SES's L.S. RAHEJA COLLEGE OF ARTS and COMMERCE (AUTONOMOUS)

BOARD OF STUDIES: Psychology
PROGRAMME: MA Psychology (with Counselling Specialization)
SEMESTER: I
NOMENCLATURE OF THE COURSE: NEUROCOGNITIVE PSYCHOLOGY
NEP Vertical: MAJOR
Credit: 4

(As Per Choice Based Credit System (under NEP 2020) with effect from the academic year 2025-26)

Programme:	**MA Psychology (with Counselling Specialization)**
Nomenclature of the Course	**Neurocognitive Psychology**
Course Code	**PGMACOIMJ326**
Total Marks	**100**
Semester:	**I**
Academic year	**2026-27**

LEARNING OBJECTIVES: This paper aims to provide students with an in-depth understanding of neurocognitive processes and their underlying neural mechanisms. It also aims to develop analytical and applied skills in interpreting cognitive functions and their assessment in clinical and research contexts.

COURSE OUTCOMES:

1. Analyse the foundational concepts of neurocognitive psychology, including neuroanatomy and research methods, to interpret brain–behavior relationships. Critically evaluate different investigative techniques and their contributions to the study of cognitive processes.
2. Analyse neurocognitive processes such as perception, attention, learning, and memory to understand their underlying mechanisms. Evaluate theoretical models and apply them to interpret cognitive functioning in real-life and clinical contexts.
3. Analyse higher-order cognitive processes including language, intelligence, problem solving, and emotions in relation to neural functioning. Critically evaluate theoretical perspectives and integrate them to explain complex human behavior.
4. Analyse and apply neurocognitive assessment tools and rehabilitation approaches in clinical settings. Evaluate ethical considerations and the role of neuroplasticity in recovery and intervention planning.

Unit	Course Content	Andragogy	No of Lectures
Module I	**1. Foundations of Neurocognitive Psychology** 1.1 Historical development of neurocognitive psychology 1.2 Relationship between cognitive psychology, neuroscience, and neuropsychology 1.3 Basic neuroanatomy: structure and functions of neurons, synapses, neurotransmission, and neural networks 1.4 Methods of investigation in neurocognitive research: Imaging Techniques, Electrophysiologic Procedures, Radiologic Procedures, Lesion studies	Interactive lectures, PowerPoint presentations, Case studies, Observation and analysis Application-based learning activities	**15**

Module II	**2. Neurocognitive Processes: Perception, Attention, Learning, and Memory** 2.1 Visual Perception: Visual Object Recognition, Face perception 2.2 Attention: Processes and Theories 2.3 Learning: Theories 2.4 Memory: Models and Processes	Interactive lectures, PowerPoint presentations, Case studies, Observation and analysis Application-based learning activities	**15**
Module III	**3. Neurocognitive Processes: Language, Intelligence, Problem Solving, and Emotions** 3.1 Language and language in context 3.2 Human Intelligence. Organization of Knowledge in the Mind 3.3 Problem Solving and Creativity 3.4 Emotions: Theories of Emotions; Biological and Socio-cultural basis of human emotions	Interactive lectures, PowerPoint presentations, Case studies, Observation and analysis Application-based learning activities	**15**
Module IV	**4. Neurocognitive Assessment and Applications** 4.1 Cognitive Screening Tools & batteries and their applications 4.2 Neurorehabilitation and other treatment measures 4.3 Neuroplasticity and Recovery 4.4 Ethical Issues – Brief Overview	Interactive lectures, PowerPoint presentations, Case studies, Observation and analysis Application-based learning activities	**15**

SUGGESTED READINGS

1. Anderson, V., Jacobs, R. & Anderson, P. (2008). Executive Functions and the Frontal Lobes: A Lifespan Perspective. NY: Psychology Press.
2. Baddeley, A. (1990). Human memory: Theory and practice. Boston: Allyn& Bacon.
3. Beaumont, J. G., Kenealy, P. M., & Rogers, M. J.C. (Ed.). (1999). The Blackwell dictionary of neuropsychology. Oxford: Blackwell Publishers.
4. Berry, J. W., Poortinga, Y. H., Segal, M. H., & Dason, P.R. (2002). Cross-cultural psychology: Research and perspective. Cambridge: CUP.
5. Bly, B.M. & Rumelhart, D. E. (1999). Cognitive Science. Academic Press: San Diego.
6. Carlson, N. (1999). Physiology of behaviour. Boston: Allyn& Bacon.
7. Carruther, P. & Chamberlain, A. (Ed.). (2000). Evolution and the human mind: modularity, language and meta-cognition.
8. Dalgleish, T. & Power, MJ. (2000). Handbook of Cognition and Emotion. John Wiley: Sussex.
9. Ekman, P. & Cordaro, D. (2011). What is meant by calling emotions basic. Emotion Review, 3, 364-370.
10. Finger, S. (1994). Origin of neuroscience: A history of explorations into brain function. N.Y.:OUP.
11. Jurado, M. B. & Rosselli, M. (2007). The Elusive Nature of Executive Functions: A Review of our Current Understanding. Neuropsychol Rev, 17:213- 233.

12. Kolb B. & Whishaw I.Q. (2007). Fundamentals of human neuropsychology (6th ed). New York, NY: Worth Publishers.
13. Lewis, M., Haviland-Jones, J. M., & Barrett, L. F. (Eds.). (2010). Handbook of emotions (3rd edition). New York, NY: Guilford.
14. Lezak, M. D. (1976). Neuropsychological assessment. NY: OUP.
15. Matlin, M. W. (2009). Cognition. John Wiley & Sons: NJ.
16. Mauss, I. B. & Robinson, M. D. (2009). Measures of emotion: A review. Cognition and Emotion, 23, 209-237.
17. Mehu, M., Mortillaro, M., Banziger, T., & Scherer, K. R. (2012). Reliable facial muscle activation enhances recognizability and credibility of emotional expression. Emotion, 12,701 715.
18. Nelson, T. 0. (1992). Metacognition: Core readings. Boston: Allyn & Bacon Press.
19. Sternberg, R. J.; Sternberg, K, Mio, J. (2012). Cognitive Psychology. Wadsworth: Belmont, CA.
20. Zilmer, E. A. & Spears, M. V. (2001). Principals of neuropsychology. Canada: Wadsworth

QUESTION PAPER PATTERN

(A) FOR CONTINUOUS EVALUATION

20 Marks Class Test	(MCQ/QUIZ) ---------- 20 MARKS

(A-1)

(A-1) RUBRICS FOR CONTINUOUS EVALUATION

20 Marks	ASSIGNMENT ---------- 10 MARKS
	VIVA-VOCE ---------- 10 MARKS

(B) QUESTION PAPER PATTERN FOR SEMESTER END EXAMINATION

60 Marks	Q1. Answer in brief (1/2)-------- 15 marks
	Q2. Answer in brief (1/2)-------- 15 marks
	Q3. Answer in brief (1/2)-------- 15 marks
	Q4. Answer in brief (1/2)-------- 15 marks