

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5532

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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

समय : 2 घण्टे

पूर्णांक : 60

Instructions for Candidates

1. Write your Roll No. at an appropriate place 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) Ion channel
- (ii) Neurotransmitter
- (iii) Cerebrospinal fluid
- (iv) Sleep apnea

(B) Expand the following terms:

5x1=5

- (i) EPSP
- (ii) MRI
- (iii) BCI
- (iv) BBB
- (v) REM

(C) Differentiate between the following:

3x2=6

- (i) Central Nervous System and Peripheral Nervous System
- (ii) Depolarisation and Repolarisation

P.T.O.

(iii) Electrical synapse and Chemical synapse

2. (a) What is a synapse? Explain briefly how neurons communicate across a synapse during the transmission of nerve impulses. (5)
(b) Discuss the pathological hallmarks of Alzheimer's disease, focusing on the role of plaques and tangles in neuronal degeneration. (10)
3. (a) What is cerebrospinal fluid? Briefly explain its composition and functions. (5)
(b) Describe the stages of sleep and the EEG patterns associated with each stage. How does sleep architecture change throughout the night? (10)
4. Explain how changes in membrane permeability contribute to the generation of an action potential. (15)
5. Write short notes on the following (*Any three*): 5 x 3 = 15
 - (i) Schizophrenia
 - (ii) Gaseous Neurotransmitters
 - (iii) Structure of a neuron
 - (iv) Circadian rhythm