

M.Sc.-II (Zoology) (CBCS Pattern) Semester - IV  
**PSCZOOT14.4 - Core Elective - Special Group - Paper-XIV (Credits 4)**  
**Animal Physiology Paper-III (Physiology of Brain, Nerve and Muscle)**

P. Pages : 1

Time : Three Hours



GUG/S/23/11432

Max. Marks : 80

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

1. What is the difference between the brain and the cerebrum? Comment on anatomical structure and functions of cerebrum? **16**

**OR**

Write notes on:

- a) Functions cerebellum. **8**
- b) Physiology of sleep. **8**

2. What are the types of neurons in terms of the function of the impulses they transmit? Comment on functional properties of each neuron. **16**

**OR**

Write notes on:

- a) Structure and functions neuron. **8**
- b) Molecular mechanisms of synaptic transmission. **8**

3. Give detailed account on the synthesis and functions of thyrotropin releasing hormone and cholecystokinin. **16**

**OR**

Write notes on:

- a) Biosynthesis, storage and release of Acetylcholine. **8**
- b) Classification of sensory receptors. **8**

4. Describe in detail the ultrastructure of skeletal muscle. **16**

**OR**

Write notes on:

- a) Sliding filament theory. **8**
- b) Ultrastructure of Neuromuscular Junction. **8**

5. Attempt the following. **16**

- a) Anatomical structure and functions midbrain.
- b) Generation of action potential.
- c) Parkinson's disease.
- d) Twitch and tetanus.

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