

M.Sc. (Zoology) (CBCS Pattern) Semester-IV  
**PSCZOOT14.4 - Special Group - Animal Physiology-III**  
**(Physiology of Brain, Nerves and Muscles)**

P. Pages : 1

Time : Three Hours



**GUG/W/24/11432**

Max. Marks : 80

- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Draw well labelled diagrams wherever necessary.

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|-----------|---|-----------|
| <b>1.</b> | Discuss on physiology of learning, memory and sleep.              | <b>16</b> |
|           | <b>OR</b>   |           |
|           | Write notes on:   |           |
|           | a) Morphological differentiation of a mammalian brain.            | 8         |
|           | b) Cerebellum.  | 8         |
| <b>2.</b> | Explain ultra-structure and types of neurons.                     | <b>16</b> |
|           | <b>OR</b>   |           |
|           | Write notes on:   |           |
|           | a) Molecular mechanism of synaptic transmission.                  | 8         |
|           | b) Sodium and Potassium pumps.                                    | 8         |
| <b>3.</b> | Describe biosynthesis, storage and release of neuro-transmitters. | <b>16</b> |
|           | <b>OR</b>   |           |
|           | Write notes on:   |           |
|           | a) Photoreception.  | 8         |
|           | b) Alzheimer's disease.   | 8         |
| <b>4.</b> | Write an essay on molecular mechanism of muscles contraction.     | <b>16</b> |
|           | <b>OR</b>   |           |
|           | Write notes on-   |           |
|           | a) Properties of muscles.   | 8         |
|           | b) Ultra-structure of a Skeletal muscle.                          | 8         |
| <b>5.</b> | Attempt the followings.   |           |
|           | a) Brain stem.  | 4         |
|           | b) Functions of neurons.  | 4         |
|           | c) Neuro-peptides.  | 4         |
|           | d) Muscular disorders.  | 4         |

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