

2025

M.Sc. 1st Semester Examination

HUMAN PHYSIOLOGY

Paper : PHYC401X2

[Physiology of Excitable Cells
and Higher Functions of Brain]

Full Marks : 25

Time : One Hour

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. What is meant by α -block in EEG? 2
2. What is myomesin? 2
3. What is operant conditioning? Give an example. 1+1
4. What are declarative and non-declarative memory? Give examples. 1+1

P.T.O.

(2)

Group - B

Answer any *two* questions : $4 \times 2 = 8$

5. Describe the chemical events in the power stroke myosin heads during the muscle contraction. 4
6. Name v-SNARE and t-SNARE proteins in synapse. Mention the anatomical location of limbic cortex. 2+2
7. What are the characteristic features of REM sleep? Name one sleep peptide. 3+1
8. Describe the mechanism of long-term sensitization in *Aplysia*. 4

Group - C

Answer any *one* question : $8 \times 1 = 8$

9. Briefly describe the neural regulation of circadian rhythm. Write the cause and symptoms of Klüver-Bucy syndrome. 4+4
10. Describe the cellular and molecular basis of implicit memory. Give examples of two tight junction proteins. 6+2

Internal Assessment : 5 marks
