

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5265

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Unique Paper Code : 2234000030

Name of the Paper : GE : Neurobiology

Name of the Course : B.Sc./B.A/B.Com - Zoology Exam - 2026

Semester : VIII (NEP-UGCF)

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **FOUR** QUESTIONS in all, and Question no. 1 is COMPULSORY.

1. (A) Define the following terms:

4x1=4

- (i) Memory
- (ii) Action potential
- (iii) Oligodendrocyte
- (iv) Insomnia

(B) Expand the following terms:

5x1=5

- (i) IPSP
- (ii) fMRI
- (iii) BCI
- (iv) CNS
- (v) NREM

(C) Differentiate between the following:

3x2=6

- (i) Grey matter and White matter
- (ii) Insomnia and Sleep apnea
- (iii) Neurotransmitter and neuromodulator

P.T.O.

2. Justify the statement(s) (3x5=15)
- (a) Action potential is an all-or-none response.
 - (b) Sensory receptors act as transducers of stimuli
 - (c) Synaptic plasticity occurs with long-term potentiation
3. (a) With the help of a suitable diagram, list the sequence of chemical events at a synapse. (5)
- (b) Provide a concise overview of the various classes of neurotransmitters and their significance in synaptic communication. (10)
4. (a) Explain the term 'threshold potential'. Why is reaching the threshold important for the generation of an action potential? (5)
- (b) Describe the pathophysiology of Parkinson's disease with a focus on the molecular and cellular changes occurring in the brain. (10)
5. Write short notes on the following (*Any three*): 5 x 3 = 15
- (a) Circadian rhythm
 - (b) Sleep-wake cycle
 - (c) Positron emission tomography
 - (d) Emotions and behaviour