSIOLOGY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 60.

OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.
[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affliated to Bharath University, Chennai - TN]

Ref. No. SLIMS/Dean Off/VAC / 351 **Circular** **Date: 20.12.2018**

Sub: Organising Value-added Course: Certificate course in EEG interpretation & Code: PHY C10 - Reg

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical sciences, is organizing "Certificate course in EEG interpretation & Code: PHY C10".The course content is enclosed below.

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before January 2019. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

DEAN
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE,
KOODAPAKKAM POST,
PUDUCHERRY - 605 502

Encl: Copy of Course content.

Course Proposal

Course Title: Certificate course in EEG interpretation & Code: PHY C10

Course Objective: At the end of the course,the participants should

1. Understand the functional organisation of cortical and subcortical neurons in the genesis of EEG
2. EEG waves and mechanism of generation
3. Procedure of recording of EEG
4. Clinical usuage of EEG
5. Interpretation of EEG

Course Outcome: On successful completion of the course the students will have the knowledge on various lifestyle modifications in treatment and prevention of metabolic syndrome.

Course Audience: Ist year M.B.B.S students (2018- 2019)

Course Coordinator: Dr.R.Vijayakumar

Course Faculties with Qualification and Designation

Dr.V.Anebaracy,MBBS,MD,Assistant Professor,Physiology
Dr.V.Senthil Kumar,MBBS,MD, Professor& HOD,Physiology

Course Curriculum/Topics with schedule:

SiNo	Date	Topic	Time	Faculty	Hours
1	2/02/2019	understand the functional organisation of cortical and subcortical neurons in the genesis of EEG	1.30 pm to 6.30 pm	Dr.V.Anebaracy	5
2	09/02/2019	EEG waves and mechanism of generation	2 pm to 6 pm	Dr.V.Senthil Kumar	5
3	16/02/2019	Procedure of recording of EEG 1	2 pm to 5 pm	Dr.V.Anebaracy	5
4	09/03/2019	Procedure of recording of EEG 2	2 pm to 5 pm	Dr.V.Senthil Kumar	5
5	23/03/2019	Interpretation of EEG 1	1.30 pm to	Dr.V.Anebaracy	5

			6.30 pm		
6	06/04/2019	Interpretation of EEG 2	2 pm to 6 pm	Dr.V.Anebaracy	5
			Total Hours		30

REFERENCE BOOKS:

1. EEG in Clinical Practice Hardcover by Kurupath Radhakrishnan (Author), Jagarlapudi M K Murthy (Author), Chaturbhuj Rathore (Author).

2. EEG Simplifiedby Satish Khadilkar (Author), Girish Soni (Author).

VALUE ADDED COURSE

1. Name of the programme & Code

Certificate course in EEG interpretation & Code: PHY C10

2. Duration & Period

30 hrs & February 2019 -April 2019

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

One time from February 2019 -April 2019

8. Year of discontinuation: 2020

9. Summary report of each program year-wise

Value Added Course- February 2019 -April 2019					
Sl. No	**Course Code**	**Course Name**	**Resource Persons**	**Target Students**	**Strength & Year**
1	PHYC10	Online Certificate course in EEG interpretation	Dr.V.Anebaracy Dr. V. SenthilKumar	1st MBBS	20 (February 2019 -April 2019)

10. Course Feed Back

Enclosed as Annexure- V

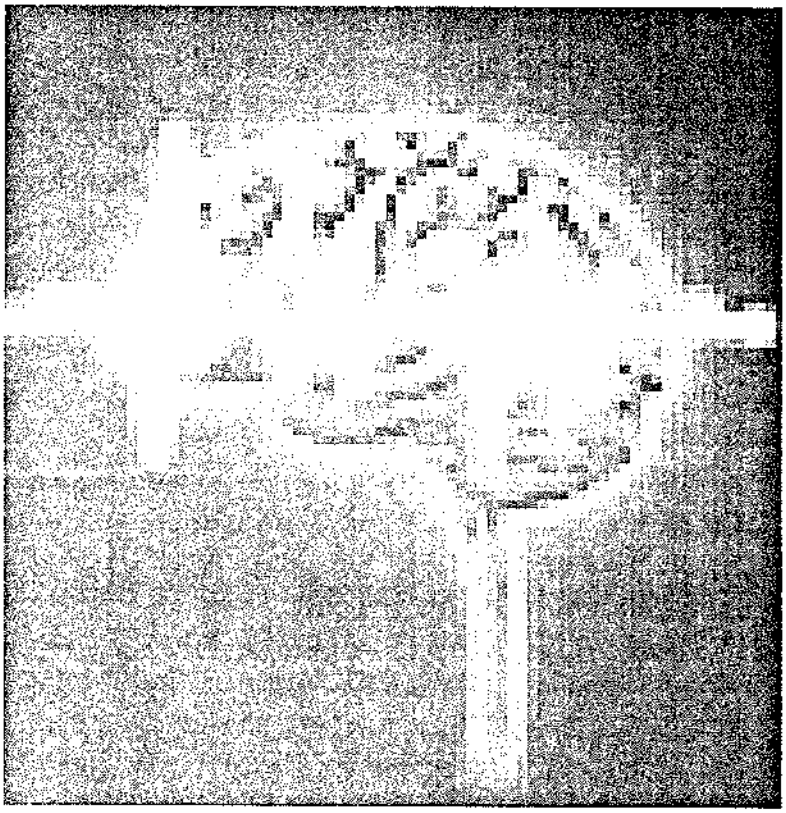
RESOURCE PERSON
Dr.V.Anebaracy

COORDINATOR
Dr.R.Vijayakumar

RESOURCE PERSON
Dr.V.Senthil Kumar VSK

CERTIFICATE COURSE IN EEG INTERPRETATION &

CODE: PHY C10



PARTICIPANT HAND BOOK

BIHER

SLIMS

COURSE DETAILS

Particulars	Description
Course Title	Certificate course in EEG interpretation
Course Code	Code: PHY C10
Objective	1. understand the functional organisation of cortical and subcortical neurons in the genesis of EEG 2. EEG waves and mechanism of generation 3.Procedure of recording of EEG 4. Clinical usuage of EEG 5. Interpretation of EEG
Further learning opportunities	Advance course in EEG interpretation.
Key Competencies	On successful completion of the course the students will have the knowledge in Basics of normal EEG and interpretation of abnormal EEG
Target Student	1st MBBS Students
Duration	30 hrs & & February 2019 -April 2019
Theory Session	20hrs
Practical Session	10hrs
Assessment Procedure	Multiple choice questions

EEG

- RECORDING OF THE ELECTRICAL ACTIVITY OF THE BRAIN IS KNOWN AS EEG.
- RECORDING OF THE ELECTRICAL ACTIVITY IS DONE BY PLACING ELECTRODES OVER THE SCALP.
- HANS BERGER IS A GERMAN PSYCHIATRIST WHO FIRST RECORDED THE EEG IN 1929.

- **Electroencephalography (EEG)** is an electrophysiological monitoring method to record electrical activity of the brain. It is typically noninvasive, with the electrodes placed along the scalp, although invasive electrodes are sometimes used, as in electrocorticography, sometimes called intracranial EEG.
- EEG measures voltage fluctuations resulting from ionic current within the neurons of the brain .Clinically, EEG refers to the recording of the brain's spontaneous electrical activity over a period of time, as recorded from multiple electrodes placed on the scalp. Diagnostic applications generally focus either on event-related potentials or on the spectral content of EEG. The former investigates potential fluctuations time locked to an event, such as 'stimulus onset' or 'button press'. The latter analyses the type of neural oscillations (popularly called "brain waves") that can be observed in EEG signals in the frequency domain.
- EEG is most often used to diagnose epilepsy, which causes abnormalities in EEG readings. It is also used to diagnose sleep disorders, depth of anesthesia, coma, encephalopathies, and brain death. EEG used to be a first-line method of diagnosis for tumors, stroke and other focal brain disorders but this use has decreased with the advent of high-resolution anatomical imaging techniques such as magnetic resonance imaging (MRI) and computed tomography (CT). Despite limited spatial

resolution, EEG continues to be a valuable tool for research and diagnosis. It is one of the few mobile techniques available and offers millisecond-range temporal resolution which is not possible with CT, PET or MRI.

- Derivatives of the EEG technique include evoked potentials (EP), which involves averaging the EEG activity time-locked to the presentation of a stimulus of some sort (visual, somatosensory, or auditory). Event-related potentials (ERPs) refer to averaged EEG responses that are time-locked to more complex processing of stimuli; this technique is used in cognitive science, cognitive psychology, and psychophysiological rese
- In 1875, Richard Caton (1842–1926), a physician practicing in Liverpool, presented his findings about electrical phenomena of the exposed cerebral hemispheres of rabbits and monkeys in the *British Medical Journal*. In 1890, Polish physiologist Adolf Beck published an investigation of spontaneous electrical activity of the brain of rabbits and dogs that included rhythmic oscillations altered by light. Beck started experiments on the electrical brain activity of animals. Beck placed electrodes directly on the surface of the brain to test for sensory stimulation. His observation of fluctuating brain activity led to the conclusion of brain waves.

USES OF EEG

EEG is one of the main diagnostic tests for epilepsy. A routine clinical EEG recording typically lasts 20–30 minutes (plus preparation time). It is a test that detects electrical activity in the brain using small, metal discs (electrodes) attached to the scalp. Routinely, EEG is used in clinical circumstances to determine changes in brain activity that might be useful in diagnosing brain disorders, especially epilepsy or another seizure disorder. An EEG might also be helpful for diagnosing or treating the following disorders:

- Brain tumor
- Brain damage from head injury
- Brain dysfunction that can have a variety of causes (encephalopathy)
- Inflammation of the brain (encephalitis)
- Stroke
- Sleep disorders

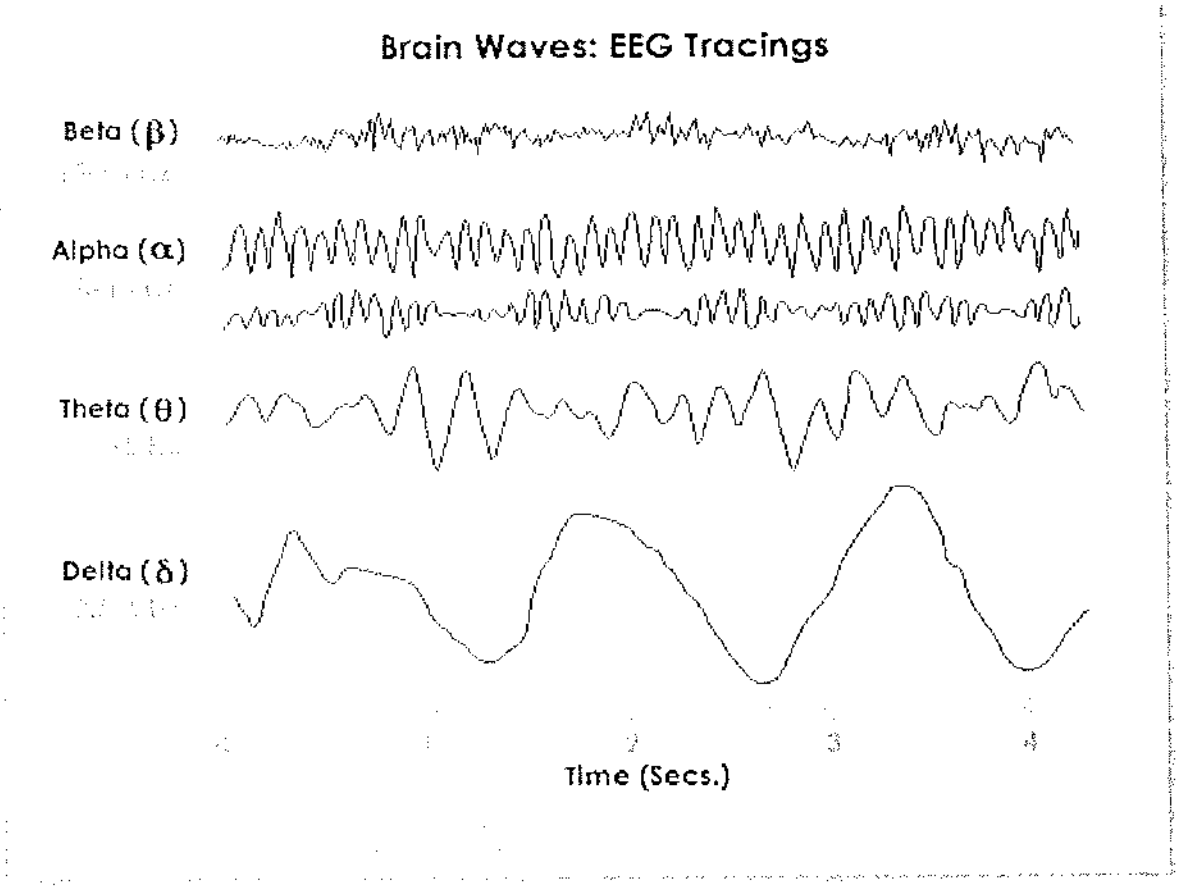
It can also:

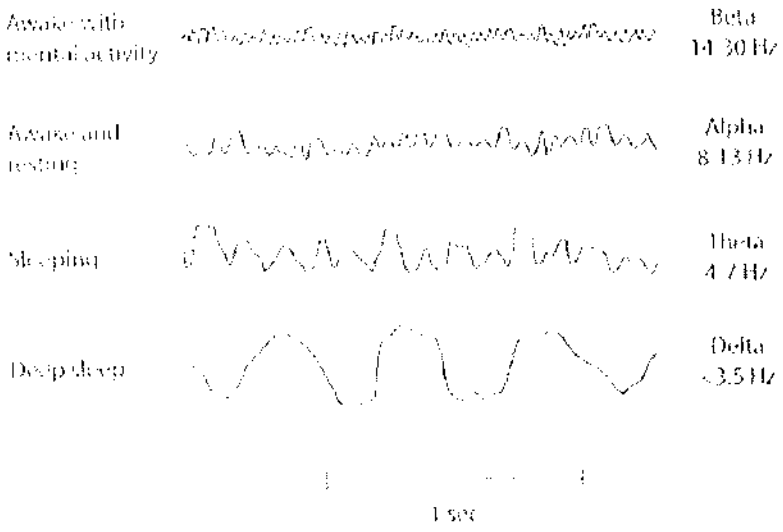
- distinguish epileptic seizures from other types of spells, such as psychogenic non-epileptic seizures, syncope (fainting), sub-cortical movement disorders and migraine variants
- differentiate "organic" encephalopathy or delirium from primary psychiatric syndromes such as catatonia

- serve as an adjunct test of brain death in comatose patients
- prognosticate in comatose patients (in certain instances)
- determine whether to wean anti-epileptic medications.

EEG WAVES

- ALPHA
- BETA
- THETA
- DELTA





Mechanisms.

The brain's electrical charge is maintained by billions of neurons. Neurons are electrically charged (or "polarized") by membrane transport proteins that pump ions across their membranes. Neurons are constantly exchanging ions with the extracellular milieu, for example to maintain resting potential and to propagate action potentials. Ions of similar charge repel each other, and when many ions are pushed out of many neurons at the same time, they can push their neighbours, who push their neighbours, and so on, in a wave. This process is known as volume conduction. When the wave of ions reaches the electrodes on the scalp, they can push or pull electrons on the metal in the electrodes. Since metal conducts the push and pull of electrons easily, the difference in push or

pull voltages between any two electrodes can be measured by a voltmeter. Recording these voltages over time gives us the EEG.

The electric potential generated by an individual neuron is far too small to be picked up by EEG or MEG. EEG activity therefore always reflects the summation of the synchronous activity of thousands or millions of neurons that have similar spatial orientation. If the cells do not have similar spatial orientation, their ions do not line up and create waves to be detected. Pyramidal neurons of the cortex are thought to produce the most EEG signal because they are well-aligned and fire together. Because voltage field gradients fall off with the square of distance, activity from deep sources is more difficult to detect than currents near the skull.

Scalp EEG activity shows oscillations at a variety of frequencies. Several of these oscillations have characteristic frequency ranges, spatial distributions and are associated with different states of brain functioning (e.g., waking and the various sleep stages). These oscillations represent synchronized activity over a network of neurons. The neuronal networks underlying some of these oscillations are understood (e.g., the thalamocortical resonance underlying sleep spindles), while many others are not (e.g., the system that generates the posterior basic rhythm). Research that measures both EEG and neuron spiking finds the relationship between the two is complex, with a combination of EEG

power in the gamma band and phase in the delta band relating most strongly to neuron spike activity.

Computer electroencephalograph:

In conventional scalp EEG, the recording is obtained by placing electrodes on the scalp with a conductive gel or paste, usually after preparing the scalp area by light abrasion to reduce impedance due to dead skin cells. Many systems typically use electrodes, each of which is attached to an individual wire. Some systems use caps or nets into which electrodes are embedded; this is particularly common when high-density arrays of electrodes are needed.

Electrode locations and names are specified by the International 10–20 system for most clinical and research applications (except when high-density arrays are used). This system ensures that the naming of electrodes is consistent across laboratories. In most clinical applications, 19 recording electrodes (plus ground and system reference) are used. A smaller number of electrodes are typically used when recording EEG from neonates. Additional electrodes can be added to the standard set-up when a clinical or research application demands increased spatial resolution for a particular area of the brain. High-density arrays (typically via cap or net) can contain up to 256 electrodes more-or-less evenly spaced around the scalp.

Each electrode is connected to one input of a differential amplifier (one amplifier per pair of electrodes); a common system reference electrode is

connected to the other input of each differential amplifier. These amplifiers amplify the voltage between the active electrode and the reference (typically 1,000–100,000 times, or 60–100 dB of voltage gain). In analog EEG, the signal is then filtered (next paragraph), and the EEG signal is output as the deflection of pens as paper passes underneath. Most EEG systems these days, however, are digital, and the amplified signal is digitized via an analog-to-digital converter, after being passed through an anti-aliasing filter. Analog-to-digital sampling typically occurs at 256–512 Hz in clinical scalp EEG; sampling rates of up to 20 kHz are used in some research applications.

During the recording, a series of activation procedures may be used. These procedures may induce normal or abnormal EEG activity that might not otherwise be seen. These procedures include hyperventilation, photic stimulation (with a strobe light), eye closure, mental activity, sleep and sleep deprivation. During (inpatient) epilepsy monitoring, a patient's typical seizure medications may be withdrawn.

The digital EEG signal is stored electronically and can be filtered for display. Typical settings for the high-pass filter and a low-pass filter are 0.5–1 Hz and 35–70 Hz respectively. The high-pass filter typically filters out slow artifact, such as electrogalvanic signals and movement artifact, whereas the low-pass filter filters out high-frequency artifacts, such as electromyographic signals. An

additional notch filter is typically used to remove artifact caused by electrical power lines (60 Hz in the United States and 50 Hz in many other countries).

The EEG signals can be captured with opensource hardware such as Open BCI and the signal can be processed by freely available EEG software such as EEGLAB or the Neurophysiological Biomarker Toolbox.

As part of an evaluation for epilepsy surgery, it may be necessary to insert electrodes near the surface of the brain, under the surface of the dura mater. This is accomplished via burr hole or craniotomy. This is referred to variously as "electrocorticography (ECoG)", "intracranial EEG (I-EEG)" or "subdural EEG (SD-EEG)". Depth electrodes may also be placed into brain structures, such as the amygdala or hippocampus, structures, which are common epileptic foci and may not be "seen" clearly by scalp EEG. The electrocorticographic signal is processed in the same manner as digital scalp EEG (above), with a couple of caveats. ECoG is typically recorded at higher sampling rates than scalp EEG because of the requirements of Nyquist theorem—the subdural signal is composed of a higher predominance of higher frequency components. Also, many of the artifacts that affect scalp EEG do not impact ECoG, and therefore display filtering is often not needed.

A typical adult human EEG signal is about 10 μV to 100 μV in amplitude when measured from the scalp.

Since an EEG voltage signal represents a difference between the voltages at two electrodes, the display of the EEG for the reading encephalographer may be set up in one of several ways. The representation of the EEG channels is referred to as a *montage*.

Sequential montage

Each channel (i.e., waveform) represents the difference between two adjacent electrodes. The entire montage consists of a series of these channels. For example, the channel "Fp1-F3" represents the difference in voltage between the Fp1 electrode and the F3 electrode. The next channel in the montage, "F3-C3", represents the voltage difference between F3 and C3, and so on through the entire array of electrodes.

Comparison of EEG bands

Band	Frequency (Hz)	Location	Normally	Pathologically
Delta	< 4	frontally in adults,	• adult slow-wave sleep • in babies	• subcortical lesions • diffuse lesions

		posteriorly in children; high-amplitude waves	• Has been found during some continuous-attention tasks • higher in young children • drowsiness in adults and teens • idling	• metabolic encephalopathy hydrocephalus • deep midline lesions
Theta	4–7	Found in locations not related to task at hand	• Associated with inhibition of elicited responses (has been found to spike in situations where a person is actively trying to repress a	• focal subcortical lesions • metabolic encephalopathy • deep midline disorders • some instances of hydrocephalus

			response or action).	
Alpha	8–15	posterior regions of head, both sides, higher in amplitude on dominant side. Central sites (c3-c4) at rest	• relaxed/reflecting • closing the eyes • Also associated with inhibition control, seemingly with the purpose of timing inhibitory activity in different locations across the brain.	• coma
Beta	16–31	both sides, symmetrical	• range span: active calm →	benzodiazepines Dup15q syndrome

		distribution, most evident frontally; low-amplitude waves	intense → stressed → mild obsessive • active thinking, focus, high alert, anxious	
Gamma	> 32	Somatosensory cortex	• Displays during cross-modal sensory processing (perception that combines two different senses, such as sound and sight • Also is shown during short-term memory	• A decrease in gamma-band activity may be associated with cognitive decline, especially when related to the theta band; however, this has not been proven for use as a clinical diagnostic measurement

			matching of recognized objects, sounds, or tactile sensations	
Mu	8–12	Sensorimotor cortex	• Shows rest-state motor neurons.	• Mu suppression could indicate that motor mirror neurons are working. Deficits in Mu suppression, and thus in mirror neurons, might play a role in autism.

The practice of using only whole numbers in the definitions comes from practical considerations in the days when only whole cycles could be counted on paper records. This leads to gaps in the definitions, as seen elsewhere on this page. The theoretical definitions have always been more carefully defined to include all frequencies. Unfortunately there is no agreement in standard reference works on what these ranges should be – values for the upper end of alpha and lower end of beta include 12, 13, 14 and 15. If the threshold is taken

as 14 Hz, then the slowest beta wave has about the same duration as the longest spike (70 ms), which makes this the most useful value.

EEG Frequency bands: Improved definitions

Band	Frequency (Hz)
Delta	< 4
Theta	≥ 4 and < 8
Alpha	≥ 8 and < 14
Beta	≥ 14

Others sometimes divide the bands into sub-bands for the purposes of data analysis

Abnormal activity::

Abnormal activity can broadly be separated into epileptiform and non-epileptiform activity. It can also be separated into focal or diffuse.

Focal epileptiform discharges represent fast, synchronous potentials in a large number of neurons in a somewhat discrete area of the brain. These can occur as

interictal activity, between seizures, and represent an area of cortical irritability that may be predisposed to producing epileptic seizures. Interictal discharges are not wholly reliable for determining whether a patient has epilepsy nor where his/her seizure might originate.

Generalized epileptiform discharges often have an anterior maximum, but these are seen synchronously throughout the entire brain. They are strongly suggestive of a generalized epilepsy.

Focal non-epileptiform abnormal activity may occur over areas of the brain where there is focal damage of the cortex or white matter. It often consists of an increase in slow frequency rhythms and/or a loss of normal higher frequency rhythms. It may also appear as focal or unilateral decrease in amplitude of the EEG signal.

Diffuse non-epileptiform abnormal activity may manifest as diffuse abnormally slow rhythms or bilateral slowing of normal rhythms, such as the PBR.

Intracortical Encephalogram electrodes and sub-dural electrodes can be used in tandem to discriminate and discretize artifact from epileptiform and other severe neurological events.

More advanced measures of abnormal EEG signals have also recently received attention as possible biomarkers for different disorders such as Alzheimer's disease.

VALUE ADDED COURSE

Certificate Course in EEG Interpretation & Code: PHY C10

List of Students Enrolled: February 2019-April 2019

1st Year MBBS Student			
Sl. No	**Name of the Student**	**Registration Number**	**signature**
1	JETESH SINGH	U18MB311	
2	KAMALESH C N	U18MB312	
3	KARTHIYAYINI .G	U18MB313	
4	KEERTHANA P	U18MB314	
5	KEISHAM LUXMIRANI	U18MB315	
6	LAKKAM UMESH KUMAR	U18MB316	
7	LAKSHMI PRIYA E	U18MB317	
8	LEKIWA O PALA	U18MB318	
9	LISHI YAM	U18MB319	
10	MADAN SHUBHAM SANJAY	U18MB320	
11	MAHI TYAGI	U18MB321	
12	MANIVANNAN N	U18MB322	
13	MARYAM MOHIDEEN PITCHAI	U18MB323	
14	MEDOZHAZO RUPREO	U18MB324	
15	MOHAMMED SALMAN	U18MB325	
16	MRINAL KUMAR	U18MB326	
17	NABAM YAMIN	U18MB327	
18	NALLI VASANTHSEETAL	U18MB328	
19	NEERAJ NAMASIVAYAM	U18MB329	
20	NEHA BARMAN	U18MB330	

Manivannan N
U18MB322

Certificate course in EEG interpretation

Course Code: Code: PHY C10

MCQ (Total marks:1x 10=10 marks)

1. Electroencephalogram (EEG) rhythm was first recorded by:
A. William Einthovan
B. Egas Moniz
C. Hans Berger (1929)
D. Gaillard L

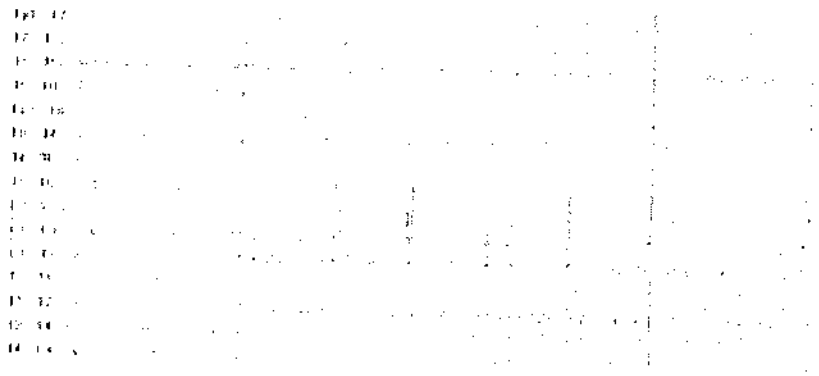
2. The most prominent EEG wave pattern of an awake, relaxed adult whose eyes are closed is:
A. Delta
B. Theta
C. Alpha
D. Beta

3. Stage 2 sleep is defined by the presence of:
A. spikes and slow waves
B. sleep spindles and K complexes.
C. rapid eye movements.
D. 1- to 2-Hz delta frequencies.

4. When people are attentive to an external stimulus or are thinking hard about something, the alpha rhythm is replaced by
A. Delta
B. Theta
C. Alpha
D. Beta
E. Gamma

5. Indications for clinical EEG assessment of psychiatric patients include, all EXCEPT
A. Rule out specific neurological disorders
B. History of head trauma or suspicion of epilepsy
C. Differentiating schizophrenia and mood disorders
D. First presentation of psychosis
E. Pre- and post electroconvulsive therapy

6. Diffuse, bilaterally synchronous 3Hz wave and spike discharges are typical EEG findings of:
A. Absence seizures
B. Infantile spasm
C. Myoclonic seizures



A. Lennox-Gastaut syndrome
B. Infantile spasms
C. Tonic seizures
D. Simple partial seizure
E. Generalized tonic-clonic (GTC)

Mrinal Kumar
V18MB326

Certificate course in EEG interpretation

Course Code: Code: PHY C10

MCQ (Total marks:1x 10=10 marks)

1. Electroencephalogram (EEG) rhythm was first recorded by:
A. William Einthovan
B. Egas Moniz
C. Hans Berger (1929)
D. Gaillard L

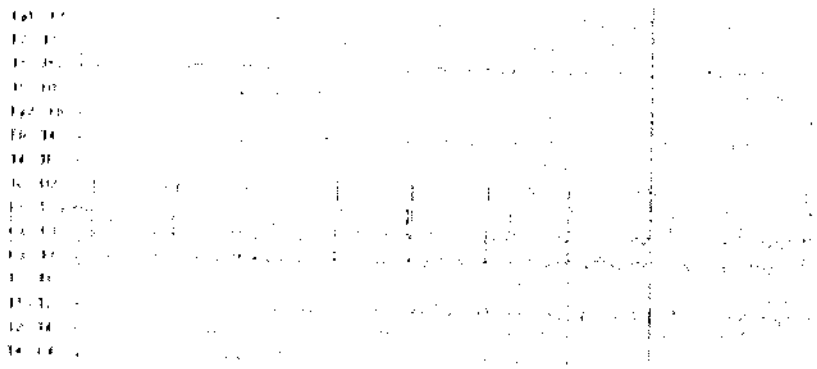
2. The most prominent EEG wave pattern of an awake, relaxed adult whose eyes are closed is:
A. Delta
B. Theta
C. Alpha
D. Beta

3. Stage 2 sleep is defined by the presence of:
A. spikes and slow waves
B. sleep spindles and K complexes.
C. rapid eye movements.
D. 1- to 2-Hz delta frequencies.

4. When people are attentive to an external stimulus or are thinking hard about something, the alpha rhythm is replaced by
A. Delta
B. Theta
C. Alpha
D. Beta
E. Gamma

5. Indications for clinical EEG assessment of psychiatric patients include, all EXCEPT
A. Rule out specific neurological disorders
B. History of head trauma or suspicion of epilepsy
C. Differentiating schizophrenia and mood disorders
D. First presentation of psychosis
E. Pre- and post electroconvulsive therapy

6. Diffuse, bilaterally synchronous 3Hz wave and spike discharges are typical EEG findings of:
A. Absence seizures
B. Infantile spasm
C. Myoclonic seizures



A. Lennox-Gastaut syndrome
B. Infantile spasms
C. Tonic seizures
D. Simple partial seizure
E. Generalized tonic-clonic (GTC)

Sri Lakshmi Narayana Institute of Medical Sciences

CERTIFICATE OF MERIT

This is to certify that Lakkam Umesh Kumar has actively participated in the Value Added Course on EEG interpretation held during February 2019 - April 2019 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. V.Anebaracy
RESOURCE PERSON

R. Vijayakumar
Dr.R.Vijayakumar
COORDINATOR

Sri Lakshmi Narayana Institute of Medical Sciences

CERTIFICATE OF MERIT

This is to certify that Madan Shubham Sanjay has actively participated in the Value Added Course on EEG interpretation held during February 2019 - April 2019 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. V.Anebaracy
RESOURCE PERSON

R. Vijayakumar
Dr.R.Vijayakumar
COORDINATOR

Student Feedback Form

Course Name: Certificate course in EEG interpretation

Subject Code: PHY C10

Name of Student: Nafeen Yamin Registration number : UIBMR327

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear					
2	Course contents met with your expectations	✓				
3	Lecturer sequence was well planned			✓		
4	Lectures were clear and easy to understand		✓			
5	Teaching aids were effective					✓
6	Instructors encourage interaction and were helpful			✓		
7	The level of the course	✓				
8	Overall rating of the course	1	2	3	4	(5)

**** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory***

Suggestions if any:

We want More courses like this. Excellent teaching Sessions, Very useful!

Nafeen Yamin

Signature

Student Feedback Form

Course Name: Certificate course in EEG interpretation

Subject Code: PHY C10

Name of Student: Nalli Vasavika Selkar Registration number : U18MS18P

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear			✓		
2	Course contents met with your expectations		✓			
3	Lecturer sequence was well planned		✓			
4	Lectures were clear and easy to understand			✓		
5	Teaching aids were effective				✓	
6	Instructors encourage interaction and were helpful			✓		
7	The level of the course				✓	
8	Overall rating of the course	1	2	(3)	4	5

**** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory***

Suggestions if any:

We want advance course in EEG interpretation. We want more practical sessions

Signature

Date: 10.04.2019

From
Dr.V.Senthil kumar
Professor and Head,
Physiology
Sri Lakshmi Narayana Institute of Medical sciences
Puducherry

To
The Dean,
Sri Lakshmi Narayana Institute of Medical sciences
Puducherry

Through Proper Channel

Sub: Completion of value-added course: Certificate course in EEG interpretation & Code: PHY C10

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled: Certificate course in EEG interpretation & Code: PHY C10 from February 2019 - April 2019. We solicit your kind action to send certificates for the participants that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

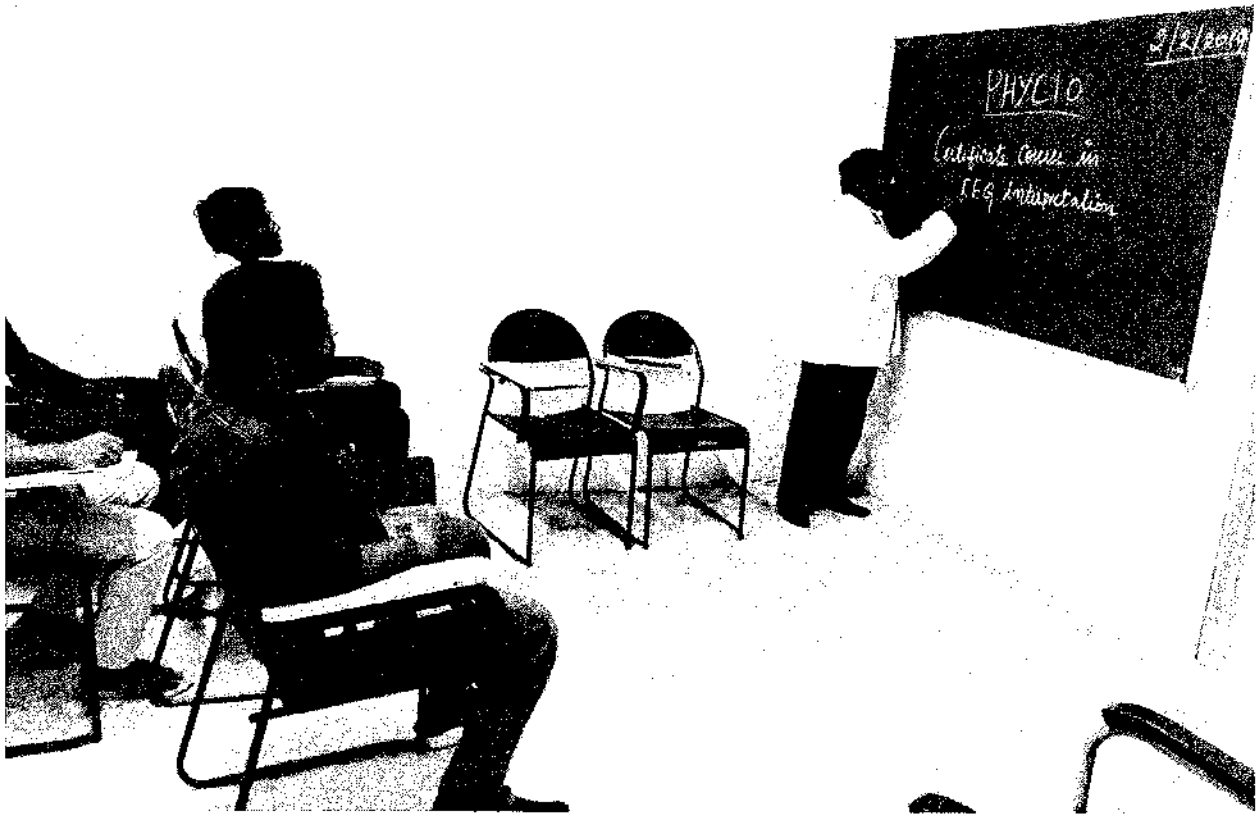
Kind Regards

VSK
Dr.V.Senthil kumar
HOD Physiology

PROFESSOR & HOD
DEPARTMENT OF PHYSIOLOGY
Sri Lakshmi Narayana Institute Of Medical Sciences
PONDICHERRY - 605 502.

Encl: Certificates

Photographs


PHYCIO
Certificate course in
EEG interpretation