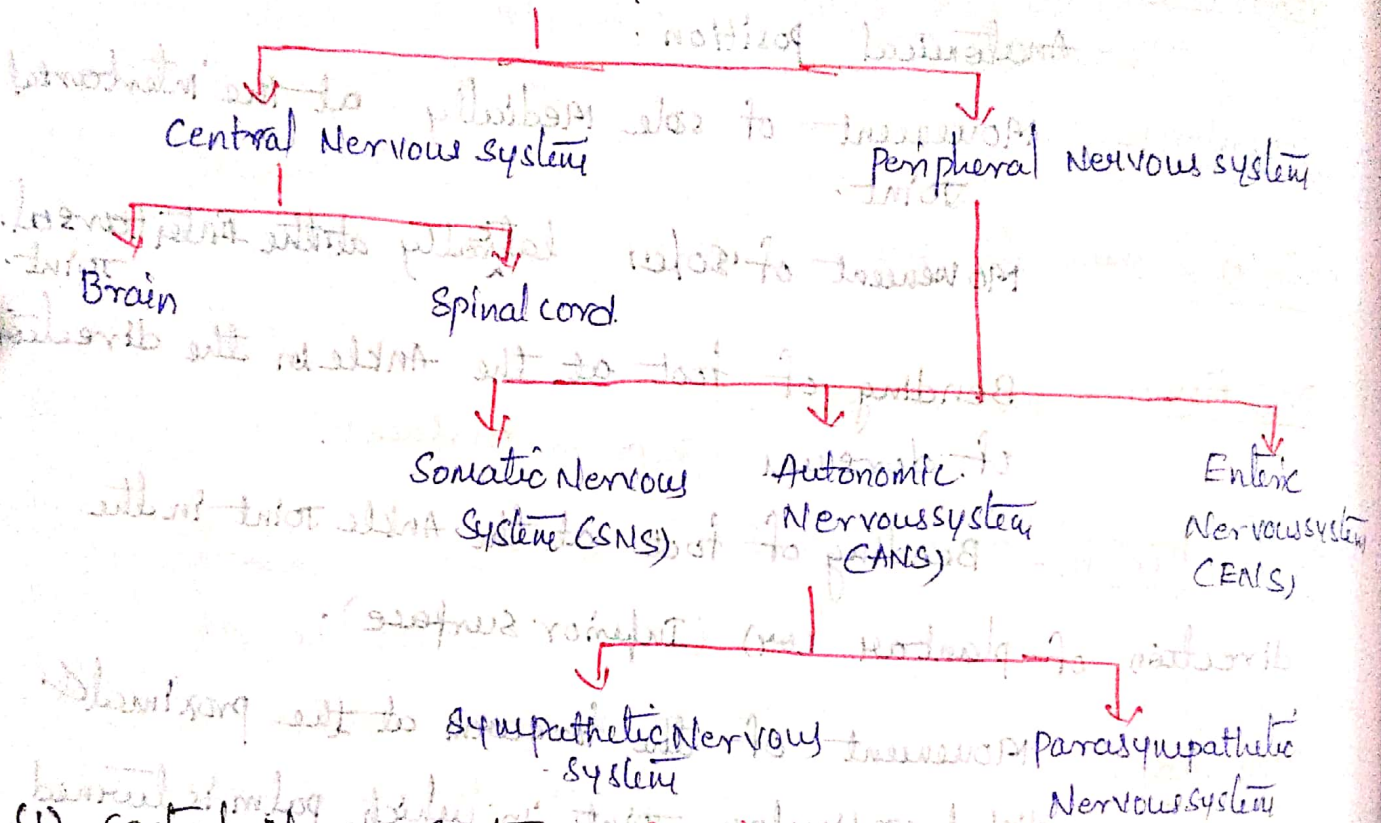


PERIPHERAL NERVOUS SYSTEM

Peripheral Nervous system (PNS) comprises of all the Neural Tissue that lies outside the CNS.

CLASSIFICATION:-

NERVOUS SYSTEM



(1) Central Nervous System :- (CNS)

- CNS comprises of brain and spinal cord.

- The brain is enclosed in the cranium (bone inside head)

Spinal cord housed in vertebral column and is connected to the brain.

- Brain & spinal cord after receiving the sensory information

↓
Gives out the Necessary commands based on the past experiences & present situation.

(2) Peripheral Nervous system :- (PNS)

- The PNS comprises of all part of Nervous system that lies outside the brain.

- PNS consists of
- 12 pairs of cranial nerves (Arises from brain stem)
 - 31 pairs of " " (Arises from spinal cord)
 - Autonomic Nervous system

PNS is further divided into

- somatic Nervous system
- Autonomic " "
- Enteric " "

(a) somatic Nervous system :- (SNS)

SNS consists of

- (i) Sensory Neurons that convey information from somatic receptors in the body wall, head & limbs. and from receptors for the special senses of vision, hearing, taste and smell



to the cells

- (ii) Motor Neurons that conduct impulses from CNS to skeletal muscle only



As motor responses can be consciously controlled action of this part of PNS is voluntary.

(b) Autonomic Nervous system :- (ANS)

ANS consists of

- (i) Sensory Neurons that convey information from Autonomic sensory receptors located primarily in visceral organs such as stomach & lungs. to CNS.

- (ii) Motor Neurons that conduct nerve impulses from CNS to smooth muscles, cardiac muscles & glands.

Because its motor responses are not normally under conscious control, the action of ANS is involuntary.

* Motor part of ANS consists of two branches

↓
Sympathetic & parasympathetic divisions
↓ (have opposing action) ↓

↑ Heart rate

Slow down Heart Rate

(c) Enteric Nervous system:-

It is also known as brain of gut bcz it controls GIT.

Functions

- It consists of large no. of neurons in intestinal wall of GIT.

(i) Sensory neurons monitor chemical variations in GIT & stretching of GIT walls.

(ii) Motor neurons monitor muscular contractions of GIT, secretion of GIT organs & endocrine activity of GIT cells.

AUTONOMIC NERVOUS SYSTEM

- ANS is that division of PNS that is mainly concerned with all those physiological functions that are not under voluntary control.

- These includes: digestive functions, smooth muscle contractions, glandular activities etc.

- So, ANS is also called the Involuntary Nervous system.

DIVISIONS OF ANS:-

- ANS is further divided as

- Sympathetic NS
- Parasympathetic NS

↓
These effect on body is opposite to each other.

Sympathetic division:-

Tackles stress and Emergency situation

Parasympathetic division:- Takes care of rest & digest response.

STRUCTURE AND COMPONENTS OF ANS:-

- Autonomic Nervous system contains.

(1) Sensory Neurons in visceral organs - These Neurons conveying signals from organs to the Integrating Centre located in CNS.

(2) Integrating centre - present in CNS

↓
Analyze the signals & generate impulses

(3) Motor Neurons - Carry Motor output from 'integrating centres' to Effector Tissues like Muscles, glands, Blood vessels etc.

- ANS contains two Motor Neurons.

↓
- * First Neuron that is preganglionic neuron found in brain and spinal cord.

- Axon portion of this Neuron starts from CNS & ends at Autonomic ganglion.

* second Motor Neuron forming synapses is preganglionic Neurons at Autonomic ganglion is referred as post-ganglionic Neuron.

- so, post-ganglionic Neuron plays a role in conducting the impulses from Autonomic ganglia to target organ.