

Roll No.

E-1012

M. Sc. (Fourth Semester) (ATKT)

EXAMINATION, May-June, 2021

(Old Course)

ZOOLOGY

Paper Second

(Neurophysiology)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all Sections as directed.

Section—A

1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Choose the correct answer :

1. Nissl's granules are found in :

- (a) Nerves cells
- (b) WBC
- (c) RBC
- (d) Platelets

P. T. O.

2. Neurotransmitters are often stored in :
 - (a) Synaptic buttons
 - (b) Microtubules
 - (c) Vesicles
 - (d) Endoplasmic reticulum
3. Interaction between neurons commonly occurs across junction is called :
 - (a) Synapses
 - (b) Juxtapositions
 - (c) Pre-synaptic membranes
 - (d) Post-synaptic membranes
4. After release, most neurotransmitters are deactivated by :
 - (a) Reuptake
 - (b) Post-synaptic receptors
 - (c) Enzymes
 - (d) Buffered diffusion
5. Neurons are specialized to receive conduct and transmit :
 - (a) Electrochemical signal
 - (b) Action potential
 - (c) Electrical signal
 - (d) Chemical signal

6. What part of the neuron is responsible for receiving information ?
- (a) Node of renvier
 - (b) Terminal fibre
 - (c) Dendrite
 - (d) Myelin sheath
7. The terminal buttons of a neuron are located at the end of its :
- (a) Axon
 - (b) Dendrite
 - (c) Myelin Sheath
 - (d) Node of renvier
8. Which of these lobe is most closely associated with visual processing ?
- (a) Frontal
 - (b) Temporal
 - (c) Parietal
 - (d) Occipital
9. The corpus callosum is a :
- (a) Source of hypothalamic hormones

- (b) Neural pathway that connects the right and left hemispheres.
 - (c) Part of the neocortex
 - (d) Structure in the cerebellum
10. The autonomic nervous system is a part of the :
- (a) Somatic nervous system
 - (b) Peripheral nervous system
 - (c) Parasympathetic nervous system
 - (d) Sympathetic nervous system
11. Which of the following is not a function of cerebrospinal fluid ?
- (a) To exchange nutrients and metabolic waste.
 - (b) To improve conduction of nerve signals between different brain regions.
 - (c) To provide mechanical protection to the brain.
 - (d) To carry neuroactive hormones in the nervous system.
12. Broca's area is located in :
- (a) The frontal lobe
 - (b) The parietal lobe
 - (c) The temporal lobe
 - (d) The occipital lobe

13. Cerebrospinal fluid is produced in :

- (a) Cavity of brain
- (b) Meninges
- (c) Hypothalamus
- (d) Cerebral cortex

14. Impulse conduction is fastest in neurons that are :

- (a) Myelinated
- (b) Unmyelinated
- (c) Sensory
- (d) Motor

15. The Schwann cells form a myelin sheath around the :

- (a) Dendrites
- (b) Cell body
- (c) Nucleus
- (d) Axon

16. The ability to respond to a stimulus is formed :

- (a) Polarized
- (b) Irritability
- (c) Depolarization
- (d) Conductivity

17. The function of a myelin sheath found on myelinated neurons is to :
- (a) Nourish them
 - (b) Insulate them
 - (c) Protect them
 - (d) Destroy them
18. Cerebrospinal fluid circulates around the brain between the :
- (a) Skull and Dura mater
 - (b) Dura mater and Arachnoid
 - (c) Arachnoid and Pia mater
 - (d) Pia mater and Brain surface
19. How many ventricles are there in brain ?
- (a) 2
 - (b) 4
 - (c) 7
 - (d) 8
20. The main compartments which holds Cerebrospinal Fluid (CSF) in the brain are called :
- (a) Arterial cavity
 - (b) Chambers
 - (c) Ventricles
 - (d) Viaducts

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt all questions in 1 to 2 sentences.

1. What do you mean by Cyton ?
2. What is Synapse ?
3. Define Impulse.
4. Define Unipolar Neuron.
5. What is Myelin Sheath ?
6. What is CSF ?
7. What is ventricle ?
8. Define the mixed neuron.

Section—C

3 each

(Short Answer Type Questions)

Note : Attempt all questions. Word limit 75 words.

1. What are the types of neuron ?
2. Explain the synaptic cleft.
3. Define sensation.
4. Explain the dermatomes.
5. Write about importance of cerebrospinal fluid.
6. Write the role of meninges in nervous system.
7. What is neurotransmitter ?
8. Name all cranial nerves of reptiles.

Section—D

5 each

(Long Answer Type Questions)

Note : Attempt all questions. Word limit 150 words.

1. Explain the neuromuscular transmission.

Or

Explain the histological structure of neurons.

2. Explain the cranial nerves in detail.

Or

Give a detailed account of peripheral nervous system.

3. Define the arrangements of meninges and give a detailed account in important function of meninges.

Or

Give a detailed account on cerebrospinal fluid (CSF).

4. Explain the autonomic nervous system.

Or

Explain the sympathetic and parasympathetic nervous system.