

8. NEURAL CONTROL AND CO-ORDINATION

1 VSAQ + 1 SAQ [2 M + 4M = 6 M]

ROOT POINTS

1. The neural system (comprising of neurons) and the endocrine system jointly coordinate and integrate all the activities of our body. For example, while doing physical exercises there should be a co-ordination among lungs, heart, kidney, muscles, blood vessels and neurons.
2. Main contents of this chapter are i) Neural system ii) Neuron as structural and functional unit iii) Central Nervous system
3. The **neural system** is the **control system** of the body which consists of neurons.
4. **Coordination** is the process through which two or more organs interact and complement the functions of one another.
5. **Human Neural system:** (i) CNS(Central Neural System) (ii) PNS (Peripheral Neural System).
6. **CNS** consists of brain and spinal cord. It is the site of information processing and control. [SAQ]
7. **PNS** consists of all the nerves of the body associated with the CNS. [VSAQ]
8. **Neuron** is a structural and functional unit of the neural system.
9. **Multipolar neuron** consists of 1) Dendrites 2) Cell body 3) Axon. [SAQ]
10. **Myelinated nerve fibers** form spinal and cranial nerves. [VSAQ]
11. **Non myelinated nerve fibers** form the autonomous and somatic neural systems. [VSAQ]
12. **Afferent fibers (sensory)** transmit impulses from tissues/ organs to the CNS. [VSAQ]
13. **Efferent fibers (Motor)** transmit regulatory impulses from CNS to concerned tissues/ organs. [VSAQ]
14. **Synapse** is a junction between the membranes of a presynaptic neuron and a postsynaptic neuron. It is a junction between two successive neurons. [SAQ]
15. There are two types of synapses. They are **Electrical synapse** and **Chemical synapse**. [SAQ]
16. The brain of man is covered & protected by **Duramater, Arachnoid membrane, Piamater**. [VSAQ]
17. **Corpus callosum** is a transverse internal connection between two cerebral hemispheres, beneath the cerebral cortex. [SAQ]

18. **Somatic and Autonomic neural systems** are two functional parts of peripheral neural system.
19. Receptor sites for neurotransmitters are present on **post-synaptic membrane.**[NEET-2017]
20. Myelin sheath is produce by **Schwann cells and oligodendrocytes.** [NEET-2017]
21. Photosensitive compound in human eye is made up of **opsin and retinal.** [NEET-2016]
22. In mammalian eye, the 'fovea' is the center of the visual field, where
high density of cones occur, but has no rods. [NEET-2016]
23. Destruction of the anterior horn cells of the spinal cord would result in loss of
voluntary motor impulses. [NEET-2015]
24. A gymnast is able to balance his body upside down even in the total
darkness because of **vestibular apparatus.** [NEET-2015]
25. Injury localised to the hypothalamus would most likely disrupt
regulation of body temperature. [NEET-2014]
26. The most abundant intracellular cation is **K⁺** [NEET-2013]
27. The part of the **brain** which is **responsible for thermoregulation** [NEET-2019]
is Hypothalamus
28. The **parasympathetic neural signals** are associated with decrease in cardiac out.[NEET-2020]
29. Brain stem of Human brain consists of Mid brain, pons and medulla oblangata[NEET-2023]
30. The cerebral hemispheres are connected by nerve tract known as **Corpus callosum.**
[NEET-2024]