

M.Sc. (Zoology) (CBCS Pattern) Semester-IV
PSCZOOT14.4 - Special Group - Animal Physiology-III :
(Physiology of Brain, Nerve and Muscle)

P. Pages : 2

Time : Three Hours



GUG/S/25/11432

Max. Marks : 80

1. Draw and label the functional areas of the cerebral cortex and comment on the functions attributed to each area. **16**

OR

Write notes on:

- a) Compare slow wave and paradoxical (REM) sleep. **8**
- b) Discuss the functions of each of the following: **8**
- i) Astrocytes ii) Oligodendrocytes
- iii) Ependymal cell iv) Microglia

2. Write an essay on ultra structure of neuron. **16**

OR

Write notes on:

- a) Give an account on generation of action potential. **8**
- b) Describe the sequence of events that occur during propagation of nerve impulse. **8**

3. List and describe the receptor types according to their stimuli. **16**

OR

Write notes on:

- a) Compare the functional characteristics of rods and cones. **8**
- b) Give an account on epinephrine and nor-epinephrine. **8**

4. Describe the structure of skeletal muscle. Add a note on banding pattern. **16**

OR

Write notes on:

- a) Explain twitch summation and tetanus. **8**
- b) Compare isotonic and isometric contractions. **8**

5. Attempt the following: **16**

- a) Cerebellum
- b) Neuronal excitability
- c) Parkinson disease
- d) Neuromuscular junction
