

NEURO PSYCHOLOGY

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ Week	Hrs/ Sem	Hrs/ Week	Hrs/ Sem		
VI	21CPS6B	Core-XII	06	90	05	75	15	04

COURSE OBJECTIVE

To enable students to understand how the nervous system influences a person's cognitive function and behaviour.

COURSE OUTCOMES

On successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Describe the nature, scope, history and basic structure of nervous system	K1
CO2	Discover the various functions and lesion studies of frontal and temporal lobes	K2
CO3	Illustrate the typical functions and symptoms of parietal lobe disorders	K3
CO4	Relate the occipital lobe functions and symptoms of occipital lobe lesion and able to distinguish hemispheric asymmetry.	K3
CO5	Analyze the standardized neurophysiology and neuropsychological tests	K4

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	M	M	M	M
CO2	S	S	S	S	M	M
CO3	S	S	S	S	S	S
CO4	S	S	S	S	S	S
CO5	S	S	S	S	S	S

S- Strong M-Medium L-Low

UNIT I

15 Hours

INTRODUCTION

Neuro-Psychology - Definition- Nature - Scope- Brief history-Basic Anatomy of the brain - Common Neurological Disorders.

UNIT II

20 Hours

FRONTAL LOBE AND TEMPORAL LOBE

Frontal Lobe: Anatomy and functional organization - Frontal Lobe Syndrome: Disturbances of motor function, Loss of divergent thinking, Environmental control of behaviour, Poor temporal memory - The Frontal Lobe and Personality.

Temporal Lobe: Anatomical Features - Functional Organization- Complex Partial Seizures - Electrical Stimulation - Temporal Lesions and Cognitive Change.

UNIT III

15 Hours

PARIETAL LOBE

Anatomical Features - Sensory and Perceptual Disturbances - Disorders of Spatial Orientation -Constructional Apraxia - Spatial Alexia and Acalculia -Unilateral Spatial Neglect Disorders of Body Schema -Gerstmann's Syndrome.

UNIT IV

20 Hours

OCCIPITAL LOBE AND HEMISPHERIC ASSYMETRY

Anatomical Features- Cerebral Blindness -Visual Agnosia -Alexia without Agraphia –Visual Hallucinations. The Concept of Cerebral Dominance- Unilateral Lesion Studies - Hemispherectomy-Cerebral Commissurotomy.

UNIT V

20 Hours

ASSESSMENT

Neuro Physiological Assessment: Brain Imaging Techniques: CT scan- MRI -Methods to Study Functional Status: PET - Methods to Study Electrical Activities: EEG-BEAM

B. Neuropsychological Assessment: Bender Gestalt- Luria Nebraska Neuropsychological Battery- Halstead Reitan Battery- PGI Battery of Brain Dysfunction- Wechsler's Memory Scale- Memory for Design Test.

Practicum:

(Note: Minimum of any two practicum should be carried out)

- visit of Physiology lab in the college or science Center
- You-tube videos for better understanding of structure of brain
- Use of biofeedback to understand brain activity and other physiological functions
- Demonstrate the assessment, scoring and interpretation of neuro- cognitive batteries
- Collection of case studies about neurological disorders to understand the brain function.

Distribution of Marks: Theory 100% and Problems 0%

TEXT BOOKS:

S.No	Authors	Title	Publishers	Year of Publication
01	Bryan Kolb	Fundamental of Human Neuropsychology (7 th Edition)	Worth Publishers, New York.	2009
02	Kevin Walsh, A. O	Neuropsychology: A Clinical Approaches	Churchill Livingstone, New York	1999

REFERENCE BOOKS:

S.No	Authors	Title	Publishers	Year of Publication
01	Kapalan, H.I and Saddock B.J	Synopsis of Psychiatry	Baltimore: Williams & Wilkins.	1998
02	Gazzaniga, M.S., Ivry, R.B., & Mangun, G.R	Cognitive Neuroscience: The Biology of The mind. (4 th Edition.)	W. W. Norton & Company, USA	2014
03	Martin, G.N	Human Neuropsychology. (2 nd Edition.)	Pearson Education Limited, England.	2006
04	Stirling, J	Introducing Neuropsychology	Taylor & Francis	2005
05	Zillmer, E.A., Spiers, M.V & Culbertson, W.C	Principles of Neuropsychology. (2 nd Edition)	Thomson Wadsworth, USA.	2008

WEB SOURCES:

- ❖ <https://www.coursera.org/learn/neurobiology>
- ❖ <https://courses.lumenlearning.com/waymaker-psychology/chapter/reading-parts-of-the-brain/>
- ❖ <https://www.ncbi.nlm.nih.gov/books/NBK532981/>
- ❖ <https://courses.lumenlearning.com/boundless-psychology/chapter/structure-and-function-of-the-brain/>
- ❖ <https://www.physio-pedia.com/Cerebellum>
- ❖ <http://egyankosh.ac.in/bitstream/123456789/24039/1/Unit-3.pdf>
- ❖ <https://www.spinalcord.com/temporal-lobe>
- ❖ <https://www.thoughtco.com/parietal-lobes-of-the-brain-3865903>
- ❖ <https://www.sciencedirect.com/topics/neuroscience/gerstmann-syndrome>
- ❖ https://en.m.wikipedia.org/wiki/Parietal_lobe

TEACHING METHODOLOGIES:

- Discussion
- Demonstrate
- Visual aids
- Assignment and Seminar
- Peer teaching.

SYLLABUS DESIGNER:

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