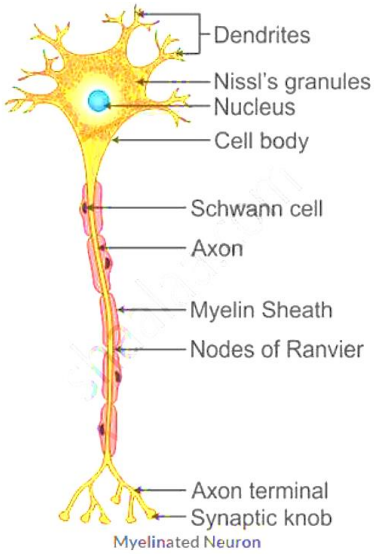
Board – ICSE	Class – 10th	Topic – The Nervous System

1. Briefly explain the following terms: Synapse.

Ans: A synapse is the point of contact between the terminal branches of the axon of one neuron with the dendrites of another neuron separated by a fine gap. The synapse allows the transmission of the nerve impulse from one neuron to the other through a chemical process.

2. Draw neat and labelled diagrams of a myelinated neuron.

Ans:



3. Differentiate between Spinal nerves and Cranial nerves (number of nerves)

Ans:

Spinal nerves	Cranial nerves
31 pairs of spinal nerves are present in humans.	12 pairs of cranial nerves are present in humans

4. The number of Spinal nerves in a human being are:

Ans: 31 pairs

5. Choose the ODD one out from the following terms given and name the CATEGORY to which the others belong: Dendrites, Medullary sheath, Axon, Spinal cord

Ans: Spinal cord (Parts of nerve cell)

6. Mention the exact location of the pulmonary semilunar valve

Ans: At the opening of pulmonary trunk in right ventricle

7. **Complete the following statement by choosing the correct alternative from the choice given in bracket: The dorsal root ganglion of the spinal cord contains cell bodies of (motor/sensory/intermediate) neurons.**

Ans: The dorsal root ganglion of the spinal cord contains cell bodies of sensory neurons

8. **State whether the following statement is true (T) or false (F).**

   A double chain of ganglia, one on each side of the nerve cord belongs to the spinal cord.

Ans: True.

9. **Given below is a structure, write its special functional activity.**

   Myelin sheath and ……

Ans: Myelin sheath acts like an insulation and prevents mixing of impulses in the adjacent axons.

10. **Write the function of Association neuron.**

Ans: Association Neuron: It interconnects sensory and motor neurons.

11. **Rearrange the following in correct sequence pertaining to what is given within bracket at the end.**

    Effector …….. Sensory neuron ……. Receptor…….. Motor neuron……. Stimulus……. central nervous system……. Response (Reflex arc)

Ans: Stimulus --- receptor --- sensory neuron --- central nervous system --- motor neuron --- effector --- response

12. **What are the advantages of having a nervous system?**

Ans: The advantages of having a nervous system are as follows:

(a) Keeps us informed about the outside world through sense organs.
(b) Enables us to remember, think and reason out.
(c) Controls and harmonizes all voluntary muscular activities such as running, holding, writing
(d) Regulates involuntary activities such as breathing, beating of the heart without our thinking about them.

13. **Why do you call the spinal cord and the brain as the central nervous system?**

Ans: The brain and the spinal cord lie in the skull and the vertebral column respectively. They have an important role to play because all bodily activities are controlled by them. A stimulus from any part of the body is always carried to the brain or spinal cord for the correct response. A response to a stimulus is also generated in the central nervous system. Therefore, the brain and the spinal cord are called the central nervous system.

14. **The insulating sheath covering the neural axon is called_____**

Ans: Neurolemma

15. A mixed nerve is one which _____

Ans: Contains both sensory and motor fibers.

16. What do we refer to in the nervous system when we say?

Gray and white ……

Ans: Gray and white matter

17. Briefly explain the following terms: Reflex action

Ans: A reflex action is an involuntary and quick response of the body initiated because of a stimulus. The commands for a reflex action originate from the spinal cord.

18. Differentiate between following pair with reference to the aspect in bracket. medulla oblongata & cerebellum (function)

Ans:

Medulla Oblongata	Cerebellum
Medulla oblongata controls the activities of internal organs and many other involuntary actions	The cerebellum on the other hand maintains balance of the body and coordinates muscular activity.

19. Differentiate between following pair with reference to the aspect in bracket. cerebrum and spinal cord (arrangement of cytons and exons of neurons).

Ans:

Cerebrum	Spinal Cord
The grey matter containing cytons lies in the cortex (outer region) while the white matter containing axons lies in the medullary region (inner region).	The grey matter containing cytons lies in the medullary region i.e. inner side while the white matter containing axons lies in the cortex i.e. the outer region.

20. Note the relationship between the first two words and suggest the suitable word/words for the fourth place. Receptor: Sensory nerve :: Motor nerve: …….

Ans: Receptor: Sensory nerve :: Motor nerve: Effector