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SUBJECT:BIOLOGY
CHAPTER:7
CHAPTER NAME: CONTROL AND COORDINATION.
PERIOD-3

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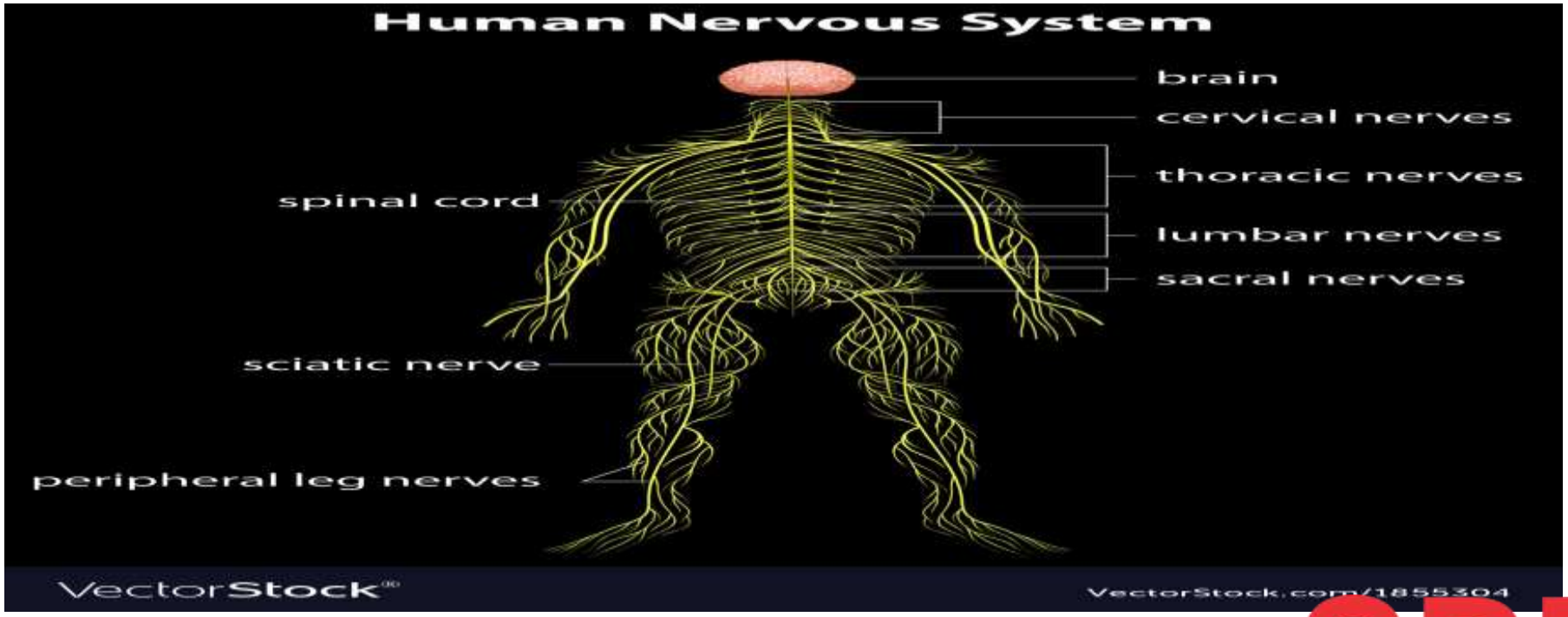
Human Nervous system



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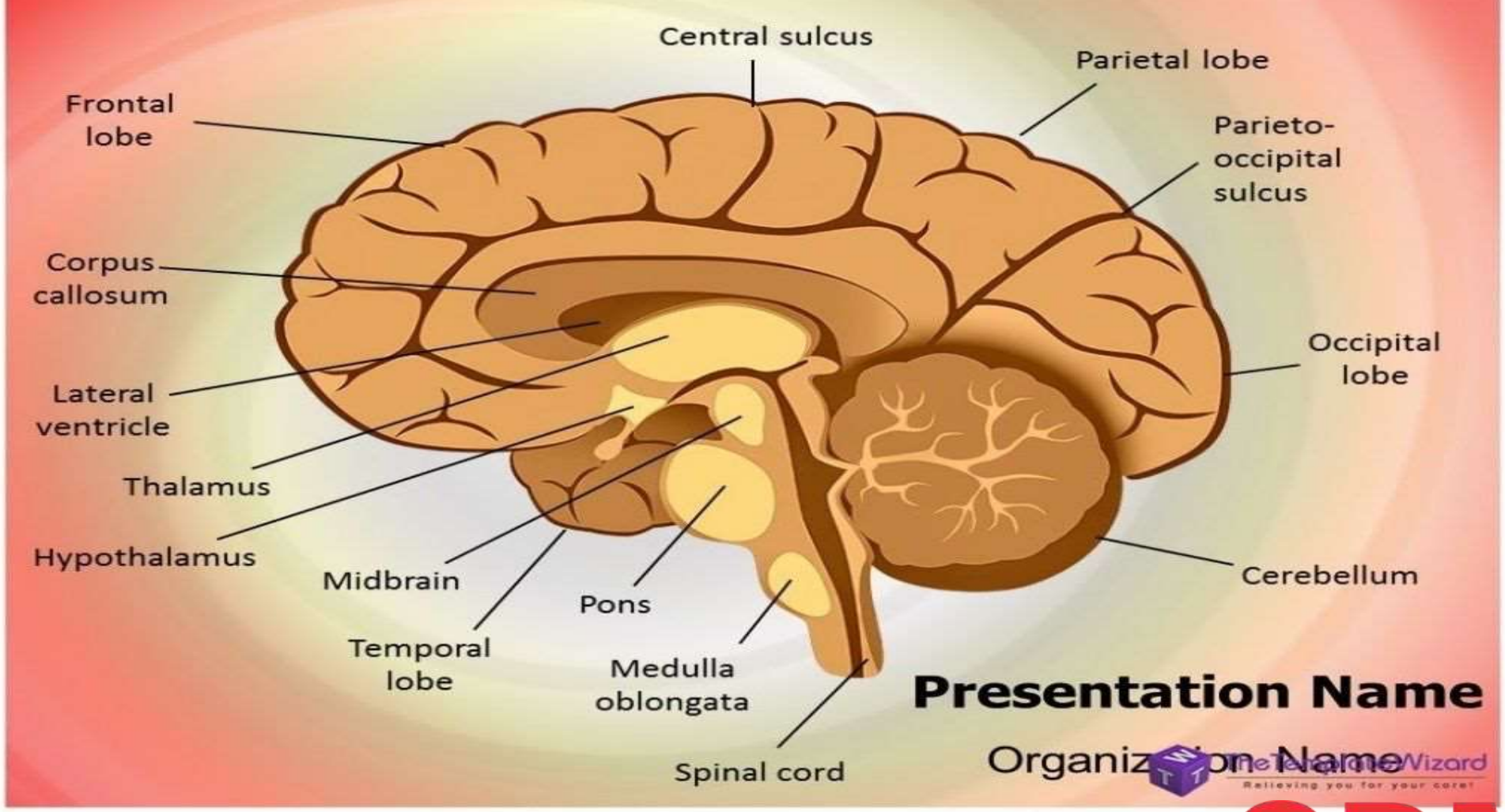
HUMAN BRAIN

- Human brain is a highly complex organ; which is mainly composed of the nervous tissue. The tissues are highly folded to accommodate a larger surface area in less space. The brain is covered by a three layered system of membranes; called meninges. Cerebrospinal fluid is filled between the meninges. The CSF provides cushion to the brain against mechanical shocks. Furthermore, the brain is housed inside the skull for optimum protection. The human brain can be divided into three regions, viz. forebrain, midbrain and hindbrain.

PARTS OF HUMAN BRAIN

- Forebrain: It is composed of the cerebrum,thalamus,hypothalamus and pituitary
- Midbrain: It is small area lies between the thalamus and pons
- Hindbrain: It is composed of the cerebellum, pons and medulla oblongata.

- https://youtu.be/HieUJTLaOZY?t=71



Cerebrum

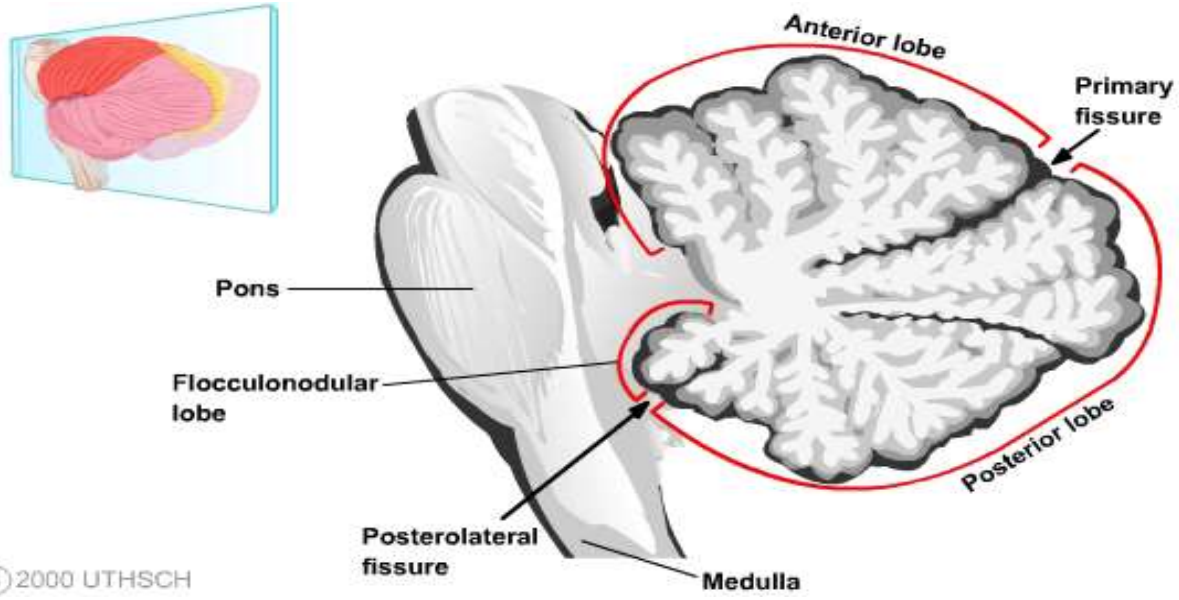
- Cerebrum: The cerebrum is the largest part in the human brain. It is divided into two hemispheres; called cerebral hemispheres.
- Control all voluntary activities

Hypothalamus and pituitary

- Hypothalamus: The hypothalamus lies at the base of the cerebrum. It controls sleep and wake cycle (circadian rhythm) of the body. It also controls the urges for eating and drinking
- Pituitary:secretes hormones

cerebellum

- Cerebellum: Cerebellum lies below the cerebrum and at the back of the whole structure. It coordinates the motor functions. When you are riding your bicycle; the perfect coordination between your pedaling and steering control is achieved by the cerebellum.



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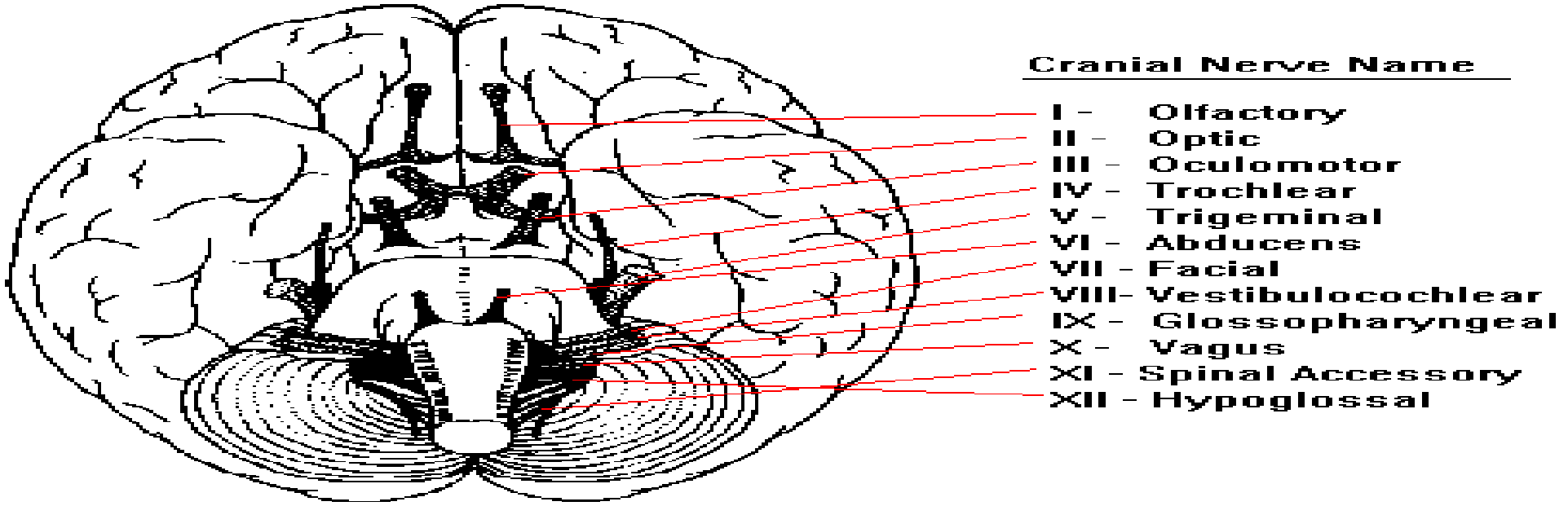
Medulla and pons

- Medulla: Medulla forms the brain stem; along with the pons. It lies at the base of the brain and continues into the spinal cord. Medulla controls various involuntary functions; like hear beat, respiration, etc
- Pons:lies just above the medulla.regulates reso

Peripheral nervous system

- The **peripheral nervous system** includes all the **nerves** in the body that lie outside of the spinal cord and the brain. These **nerves** carry information to and from the central **nervous system** to provide complex body **functions**. Sensory cells are involved in taking information from the periphery to the central **nervous system**.

Cranial nerves



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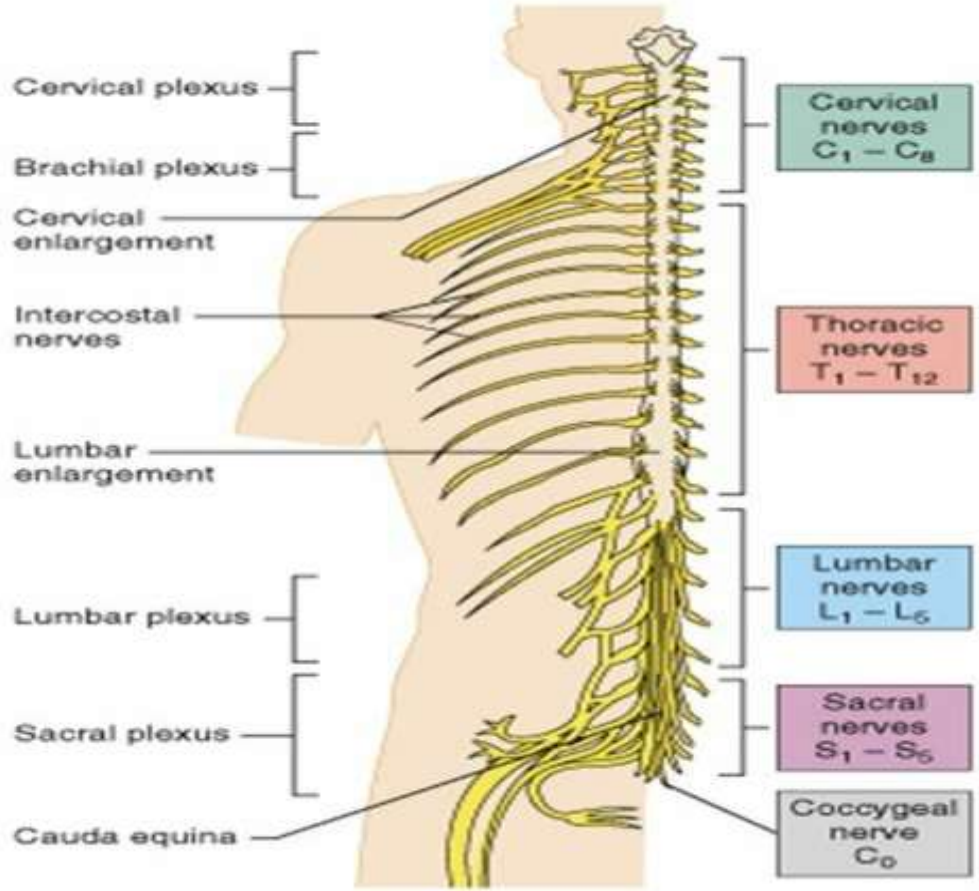
4. Spinal Nerves

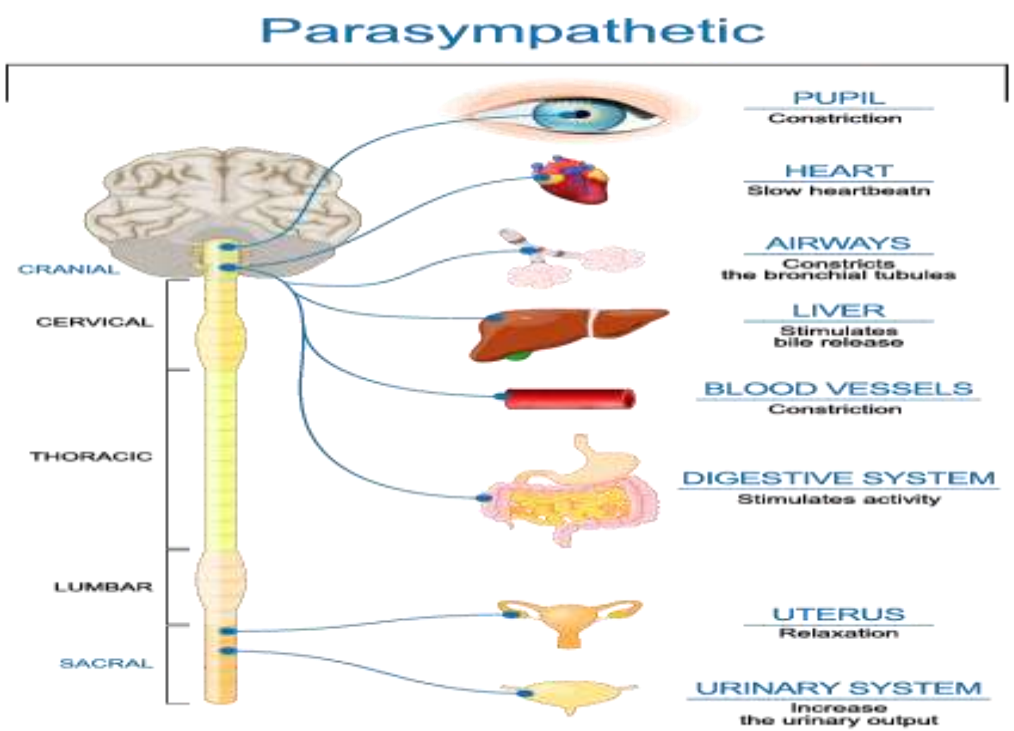
- 31 nerves connecting the spinal cord and various body regions.
  - 8 paired cervical nerves
  - 12 paired thoracic nerves
  - 5 paired lumbar nerves
  - 5 paired sacral nerves
  - 1 pair of coccygeal nerves

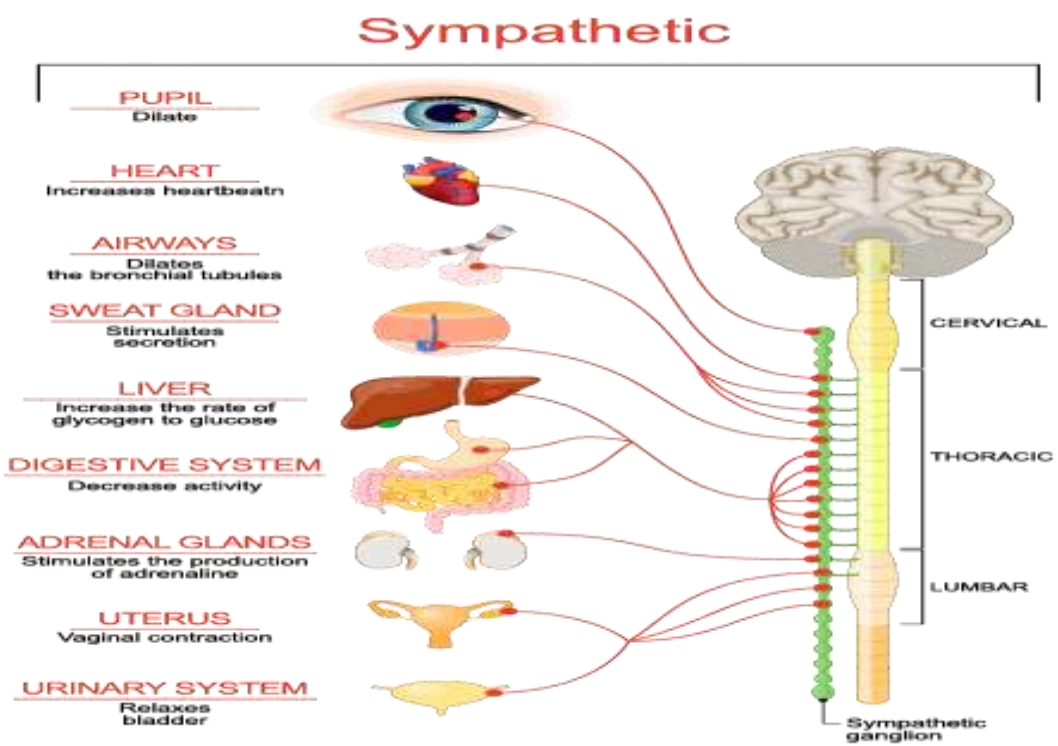


Sympathetic and parasympathetic

- **Sympathetic system** is a division of autonomic **nervous system** that prepares the body for stress conditions. Although it is activated in the stress conditions, a small amount of **sympathetic** activity is present in the body every time which is essential to regulate different vital body functions.

The **parasympathetic nervous system** is one of three divisions of the autonomic **nervous system**. Sometimes called the rest and digest **system**, the **parasympathetic system** conserves energy as it slows the heart rate, increases intestinal and gland activity, and relaxes sphincter muscles in the gastrointestinal tract.





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HOME ASSIGNMENTS

1.How are the brain and spinal cord protected in the human body?

2.Which is the largest and most prominent part of the brain.

3. What are the functions of cerebellum?

THANKING YOU

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