PSY-302: Neurological Basis of Behavior-II (3 CHs)

Prerequisite: Neurological Bases of Behavior I (PSY – 206)

Course Description:

This course is the continuation of the first course of neurological bases of behavior and will familiarize students with a comprehensive overview of human neuroanatomy and their interplay with human behavior, and associated impairments. This course is designed to acquaint students with the interesting topics of neurological basis of behavior i.e., nervous system, role of nervous system in daily life, causes and outcomes of impairment in different parts of nervous system on an individual. It will help students to understand normal vs disordered nervous system functioning.

Course Objectives:

The course will facilitate students to:

- Revise concepts related to structure and functions of nervous system.
- Understand basic concepts of pharmacology.
- Onset, etiology, and symptoms of Neurobehavioral syndrome/disorders/problems
- Explore updated concepts about neurobiological basis of Psychopathology (explain some of disorders)
- Analyze usefulness of psychological instruments, generally used to measure the neuropsychological condition.

Course Learning Outcomes:

As a result of taking this course, the students will be able to:

- Explain Pharmacology of psychological disorders.
- Explain general disease models in psychopathology.
- Describe disturbances of nervous system functioning can be visible in clinical conditions.
- Apply neuroscience concepts in daily life.

Course Contents;

- Neuron Anatomy, neural communication, neuromodulators, neurochemistry and neurotransmitters
- Development of Nervous system
- Brain/Neuro Plasticity
- Concepts of Pharmacology
- Principles of pharmacology
- Sites of Drug action
- Neurotransmitters and neuromodulators
- Substance use and abuse disorder (Neurological etiology and pharmacology)
- Neurodevelopmental Disorders
    - Intellectual Disabilities (Etiology and Pharmacology)
    - Communication Disorder (Types, Etiology and Pharmacology)
    - Motor Disorders (Types, Etiology and Pharmacology)
    - Attention deficit / hyperactivity disorder,
    - Autism Spectrum Disorders
    - Specific Learning Disorder
- Neurodegenerative Disorders
    - Parkinson
    - Alzheimer Disease
    - Multiple Sclerosis
    - Huntingon’s disease
- Nervous System and Psychopathology
- Functional Brain Anatomy
- Psychological Disease Models
- Schizophrenia (Neurological etiology and pharmacology)
- Disorders with Impaired Cognition (Neurological etiology and pharmacology)
- Emotions and Emotional Disorders (Neurological etiology and pharmacology)
- Stress related disorders
- Personality and Personality Disorders (Neurological etiology and pharmacology)
- Tools to evaluate Neuro Psychological Problems.
- Relationship between Neuropsychological Test Results and Screening Mental Status Examinations

Textbook:

- Meyer, J. S., & Quenzer, L. F. (2013). Psychopharmacology: Drugs, the brain, and behavior. Sinauer Associates.

Reference Books:

- Coon, D. (2004). *Introduction to psychology: Gateways to mind and behavior (10th ed.)*. US: Thomson.
- Baron, R. A. & Misra, G. (2014). *Psychology: Indian Subcontinent Edition (5th ed*.). Delhi: Pearson.
- Gazzaniga, M. S., & Heatherton, T. F. (2003). Psychological Science: Mind. *Brain, and Behavior.* New York: WW Norton.
- Rani, D. A. (2014). *Applied Psychology*. New Delhi: K.K. Publications.
- Carlson, N. R. (2013). Physiology of Behavior (11th ed.). New York: Pearson.
- Kalat, J. W. (2013). *Biological Psychology (11th ed.).* US: Wadsworth.
- Fieldman, R. S. (2002). *Understanding Psychology (6th ed.).* New Delhi: Tata McGraw-Hill.