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St. Claret College

Autonomous, Bengaluru

ROLL NO:

DATE:



PG END SEMESTER EXAMINATION-JAN/FEB 2026

MSc PSYCHOLOGY: SEMESTER I

MPY 1324: BIOPSYCHOLOGY

TIME: 3 hours.

MAX. MARKS: 70

This paper contains TWO printed pages and THREE parts

Instructions:

1. Verify and ensure that the question paper is completely printed.
2. Any discrepancies or questions about the exam paper must be reported to the COE within 1 hour after the examination.
3. Students must check the course title and course code before answering the questions.

PART-A

Answer FOUR questions out of SIX. Each answer carries FIVE marks.

[5x4 = 20]

1. Differentiate neurons based on structure and functions
2. Elucidate the nature, function and types of glial cells.
3. Examine cerebral localization and lateralization.
4. In the domain of behavior genetics, discuss the methods of study employed.
5. Comment on the ethical issues in animal research.
6. Reflect on the ethical issues in psychopharmacology.

PART-B

Answer any TWO questions out of THREE. Each answer carries TEN marks.

[10x2=20]

7. Explain the pathology of seizures, stages and types.
8. Differentiate between different patterns of inheritance.
9. Compare the different routes of drug administration.

PART-C

Answer any TWO questions out of THREE. Each answer carries FIFTEEN marks

[15X2=30]

10. Elaborate on the different types of neurotransmitters and their impact on behavior.
11. Case study:

Mrs. S, a 68-year-old retired schoolteacher, was brought by her daughter with complaints of progressively worsening memory difficulties over the past three years. The onset was insidious, beginning with forgetfulness for recent conversations, repeated questioning, and frequent misplacement of objects.

Over time, she developed impaired new learning, difficulty recalling recent events, word-finding problems, and occasional disorientation to time. Family members reported reduced attention, poor planning ability, and difficulty recognizing familiar routes.

There were no psychotic symptoms, fluctuating consciousness, or history of substance use. Medical history revealed controlled hypertension.

In terms of everyday functioning, Mrs. S was initially independent but gradually became dependent for instrumental activities of daily living. She required supervision for managing finances, medication, and cooking, and occasionally left the stove on. Basic self-care was preserved with prompting.

Questions:

- a) Provide a working diagnosis for Mrs. S and justify it with key clinical features. **(4 marks)**
- b) Explain how the cognitive deficits observed are reflected in the patient's impairment in activities of daily living. **(4 marks)**
- c) Discuss the relevance of neuropsychological tests for this diagnosis. **(3 marks)**
- d) Differentiate the diagnosis with other neurological illness. **(4 marks)**

12. Case-study:

Mr. R, a 32-year-old unmarried male working in the IT sector, presented to the psychiatric outpatient department with complaints of persistent low mood, loss of interest in work, disturbed sleep, and reduced appetite for the past six months. He also reported excessive worry, restlessness, palpitations, and difficulty concentrating. Over the past two weeks, family members noticed that he had become irritable, suspicious, and occasionally reported hearing voices commenting on his actions. His sleep had further reduced, and he complained of increased daytime fatigue. There was no history of substance dependence. Past history revealed an episode of increased energy, decreased need for sleep, and over-talkativeness two years ago, which resolved with treatment.

During evaluation, Mr. R was started on an antidepressant for depressive symptoms, an anxiolytic for acute anxiety, and an antipsychotic to manage perceptual disturbances. A mood stabilizer was considered due to his past history suggestive of a mood episode. He was also given a short-term hypnotic to address sleep disturbances. The treatment plan emphasized careful drug selection, monitoring of side effects, and gradual tapering of sedatives once symptoms improved.

Questions:

- a) Identify the classification of psychoactive drugs used in this case, provide its main use and an example for each classification. **(4 marks)**
 - b) Detail out the side effects in the use of anti-psychotic medications. **(4 marks)**
 - c) Provide a rationale for the consideration of a mood-stabilizer. **(2 marks)**
 - d) Mention the features of an ideal psychotropic drug. **(5 marks)**
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