INSTRUCTIONS TO CANDIDATES:

THIS EXAM COMPRIS ES TWO (2) SECTIONS. SECTION I INCLUDES SIX (6) SHORT ANSWER QUESTIONS AND SECTION II COMPRIS ES FIVE (5) ESSAY TYPE QUESTIONS.

ANSWER ALL FIVE (5) QUESTIONS IN SECTION I AND CHOOSE TWO (2) ESSAYS FROM SECTION II.
SECTION I

Define ALL FIVE (5) Terms in this Section

1. (i) Blood-Brain Barrier (4 marks)
   (ii) Parkinson's Disease (4 marks)
   (iii) Microtubules (4 marks)
   (iv) Neurogenesis (4 marks)
   (v) Direct Antagonist (4 marks)
   [Total 20 marks]

SECTION II

Choose TWO (2) Essays from the Questions below

2. Critically evaluate (A) the role of split-brain research, and outline (B) the history of neuroscience with seven major contributors. [20 marks]

3. Explain (A) cells of the nervous system (basic structure, internal structure, supporting cells), and examine (B) communication within a neuron. [20 marks]

4. Discuss (A) pharmacokinetics (with routes of administration), drug effectiveness, effects of repeated administration and placebo effects, and analyze (B) sites of drug action (with examples). [20 marks]

5. Explain (A) experimental ablation (brain lesions, stereotaxic surgery, histological that methods and tracing neural connections), and compare (B) different brain imaging techniques examine the structure of the living human brain (CT, MRI, DTI). [20 marks]
6. Give a detailed account (A) on the process of long-term potentiation (induction, role of NMDA receptors, mechanisms of synaptic plasticity, long-term depression), and contrast (B) anterograde and retrograde amnesia. [20 marks]

7. Differentiate among (A) the various disorders of reading and writing, and (B) discuss developmental dyslexias. [20 marks]