



YENEPOYA

(DEEMED TO BE UNIVERSITY)

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Accredited by NAAC with 'A' Grade

YENEPOYA INSTITUTE OF ALLIED HEALTH SCIENCES

PROGRAM OUTCOMES AND COURSE OUTCOMES

UNDERGRADUATE PROGRAM

**BACHELOR OF SCIENCE
NEUROSCIENCE TECHNOLOGY**

ATTESTED

Dr. Gangadhara Somayaji K S
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PROGRAM OUTCOMES
UNDERGRADUATE PROGRAM
BACHELOR OF SCIENCE
NEUROSCIENCE TECHNOLOGY

(K=Knowledge, S= Skill, A= Attitude)

- PO 1 Understand and learn how to use digital EEG including the appropriate use of montage reformatting. Learn to interpret adult inter- ictal EEGs. Know the clinical significance of ictal EEG. (K,S)
- PO 2 In the neurophysiology lab, assist neurologists in Electromyography (EMG) procedures & Nerve conduction studies (NCV) – procedures to be performed independently and basic interpretation of the findings. (K,S,A)
- PO 3 Know the differential diagnosis of diagnosis of seizure disorders. Learn to diagnose & classify seizure disorders. (K)
- PO 4 Develop a strong knowledge base in neuro anatomy, physiology and pathophysiology as well as Pharmacology foetal and neonatal brain development and neuro science. (K)
- PO 5 Improve ability to understand and accept diversity in cultures, lifestyles and coping strategies among their patients, and learn to communicate within the patient's mode of understanding with a focus on improving overall quality of life for each patient. (K,A)
- PO 6 Theoretical & technical and basic knowledge of procedures like Visual Evoked Potential (VEP), Somatosensory Evoked Potential (SSEP), Brainstem Auditory Evoked Response (BAER). (K,S)
- PO 7 Conduct the various clinical and technical tests in the autonomic lab. Hands on training in sleep lab – patient instructions, clinical interpretations, sleep staging based of Epworth's scale and procedure skills in Polysomnography (PSG) to be acquired. (K,S,A)
- PO 8 They are taught to demonstrate knowledge and practice of basic patient care and to coordinate with other members of the team Protect and uphold the rights of the patient, Ethical and legal issues and responsibilities and to Maintain professional confidentiality. (K,S)

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COURSE OUTCOMES
UNDERGRADUATE PROGRAM
BACHELOR OF SCIENCE
NEUROSCIENCE TECHNOLOGY
1ST SEMESTER

	CO	Description
Anatomy	CO 1	Comprehend the gross, functional and applied anatomy of various structures in the human body along with their inter-relationships.
	CO 2	Correlate the structure with the functions.
	CO 3	Competent to apply anatomical knowledge to perform minor technical procedural skills
Physiology	CO	Description
	CO 1	Broadly understand the physiological structure of each organ system and its physiological functions
	CO 2	Understand broadly the clinical abnormalities of organs and its clinical physiological implications
Biochemistry	CO	Description
	CO 1	Understanding the basic principles and procedures in specimen collection, reagent preparation and testing in Clinical laboratory
	CO 2	Understanding the properties of biomolecules, their function and biochemical process involved in health and disease
	CO 3	Understanding the importance of nutrition in health and disease
English and Communication Skills	CO	Description
	CO 1	Enable students in enhancing the ability to comprehend spoken and written English.
	CO 2	Avail effective communicative English in their professional work.
	CO 3	Practice students' skills in verbal and written English during clinical and classroom experiences.

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Constitution Of India	CO	Description
	CO 1	Understanding the structure of Constituent Assembly
	CO 2	Understand the fundamental duties and rights of Indian citizen
	CO 3	Knowledge regarding electoral process of India
	CO 4	Understand the importance of directive policies of state policies
	CO 5	Understand the structure and composition of Indian Constitution, and the ways of amending the constitution
	CO 6	Stimulate the roles of each of the three branches of government
	CO 7	Understand the provisions in the constitution for different areas

2nd SEMESTER

General Pathology	CO	Description
	CO 1	Will be able to define the medical terms, define and classify disease and understand the concepts of the disease.
	CO 2	Will be able to describe the causes and mechanism of common diseases that occur during the routine work and also changes seen in different individuals and various organs and fluids
	CO 3	Will be able to enumerate the laboratory tests e.g.: urine, blood, body fluids and its application on various diseases
Microbiology	CO	Description
	CO 1	Understanding of role of microbial agents in health and disease
	CO 2	Understand and practice various methods of Sterilisation and disinfection
Health Care	CO	Description
	CO 1	Describe the concepts of health, illness and national health policy various welfare programmes in India.
	CO 2	Explain the concepts of Nursing
	CO 3	Explain the basic, special needs of the patient, bandaging and first aid for common emergencies
	CO 4	Explain infection control

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	CO	Description
Environmental Studies	CO 1	Students will be able to learn about environment, factors affecting it, environmental ethics and its protection
	CO 2	Students will be able to Describe a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
	CO 3	Students will be able to Critically analyse technical subject matter (written or oral) for scientific merit apply learned environmental knowledge and understanding to solve technical /research problems in new contexts

	CO	Description
Sociology	CO 1	Understand the meaning of sociology, its relationship with other disciplines and also to gain knowledge on the sociological methods of investigations
	CO 2	Understand social factors and its role in health and disease
	CO 3	Understand the meaning, importance and agencies of socialization
	CO 4	Understand the concept and role of social groups in health, sickness and rehabilitation
	CO 5	Understand the meaning of family and its role in health, nutrition and sickness among members
	CO 6	Understand the meaning, features and health hazards of rural and urban communities
	CO 7	Understand the concept of culture and health and their relationship
	CO 8	Understand the meaning of social change, factors of social change, social change and stress, social change and health
	CO 9	Understand the meaning of social problems and types of social problems in the society
	CO 10	Gain knowledge on the social security and social legislation measures for the disabled
	CO 11	Understand the meaning of social work and role of medical social worker

	CO	Description
Medical Ethics	CO 1	Understand the fundamentals of Medical Ethics
	CO 2	Understand the Ethical Issues in Professional conduct of Healthcare
	CO 3	Gain knowledge in the Medico legal aspects of health records in healthcare practice
	CO4	Able to explain the respective ethical challenges and potential conflicts of interest in the functional departments of the organization
	CO5	Helps to increase the awareness and knowledge of the value dimensions of interactions with the patients, colleagues, relations and public.

- CO6 Understand and respect the rights of the patient and the duties and responsibilities of the healthcare people

3rd SEMESTER

	CO	Description
Neurological Diseases & Disorders I	CO 1	Knowledge on various neurological disorders
	CO 2	Helps to understand Nerve and muscle related disorders.
	CO 3	Helps to understand pathological process of brain and nervous system.
General Pharmacology (GP)	CO	Description
	CO1	Know the basics of pharmacology like history, scope & general principles
	CO2	Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs.
	CO3	To appreciate adverse reactions and drug interactions of commonly used drugs
	CO4	Knowledge on essential drugs in special conditions such as diuretics, opioids, corticosteroids, antihistamines, antiemetics, IV fluids, and Immunosuppressants etc
Electroencephalography	CO	Description
	CO 1	Differentiate between normal EEG and EEG with artifacts.
	CO 2	Differentiate between Epileptiform and normal EEG patterns.
	CO3	Understand the stimulating procedures in EEG.
Nerve Conduction Study	CO	Description
	CO1	Understand the basics of nerve conduction studies.
	CO2	Understand the proximal regions associated pathogenesis
Clinical NST I	CO	Description
	CO 1	Helps to learn the conduction studies of the different nerve entrapment neuropathies
	CO 2	Able to get proper Hands-on experience under supervision.

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Kannada	CO	Description
	CO 1	Helps to Comprehend and communicate in simple Kannada and improve their vocabulary of daily usage
	CO2	Understand distinct sounds and improve pronunciation
	CO3	Helps to form simple sentences to talk to patients, bystanders and the localities

4th SEMESTER

Neurological Diseases & Disorders II	CO	Description
	CO 1	Understand various autonomic disorders and associated nerves
	CO 2	Understand various myopathies and demyelinating disease
	CO 3	Understand environmental neurology and associated lifestyle disorders

Advanced Electroencephalography I	CO	Description
	CO1	Understand the plexus and its associated nerves
	CO2	Neuropathies associated to the plexus of nerves
	CO 3	Gain Knowledge on the entrapment neuropathies

Advanced Nerve conduction study I	CO	Description
	CO1	Understand the plexus and its associated nerves
	CO2	Neuropathies associated to the plexus of nerves
	CO 3	Gain Knowledge on the entrapment neuropathies

Clinical NST II	CO	Description
	CO 1	The students will get clinical training on the practical aspects on Electroencephalography & EMG procedures.
	CO 2	Able to get proper Hands-on experience under supervision.

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	CO	Description
Human Rights & Gender Equity	CO1	Helps the student understand the human rights as citizens of India.

	CO	Description
Biostatistics	CO 1	At the end of the course students will be familiar with statistics methods and techniques.
	CO 2	After the completion of the course students will be able to manage the data with various validation and cleaning process
	CO 3	At the end of the course students will be familiar with different types of data analysis techniques.
	CO 4	At completion of the course students can able to operate the statistical software to describe the data with proper presentation.

5th SEMESTER

	CO	Description
Advanced Electroencephalography II	CO1	Understand the various Encephalopathies occurring during childhood.
	CO2	Understand the interpretation of EEG during sleep and awake in childhood
	CO 3	Understand the EEG changes in infants & adolescents.

	CO	Description
Advanced Nerve conduction study II	CO1	Understand the plexus and its associated nerves.
	CO2	Neuropathies associated to the plexus of nerves.
	CO3	Gain knowledge on entrapment neuropathies

	CO	Description
An Introduction to Electromyography	CO1	Understand the principles of EMG
	CO2	Understand the various recording techniques used in EMG
	CO3	Understand the electrodes used in EMG

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	CO	Description
Clinical NST III	CO1	Upon Completion of the course students will be able to gain basic practical skills in
	CO2	Handling the neuro diagnostic procedures. The students will be introduced to equipment & technique used for treatment.

6th SEMESTER


Nerve Conduction Study & Ionm	CO	Description
	CO1	Assist Neurosurgeons in intra operative neuro monitoring
	CO2	Understand in detail about the special techniques in Nerve conduction study
	CO 3	Gain Knowledge on the entrapment neuropathies

Evoked Potentials	CO	Description
	CO1	Understand the various types of Evoked potentials tests performed in laboratory.
	CO2	Understand the instrumentation parameters while recording of Evoked potentials

Polysomnography & autonomic Lab	CO	Description
	CO1	Understand the different sleep related disorders
	CO2	Gain knowledge on the various sleep patterns and the stages associated to it

Advanced Electromyography	CO	Description
	CO1	Gain Knowledge on the disorders affecting the neuromuscular junctions
	CO2	Understand the Electromyography in paediatrics

Clinical NST III	CO	Description
	CO 1	Up on completion of the course the student should be able to gain basic practical skill in handling the neuro diagnostic procedures.
	CO2	The student will be introduced to, equipment and techniques used for Treatment


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