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|---|---|--------------------|----------|---------------------|---|
| <b>Program</b>  | BS (4 Years)                                    | <b>Course Code</b> | APSY-476 | <b>Credit Hours</b> | 1 |
| <b>Course Title</b>   | <b>Biological Basis of Behavior (Practical)</b> |                    |          |                     |   |
| <b>Course Introduction</b>  |   |                    |          |                     |   |
| This course focuses on the link between neuroscience and psychological functioning. This course is practical demonstration of the theory of Brain and behavior. The students will perform practicals to understand brain structure, functioning in normal individuals and how it is affected in case of disorders.  |   |                    |          |                     |   |
| <b>Learning Outcomes</b>  |   |                    |          |                     |   |
| On the completion of the course, the students will be able to:  |   |                    |          |                     |   |
| <ol style="list-style-type: none"> <li>1. The student will possess a good understanding of structure and function of brain, different parts of nervous system, neurochemistry, and hormones.</li> <li>2. The students will be able to understand the link between biological factors underlying human behavior and disorders. It is designed to be an introductory course focusing on the relationship between the nervous system and behavior.</li> </ol>  |   |                    |          |                     |   |
| <b>Course Contents</b>  |   |                    |          |                     |   |
| <ul style="list-style-type: none"> <li>• Basic neuro-anatomical directional terms and planes of reference</li> <li>• Dissection of Ruminant Brain</li> <li>• Physiological changes during stress</li> <li>• Administration of neuropsychological tests such as BGT, BVRT, NFI, Stroop test etc. and report writing of at least three patients suffering from Psycho-Physiological and Neurological disorders</li> <li>• Test report for each test should include one on a normal person and another on a patient suffering from any neurological disorder: Brain Tumor, Epilepsy, Cerebral Palsy, Mental Retardation etc.</li> </ul>  |   |                    |          |                     |   |
| <b>Teaching Learning Strategies</b>   |   |                    |          |                     |   |
| <ul style="list-style-type: none"> <li>• Assigned supervisor will meet the groups of students and explain them the method to conduct practical and to write report on it according to APA format.</li> </ul>  |   |                    |          |                     |   |
| <b>Textbooks and Reading Material</b>   |   |                    |          |                     |   |
| <b>2.1 Books</b>  |   |                    |          |                     |   |
| <ul style="list-style-type: none"> <li>• Beatty, J. (2000). The human brain-essentials of behavioral neuroscience. University of California: Sage Publications, Inc.</li> <li>• Beaumont, G. (1990). Understanding Neuropsychology, OUP.</li> <li>• Carlson, N. R. (2005). Foundation of physiological psychology (6th ed.). UK: Allyn and Bacon.</li> <li>• Greenwood. (1997). Neuro-psychological rehabilitation, USA: Psychology Press.</li> <li>• Kalat, J. W. (2001). Biological psychology (7th ed.).USA: Woodsworth.</li> <li>• Pinel, J. (1997). Bio-Psychology, 3rd Edition, Allyn&amp; Bacon.</li> <li>• Pinel, J. P. (2006). Biopsychology (6th ed.). UK: Allyn and Bacon.</li> <li>• Smock, T. (1999). Physiological psychology. USA: Prentice-Hall.</li> <li>• Squire, L. (1990).Neuropsychology of Memory, Guilford Press, USA.</li> <li>• Watson, N.V.et al (2007).Biological psychology. (5th ed.). UK: Sinaver Associates.</li> <li>• Wilson, B. ( 1999). Neuropsychological rehabilitation. UK: Oxford University Press.</li> </ul> |   |                    |          |                     |   |
| <b>2.2 Journal Articles/ Reports</b>  |   |                    |          |                     |   |
| <ul style="list-style-type: none"> <li>• Daniel, F., &amp; Kapoula, Z. (2019). Induced vergence-accommodation conflict reduces cognitive performance in the Stroop test. <i>Scientific reports</i>, 9(1), 1-13.</li> </ul>  |   |                    |          |                     |   |

- Erdodi, L. A., Sagar, S., Seke, K., Zuccato, B. G., Schwartz, E. S., & Roth, R. M. (2018). The Stroop test as a measure of performance validity in adults clinically referred for neuropsychological assessment. *Psychological Assessment, 30*(6), 755.
- Glees, P. (2019). Embryological and neuro-anatomical aspects of the cranio-cervical region. In *Diseases in the cranio-cervical junction* (pp. 13-26). De Gruyter.
- Segabinazi, J. D., Pawlowski, J., Zanini, A. M., Wagner, G. P., Sbicigo, J. B., Trentini, C. M., ... & Bandeira, D. R. (2020). Age, education and intellectual quotient influences: Structural equation modeling on the study of benton visual retention test (BVRT). *The Spanish Journal of Psychology, 23*.
- Shakeri, S., Bidaki, R., Mirhosseini, H., & Kiani, M. (2021). The Comparing Bender-Gestalt Test and Quantitative Electroencephalography for Brain Trauma Diagnosis in Depressive and Attention Deficit Hyperactivity Disorders. *International Clinical Neuroscience Journal, 8*(3), 144-148.
- Van den Boogert, T., van Hoof, M., Handschuh, S., Glueckert, R., Guinand, N., Guyot, J. P., ... & Van De Berg, R. (2018). Optimization of 3D-visualization of micro-anatomical structures of the human inner ear in osmium tetroxide contrast enhanced micro-CT scans. *Frontiers in neuroanatomy, 12*, 41.

**Note:-** It is preferable to use latest available editions of books.

#### **Assignments: Types and Number with Calendar**

- Submission of test reports and class presentations

#### **Assessment**

- Each student will prepare a practical report and assessment and evaluation will be carried out by an external examiner on the basis of practical report and viva voce