

# NERVOUS SYSTEM

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Multiple Choice questions:-

1. a) Medulla oblongata controls  
A:- (ii) Beating of heart and respiratory movement.
- b) Balance of body is controlled by  
A:- (ii) Cerebellum.
- c) The smell of good food causes watering of your mouth. It is a  
A:- (ii) Acquired reflex
- d) The structural + functional unit of nervous system is:-  
A:- (iii) Neuron.

Short Answer type:-

A-1) Reflex action.

Q-2) Name the following:-

- A:- a) Axon b) Synapse c) Mixed nerve  
d) Optic nerve e) Olfactory nerve  
f) Auditory nerve g) Somatic and Autonomic nervous system h) Sympathetic and Parasympathetic system.

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1) Define -

2) Coordination - The interlinking of the activities of a living being as per the needs of the body internally or externally is called Coordination.

3) Synapse :- The point of contact between the terminal branches of the axon of a neuron with the dendrites of another neuron separated by a fine gap is called Synapse.

4) Impulse :- A wave of electrical disturbance that sweeps over the nerve cell is called impulse.

5) Reflex action :- It is a spontaneous, quick, autonomic, involuntary action that takes place in the body without ~~be~~ <sup>being</sup> aware of and brought about by a stimulus.

Reflex arc :- It is the shortest route that can be taken by an impulse from a receptor to an effector.

# Long Answer questions

① Differentiate between :

a) Stimulus + Response (definition)

<u>Stimulus</u>	<u>Response</u>
Any Change in the environment that usually results in change in the activity of the body.	The change in the organism due to stimulus.

b) Receptor + Effector (example)

<u>Receptor</u>	<u>Effector</u>
Skin	Muscle or gland

c) Motor nerve + Sensory nerve (function)

<u>Motor nerve</u>	<u>Sensory nerve</u>
It carries impulse from the <del>to</del> brain or spinal cord to an Effector	It carries impulse from the sense organ (receptor) to brain or spinal cord.

d) Cerebrum + Medulla oblongata (function)

<u>Cerebrum</u>	<u>Medulla oblongata</u>
Seat for thinking, intelligence, memory etc.	It is the center for controlling beating of heart + respiratory movement.



Q) Cerebrum + Spinal cord (arrangement of white & grey matter)

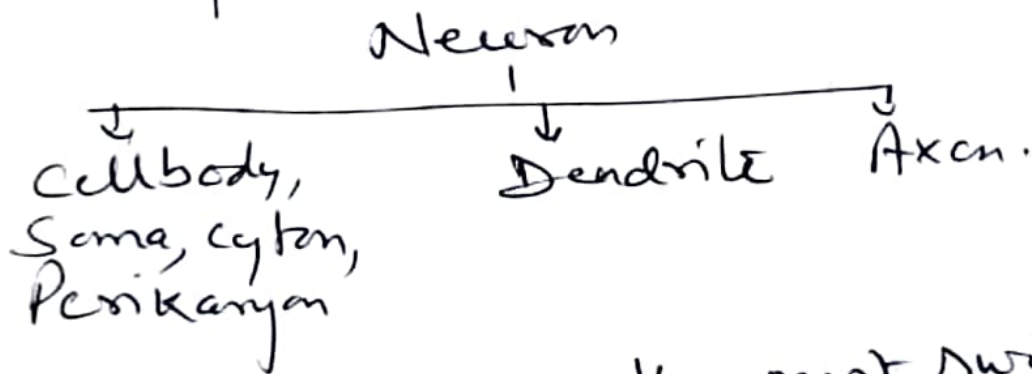
Cerebrum	Spinal cord
Grey matter outside white matter inside	white matter toward outside and Grey matter toward inside.

Q.2) With the help of suitable diagram, describe the structure + function of a neuron.

Ans: Diag:- P.No- ~~123~~ 65

Neuron is the structural and functional unit of the nervous system.

It helps in transmission of impulse from receptor to brain or spinal cord.



① Cell body :- It is the most swollen part of neuron that contains nucleus.  
function :- It receives the impulse from dendrite and transmit it to Axon.

② Dendrite :- These are the cytoplasmic process arising from the cell body.  
function :- Transmit impulse to the cell body.

Axon:- It is a long cylindrical structure that arise from cell body.

func<sup>n</sup>:- It helps in transmission of impulses.

Q:3) Briefly describe the structure of cerebellum in human brain and mention its function.

A:- Cerebellum is the posterior part of the brain situated under cerebrum. It is divided into two hemisphere right ~~Cerebellum~~ <sup>Cerebellum</sup> and left ~~Cerebellum~~ <sup>Cerebellum</sup>.

Function :- 1) It balances the body.

2) It coordinates muscular activities.

- 4) mention three functions of spinal cord.
- Ans:-
- i) Controls reflexes below the neck.
  - ii) Conducts message from skin and muscles to brain.
  - iii) Conducts command from brain to muscle of trunk and limbs.
- 5) with the help of suitable example, describe reflex action.

Example :- Sudden removal of hand on touching a hot object :-

- i) Heat is the stimulus
- ii) The nerve cell in the skin that receives the stimulus is the receptor.
- iii) The sensation travelling through the nerve is impulse
- iv) The muscle of the hand receiving the command from the brain is the effector.
- v) The contraction of the muscle for withdrawing the hand is response.