



**Gyanmanjari**  
Innovative University

Course Syllabus  
Gyanmanjari Institute of Arts  
Semester- 4 (M.A)

**Subject:** Neuro-Psychology-II - MATPY14519

**Type of course:** Major (Core)

**Prerequisite:**

A foundational understanding of the brain and body is required prior to undertaking this course. Students should be familiar with basic concepts of neuroanatomy and physiological processes.

**Rationale:**

Neuropsychology serves as a critical bridge between neuroscience and psychology. This course explores the intricate relationship between brain function and human behavior. A thorough understanding of neurological principles is essential for psychologists, as it enables them to better comprehend how biological systems influence cognitive processes, emotions, and behavior. By integrating knowledge from both disciplines, students will gain deeper insights into clinical conditions, cognitive functions, and the neurobiological basis of psychological phenomena.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P	C	Theory Marks		Practical Marks		CA	
				ESE	MSE	V	P	ALA	
4	0	0	4	60	30	10	0	50	150

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.*



**Course Content:**

<b>Sr. No</b>	<b>Course content</b>	<b>Hrs.</b>	<b>Weightage %</b>
1	<b>Methods of Investigations in Neuropsychology</b> <ul style="list-style-type: none"> <li>• Neuro-Anatomical Method</li> <li>• Method of Electrical Recording</li> <li>• Method of Stimulation</li> <li>• Hormonal and Bio- chemical Method <ul style="list-style-type: none"> <li>○ X-Ray</li> <li>○ Computed Axial Tomography</li> <li>○ Magnetic Resonance Imaging</li> <li>○ Angiography</li> <li>○ Positron Emission Tomography</li> <li>○ Electro Encephalogram</li> </ul> </li> </ul>	15	25
2	<b>Neuro Physiological base of perception</b> <ul style="list-style-type: none"> <li>• Midfrontal and occipital lobes: Sympathetic basis of visual perception</li> <li>• Auditory perception</li> <li>• Conch or inferior frontal lobes: Sympathetic basis of auditory perception</li> <li>• Auditory perception</li> <li>• Principles of hearing</li> <li>• Mechanism of semicircular canals</li> <li>• Optical and Auditory Perception Disturbance</li> </ul>	15	25
3	<b>Neurological Disorders and Their Impact on Cognitive and Nervous System Functioning</b> <ul style="list-style-type: none"> <li>• Sensory and Cognitive Disorders</li> <li>• Movement Disorders</li> <li>• Cycogenic Disorders <ul style="list-style-type: none"> <li>○ AIDS and the Nervous system</li> <li>○ Dementia and tips to improve memory</li> <li>○ Parkinsonism</li> <li>○ Sleep disorders and Treatment</li> <li>○ Migraine, Headaches and Vertigo</li> <li>○ Cerebral Palsy</li> </ul> </li> <li>• Impairment in attention and memory processes</li> <li>• Impairment in impulsive behavior</li> <li>• Impairment in cognitive functions</li> <li>• Disorders or defects in the functioning of the semicircular canals of hearing, Speech defects</li> <li>• Impairment in impulse and cognition</li> <li>• Impairment in visual perception - confusion</li> <li>• Impairment in reading and writing</li> </ul>	15	25





4	<b>Stress Relief Methods and Supportive Psychotherapy</b>	15	25
	<ul style="list-style-type: none"> <li>• Jacobson's Deep Muscle Relaxation Training</li> <li>• Autogenic Relaxation Training</li> <li>• Yoga</li> <li>• Meditation</li> <li>• Supportive Psychotherapy</li> <li>• Chemical Psycho Theory</li> <li>• Trauma-based psychotherapy</li> <li>• Sleep-based psychotherapy</li> <li>• Stimulus-based psychotherapy</li> <li>• Others Psychological Method of Treatment.</li> </ul>		

**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
1	<b>Case Study Analysis on Frontal Lobe Syndrome:</b> Students will conduct case studies of individuals with frontal lobe syndrome. They will analyze the symptoms, the underlying brain structures affected, and the impact on behavior. All results and analyses will be uploaded to the GMIU portal.	10
2	<b>Presentations on Methods of Investigation:</b> Students will choose a method of investigation (e.g., radiological method, neurochemical method) and prepare a presentation discussing its principles, applications, advantages, and limitations. They will upload a summary of the presentation and photos to the GMIU portal.	10
3	<b>Neuroanatomy Mapping:</b> Students will use anatomical resources to create a detailed map of the brain, labeling structures such as the frontal, parietal, occipital, and temporal lobes, along with their functions. This hands-on activity reinforces knowledge of brain structure and function, and students will upload data and photos to the GMIU portal.	10
4	<b>Neuropsychological Assessment:</b> Students will perform a clinical neuropsychological assessment for a patient with suspected damage to different lobes of the brain. They will create assessment tasks and interpret the results. Students will upload test results along with real-life photos of the case to the GMIU portal.	10
5	<b>Hormonal Impact on Behavior Discussion</b> Students will research specific hormones (e.g., cortisol, testosterone) and their effects on behavior. They will present their findings in a class discussion format, focusing on the psychological implications of hormonal changes. All findings will be uploaded to the GMIU portal.	10
<b>Total</b>		<b>50</b>





**Suggested Specification table with Marks (Theory):60**

<b>Distribution of Theory Marks</b> (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	30%	40%	20%	-	-	-

**Note:** This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Course Outcome:**

After learning the course the students should be able to:	
CO1	Proficiency in Neuropsychological Assessment Techniques
CO2	Expertise in Lobe-specific Syndromes and Brain Function.
CO3	Comprehensive Understanding of the Endocrine and Nervous Systems
CO4	Application of Knowledge in Clinical Settings

**Instructional Method:**

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

**Reference Books:**

- [1] Otto son, D. (1987) duality and unity of the brain, London macmillan, Boller, f, grafman j. (1988) handbook of neuropsychology, New York. Elsevier.
- [2] Whitaker, h.a. (1988) Neuropsychological studies of nonloal brain damage, new york & pringer – verleg. - kolb, B & whiswa, I, Q. (1990) Fundaments of human.
- [3] Hellman K, M, & Valentine E. (1993) A clinical neuropsychology, New Delhi, ford –university press.
- [4] Wals, K.(1994)nero Psychoray :A clinical neuro psychu reay, new delhi, churchill living stone.
- [5] Journals: Archives of clinical Neuro psycholau - Internatima journal g neuro science.

