



# INDIAN SCHOOL AL WADI AL KABIR

<b>Class: XI</b>	<b>Department: SCIENCE 2020 – 21</b> <b>SUBJECT : BIOLOGY</b>	<b>Date of submission:</b> <b>11.01.2021</b>
<b>Worksheet: 12</b> <b>WITH ANSWERS</b>	<b>CHAPTER: NEURAL CONTROL AND COORDINATION</b>	<b>Note:</b> <b>A4 FILE FORMAT</b>
<b>NAME OF THE STUDENT</b>	<b>CLASS &amp; SEC:</b>	<b>ROLL NO.</b>

## 1 MARK QUESTIONS

1. How grey and white matter distributed in brain?
2. What do you mean by unipolar neuron?
3. Name two subdivisions of autonomic neural system
4. Distinguish between myelinated and non-myelinated neurons.
5. Define synaptic cleft

## 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. Draw a neat labelled diagram of a multipolar neuron
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.

<b>HINTS/SOLUTION</b>		
<b>SECTION A</b>		
1	Cerebral cortex – grey matter and inner part of cerebral hemisphere – white matter	1
2	Neuron with cell body and one axon	1
3	Sympathetic and parasympathetic nervous system	1
4	Schwann cells will form myelin sheath in the first one and no myelin sheath in second one.	1
5	Fluid filled space in the chemical synapse	1
<b>SECTION B</b>		
6	Electrical synapse – distance between two neurons is very less, chemical – synaptic cleft is there - explanation	2
7	Explain the 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
<b>SECTION C</b>		
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	Diagram of neuron	3
13	Explanation of parts – cerebrum, thalamus and hypothalamus	3
<b>SECTION D</b>		
14	(a) Sodium-potassium pump, exists in axon membrane which transports 3 Na <sup>+</sup> outwards for 2 K <sup>+</sup> 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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