

M.Sc.(Zoology) (CBCS Pattern) Fourth Semester CBCS
ZOO-XIV / PSCZOOT14.4 - Special Group - Animal Physiology-III
(Physiology of Brain, Nerve and Muscle)

P. Pages : 1

Time : Three Hours



GUG/W/18/11432

Max. Marks : 80

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

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 the composition of white and grey matter.
- b) Discuss the functions of each of the following parts of the brain.
 - i) Thalamus
 - ii) Hypothalamus
 - iii) Cerebellum
 - iv) Brain stem

2. Write an essay on molecular mechanisms involved in synaptic transmission. **16**

OR

Write notes on:

- a) Comment on bioelectric properties of neurons.
- b) Enlist and describe the types of neurons.

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.
- b) Give an account on epinephrine and nor-epinephrine.

4. Describe ultra structure of skeletal muscle. **16**

OR

Write notes on

- a) Describe sliding filament mechanism of muscle contraction.
- b) Ultra structure of neuromuscular junction.

5. Attempt the following. **16**

- a) Short term and long term memory.
- b) Nerve impulse propagation.
- c) Oxytocin
- d) Calcium pump.
