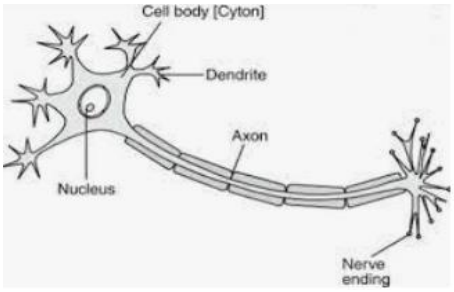
	INDIAN SCHOOL AL WADI AL KABIR	
Class: XI	**Department: SCIENCE 2022 – 23** **SUBJECT: BIOLOGY**	**Date of submission: 09.02.2023**
Worksheet: 15 **WITH ANSWERS**	**CHAPTER: NEURAL CONTROL AND COORDINATION**	**Note:** **A4 FILE FORMAT**
NAME OF THE STUDENT	**CLASS & SEC:**	**ROLL NO.**

MULTIPLE CHOICE QUESTIONS

1. The distribution of grey and white matter in brain is
   (a) Cerebral cortex and inner part of hemispheres respectively
   (b) Inner part of hemisphere and cerebral cortex respectively
   (c) Only in cerebral cortex
   (d) Only in inner part of hemisphere
2. Identify the type of neuron given below



   (a) Unipolar
   (b) Bipolar
   (c) Multipolar
   (d) Unmyelinated
3. The two subdivisions of the autonomic neural system are
   (a) Brain and spinal chord
   (b) Sympathetic and parasympathetic system
   (c) Thalamus and hypothalamus
   (d) Pons and medulla
4. Unipolar neurons are present in
   (a) Cerebral cortex
   (b) Retinal of eye
   (c) Embryonic stage

(d) All of these

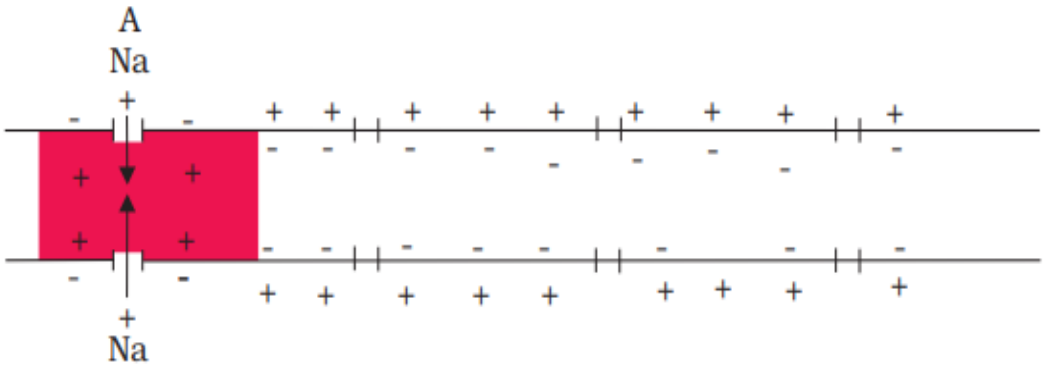
5. Synaptic cleft is
   (a) Part of limbic system
   (b) Cavity of internal organs
   (c) Nerve band connecting cerebral hemispheres
   (d) Fluid filled space between neurons

2 MARKS QUESTIONS

6. What you mean by electrical synapse and how it is different from chemical synapse?
7. Give a brief description of functions of nervous system.
8. Schematically represent the classification of brain.
9. Write notes on the protection of brain
10. Name any two parts that are associated with midbrain.

3 MARKS QUESTIONS

11. Distinguish between the following:
    (a) Bipolar and multipolar neurons
    (b) Afferent and efferent nerve fibers
    (c) Somatic and autonomic nervous system
12. Given below represents axon membrane. Identify the special features associated with this membrane



13. Explain the structure of forebrain

5 MARKS QUESTIONS

14. With reference to the transmission of nerve impulse explain the following terms.
    (a) Sodium- potassium pump
    (b) Explain the Resting membrane potential
    (c) Action potential
    (d) Polarised, depolarized and repolarized state
15. Diagrammatically represent the transmission of impulse through chemical synapse and explain the process.

HINTS/SOLUTION

	SECTION A	
1	(a) Cerebral cortex and inner part of hemispheres respectively	1
2	(c) Multipolar neuron	1
3	(b) Sympathetic and parasympathetic nervous system	1
4	(c) Embryonic stage	1
5	(d) Fluid filled space in the chemical synapse	1
	SECTION B	
6	Electrical synapse – distance between two neurons is very less, chemical – synaptic cleft is there - explanation	2
7	Functions of different parts of brain.	2
8	Representation of classification of brain	2
9	Bony protection and membrane protection - details	2
10	Cerebral aqueduct and corpora quadrigemina	2
	SECTION C	
11	(a) Bipolar – one axon and one Dendrite, Multipolar – one axon and many Dendrites (b) Afferent – transmits impulse from tissues to CNS, Efferent – transmits impulse from CNS to tissues (c) The somatic neural system relays impulses from the CNS to skeletal muscles while the autonomic neural system transmits impulses from the CNS to the involuntary organs	3
12	Generation of nerve impulse – explanation of polarized and depolarized state.	3
13	Explanation of parts – cerebrum, thalamus and hypothalamus	3
	SECTION D	
14	(a) Sodium-potassium pump, exists in axon membrane which transports 3 Na+ outwards for 2 K+ into the cell (b) The electrical potential difference across the resting plasma membrane is called as the resting potential. (c) The electrical potential difference across the plasma membrane at the site A is called the action potential, which is in fact termed as a nerve impulse. (d) Polarised – state of resting membrane, depolarised – reversal of polarity during impulse transmission, repolarised – regain of polarity (explanation)	5
15	Diagram and explanation of impulse transmission	5

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