

UPDAAN



2025

Pookies

Control and Coordination



Biology

Lecture - 04

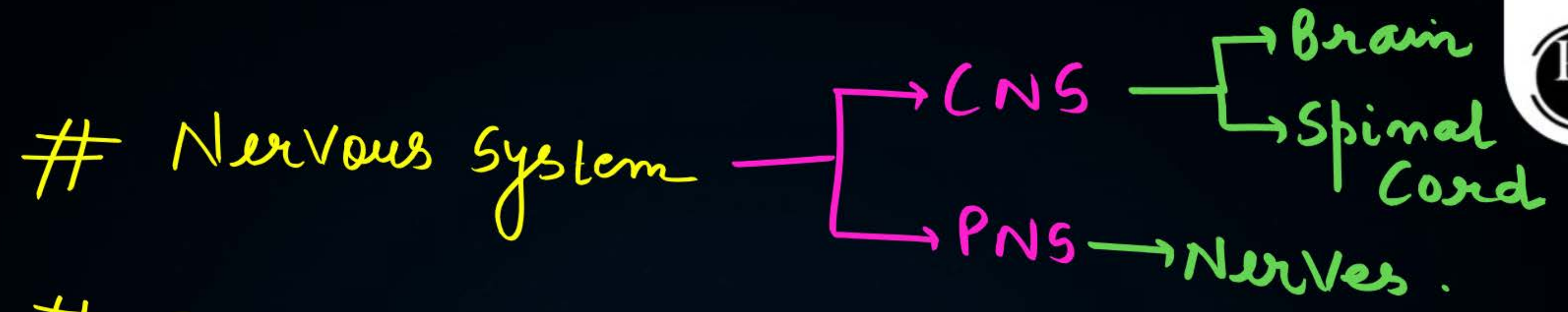
By - SAMRIDHI SHARMA Ma'am



Topics to be covered

- 1 Human brain ✓
- 2 Spinal cord ✓
- 3 MCQ practice and Homework ✓





Endocrine System {Hormones}



Question of the Day



How many brain does octopus have ?

9 Brains

#H.Q

Q. Think and answer

Terminal part of neuron is also referred as-

→ end position

A Axon

B Cyton

C Synapse

D Nerve ending ✓

→ gap b/w two adjacent neurons



Q. Think and answer

Which of the following statement is true ?

- ☐ A Peristaltic movements are under ~~voluntary control~~ *Involuntary* ✗
- ☒ B Involuntary actions like pumping of blood is controlled by brain ✓
- ☐ C Reflex actions are controlled by ~~brain~~ *Spinal Cord* ✗
- ☐ D None of these



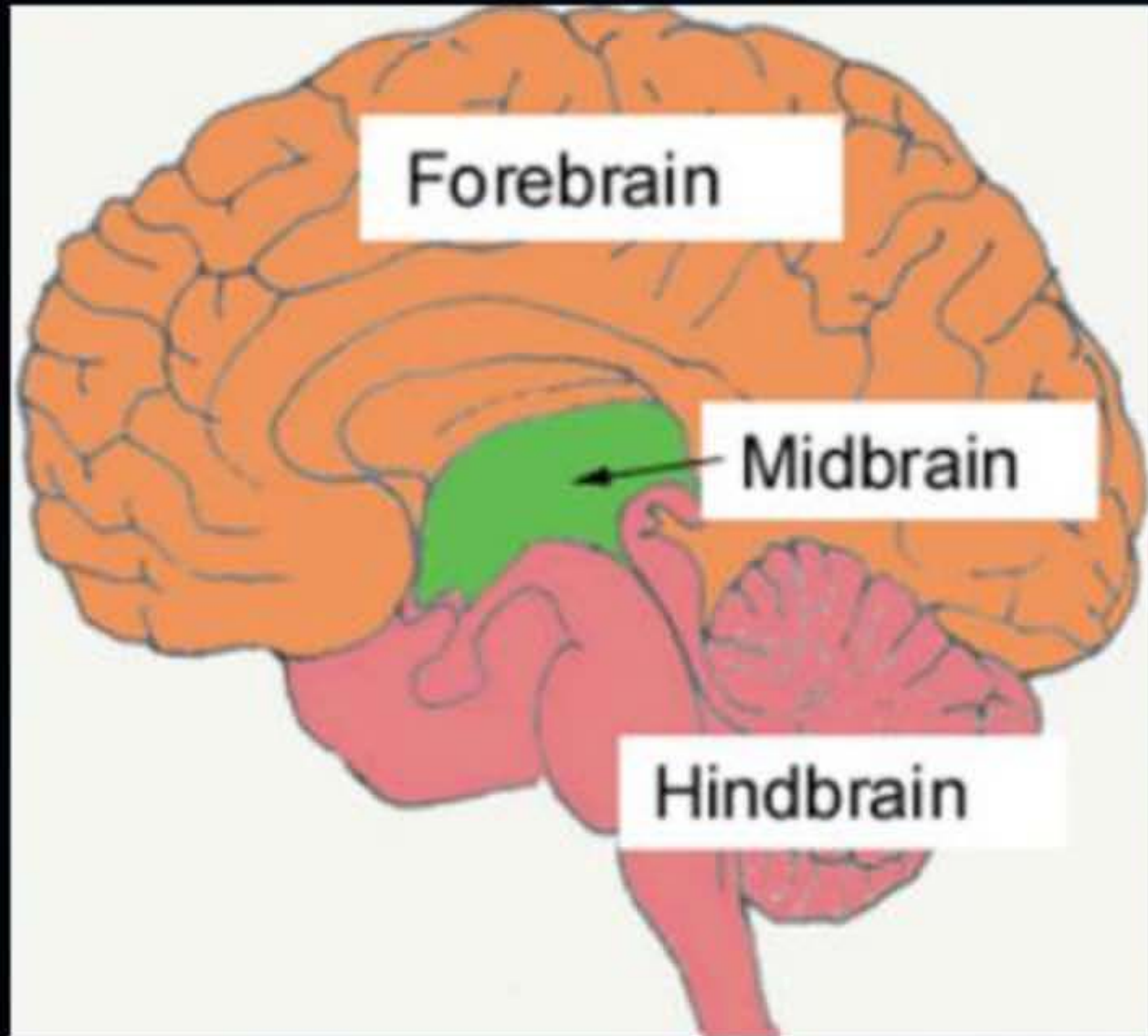


Human Brain

→ 1100 - 1400 gms

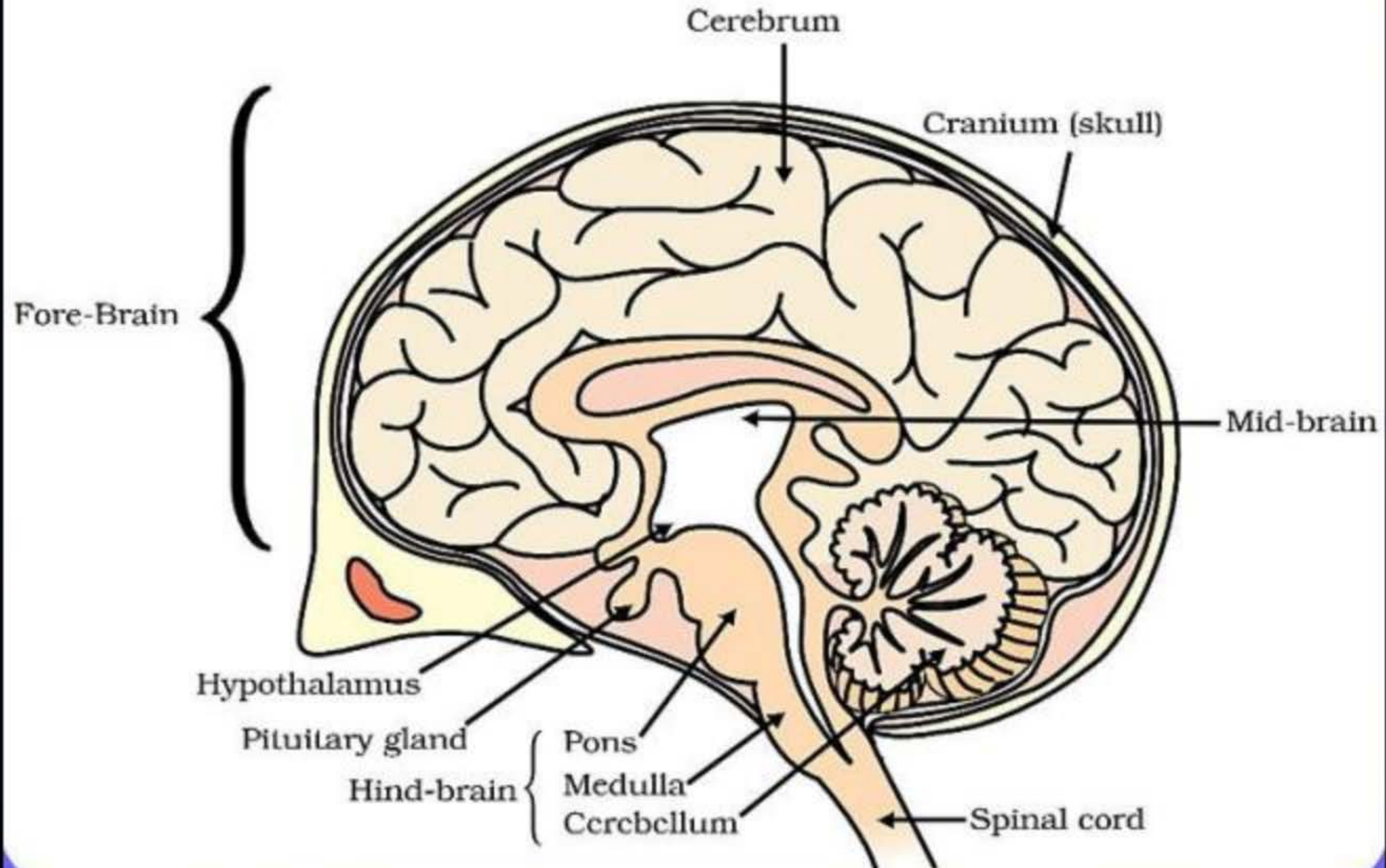


- Brain is the main **coordination centre of the human body**.
- Human brain is divided into three parts :

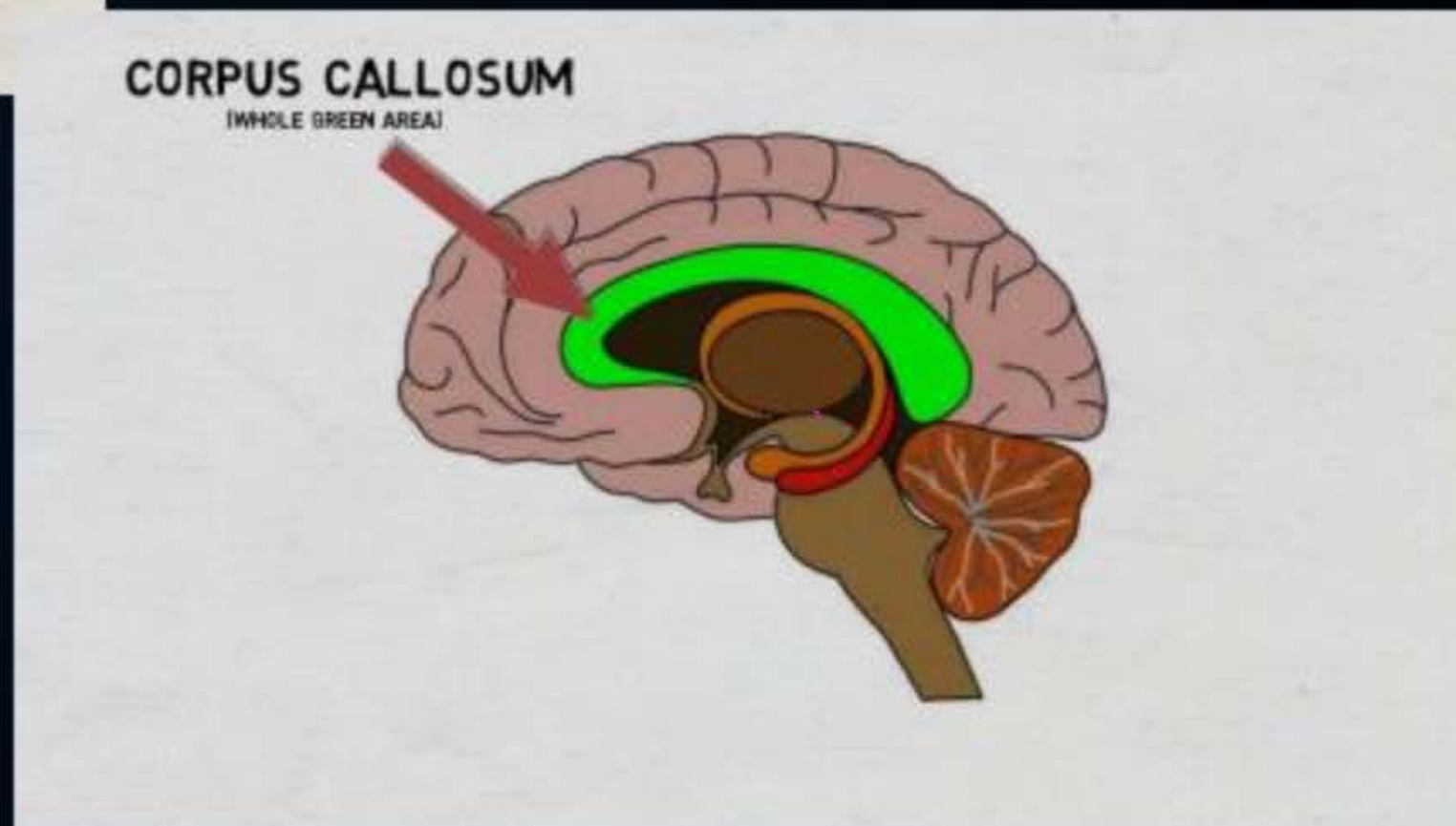
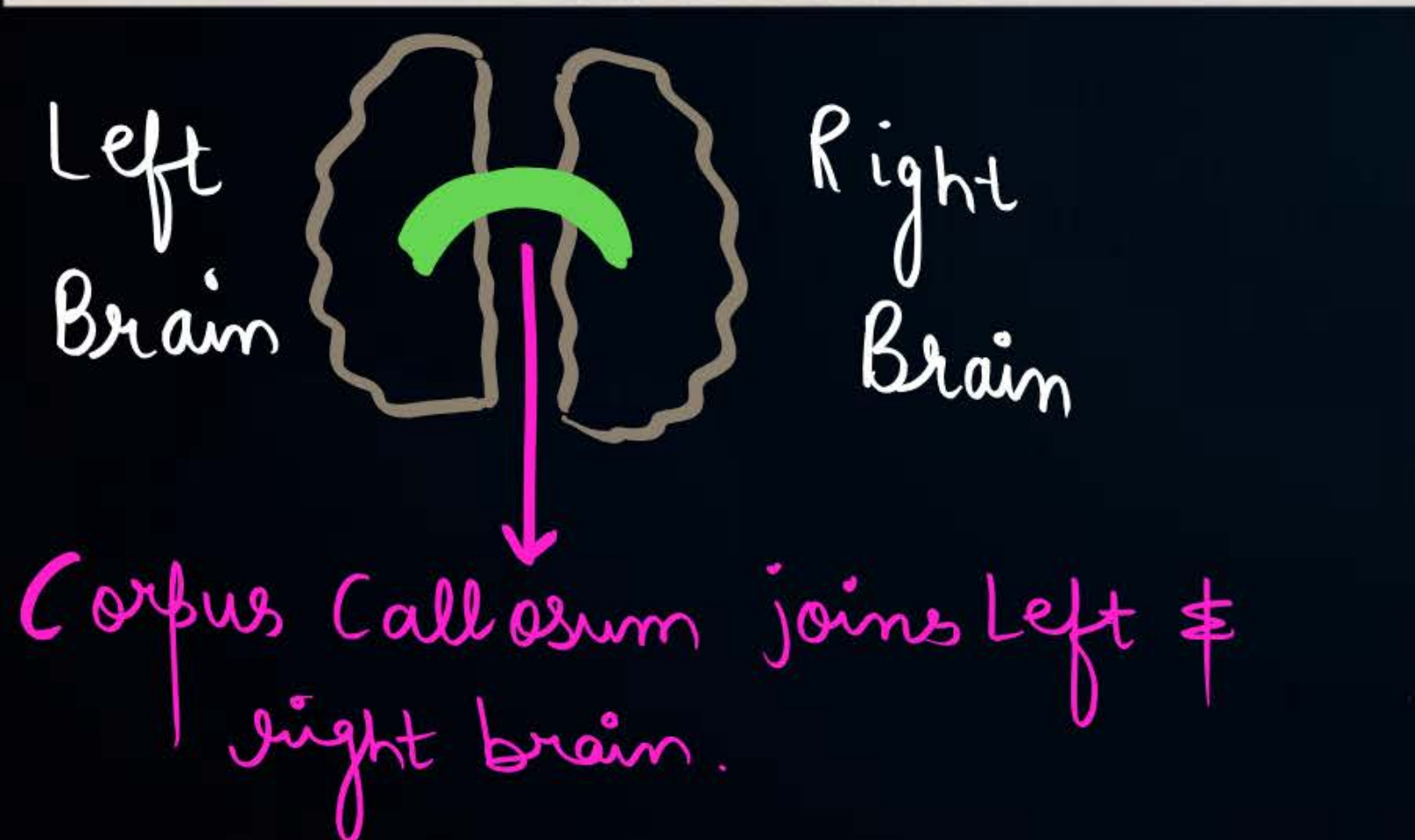
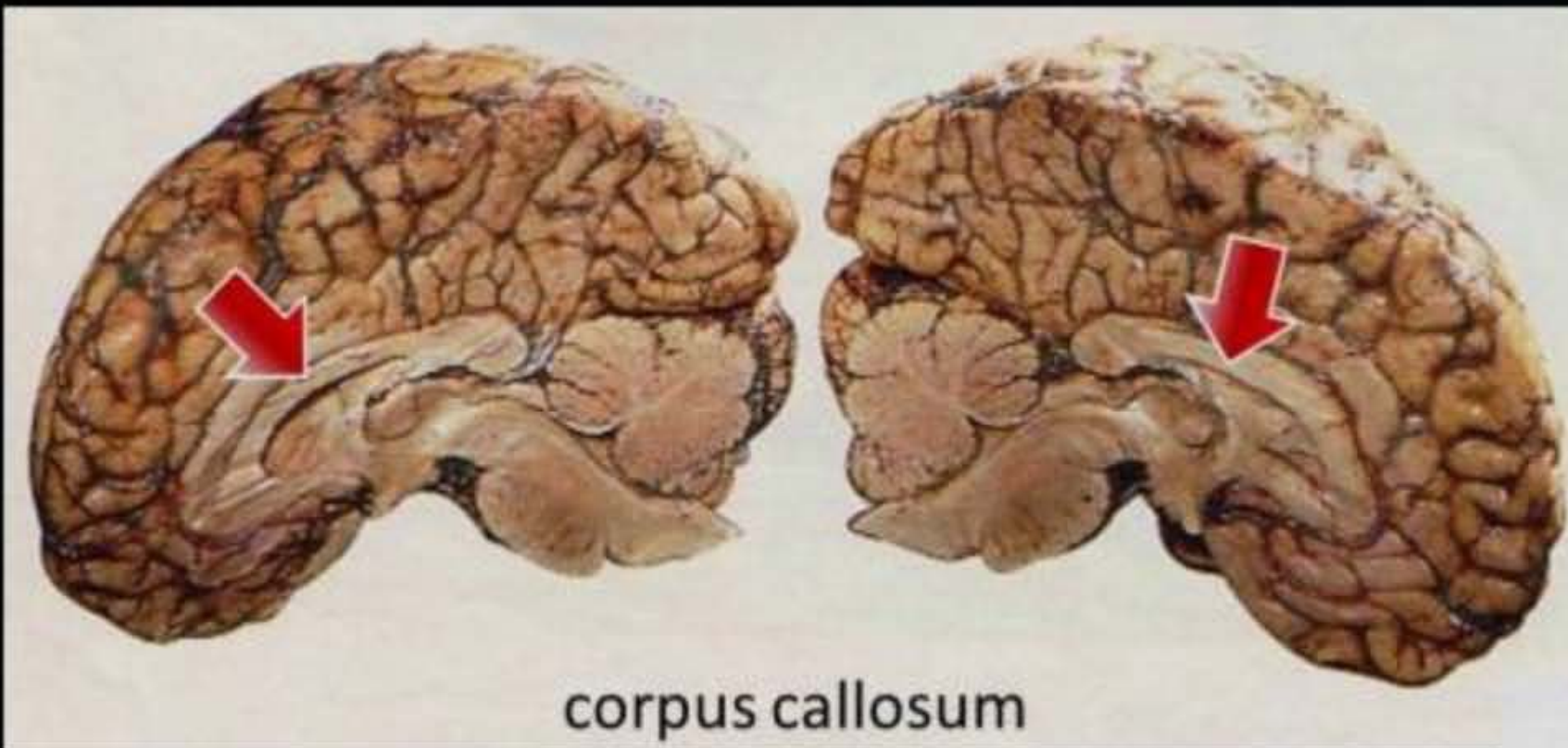


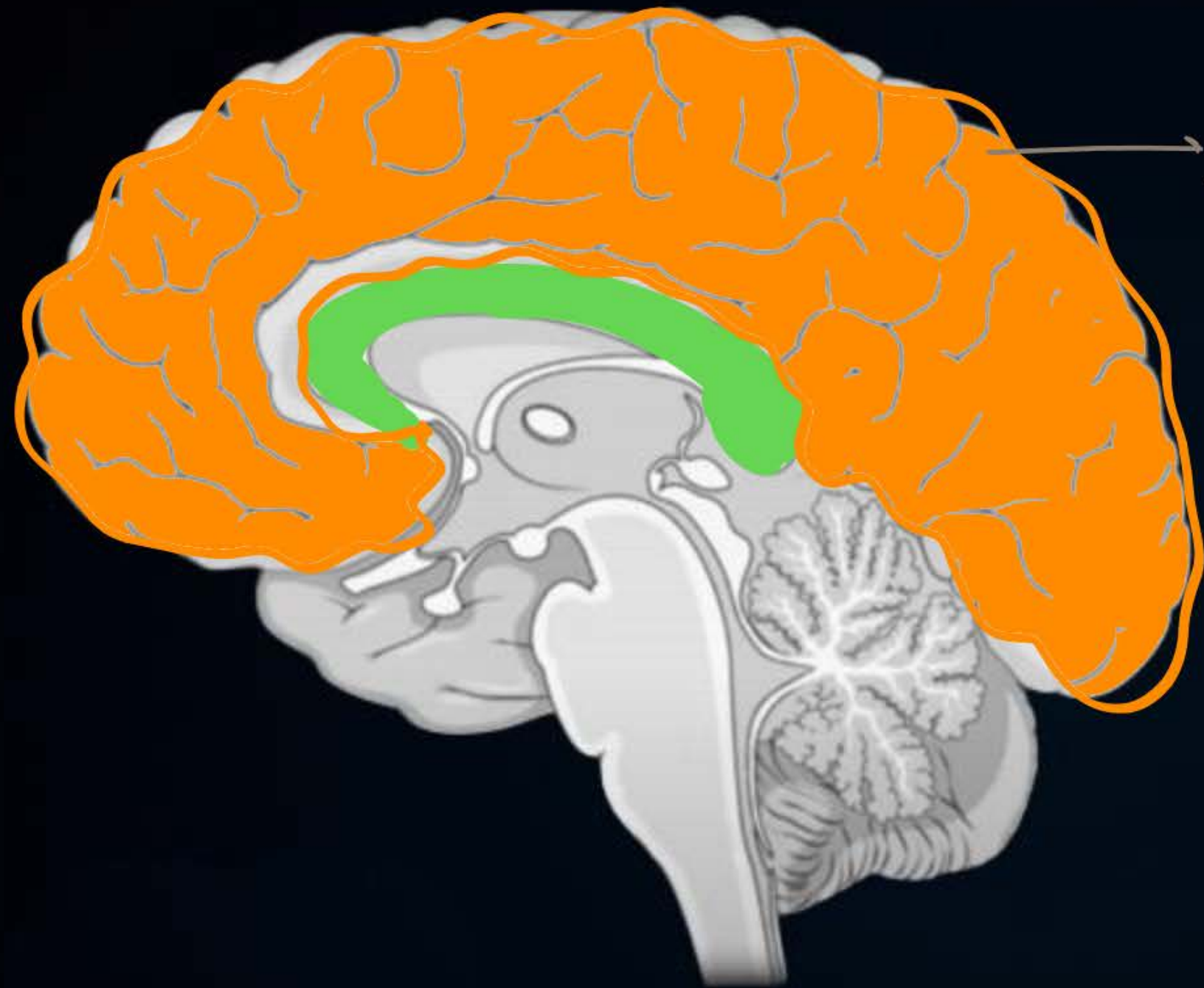
- + ① Fore brain { Largest part }
- + ② Mid brain { Smallest part }
- + ③ Hind brain

HUMAN BRAIN STRUCTURE









Forebrain

+ ① Cerebrum ✓

+ ② Diencephalon

↓
Thalamus

↓
Hypothalamus

FORE BRAIN

→ Voluntary Actions



Cerebrum

→ largest part of the human brain

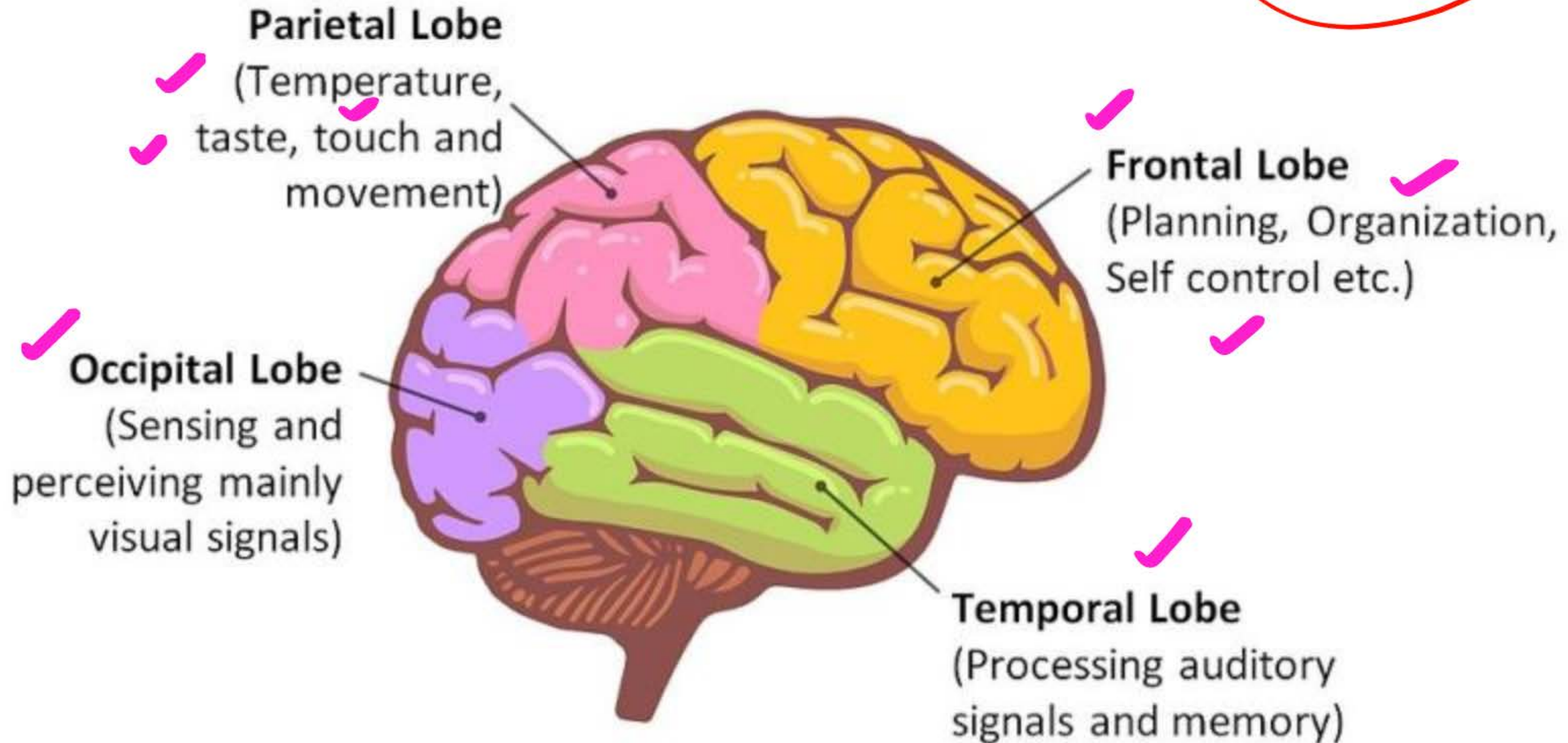
- Seat of mental abilities, controls thinking, memory, reasoning, perception, emotions, and speech.
- Interprets sensations and responds to pain, cold, heat, and pressure.

→ decision making → Response.

#Ch

FOREBRAIN

#not in
NCERT



Diencephalon



#Ch!

① Thalamus

Act as "relay centre"

Hypothalamus



Below

→ Control heart rate

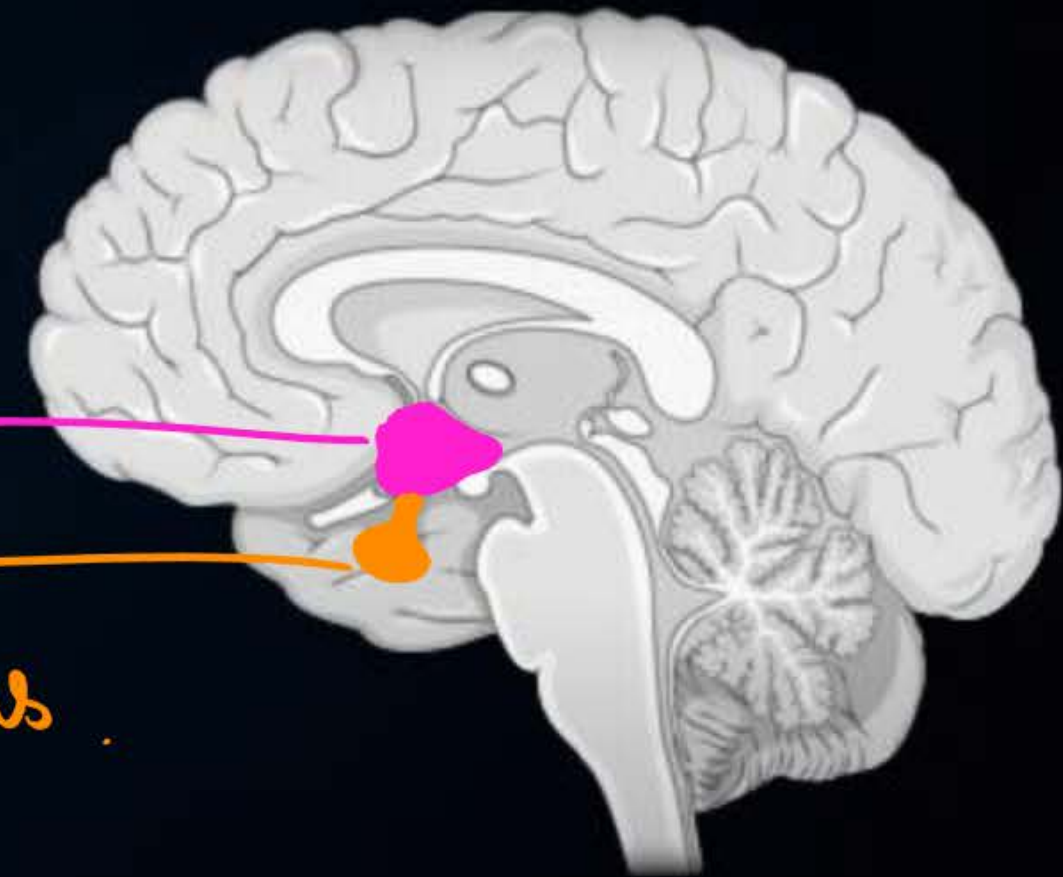
→ Regulate body temp

→ Hunger

→ Sleep cycle

Thalamus

Hypothalamus



MID BRAIN

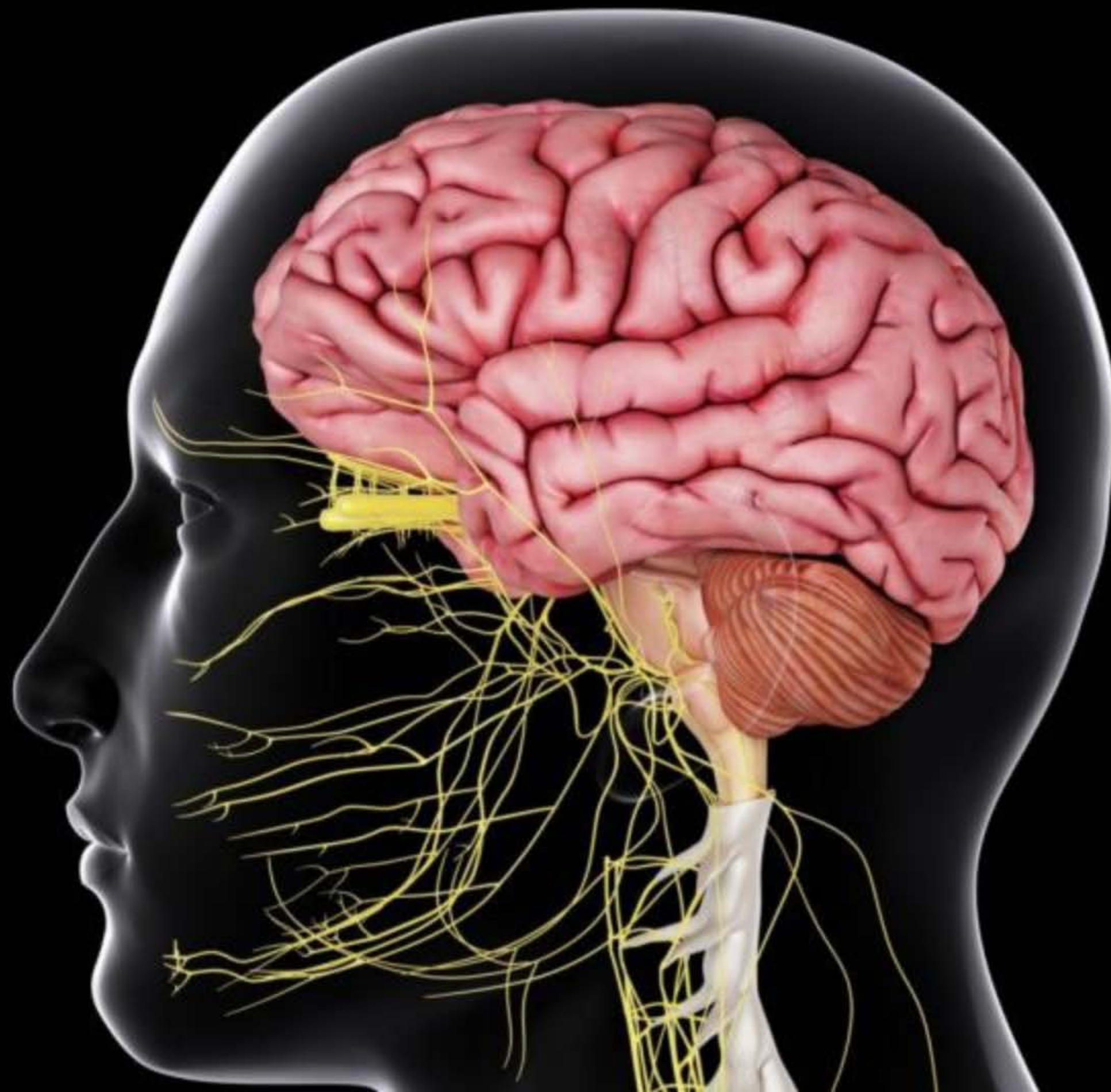
Mid brain



- It acts as a bridge and transmits signals from forebrain and hindbrain
- Controls many involuntary actions
- It is mainly concerned with sense of sight and hearing.

Spinal Cord

Body organ



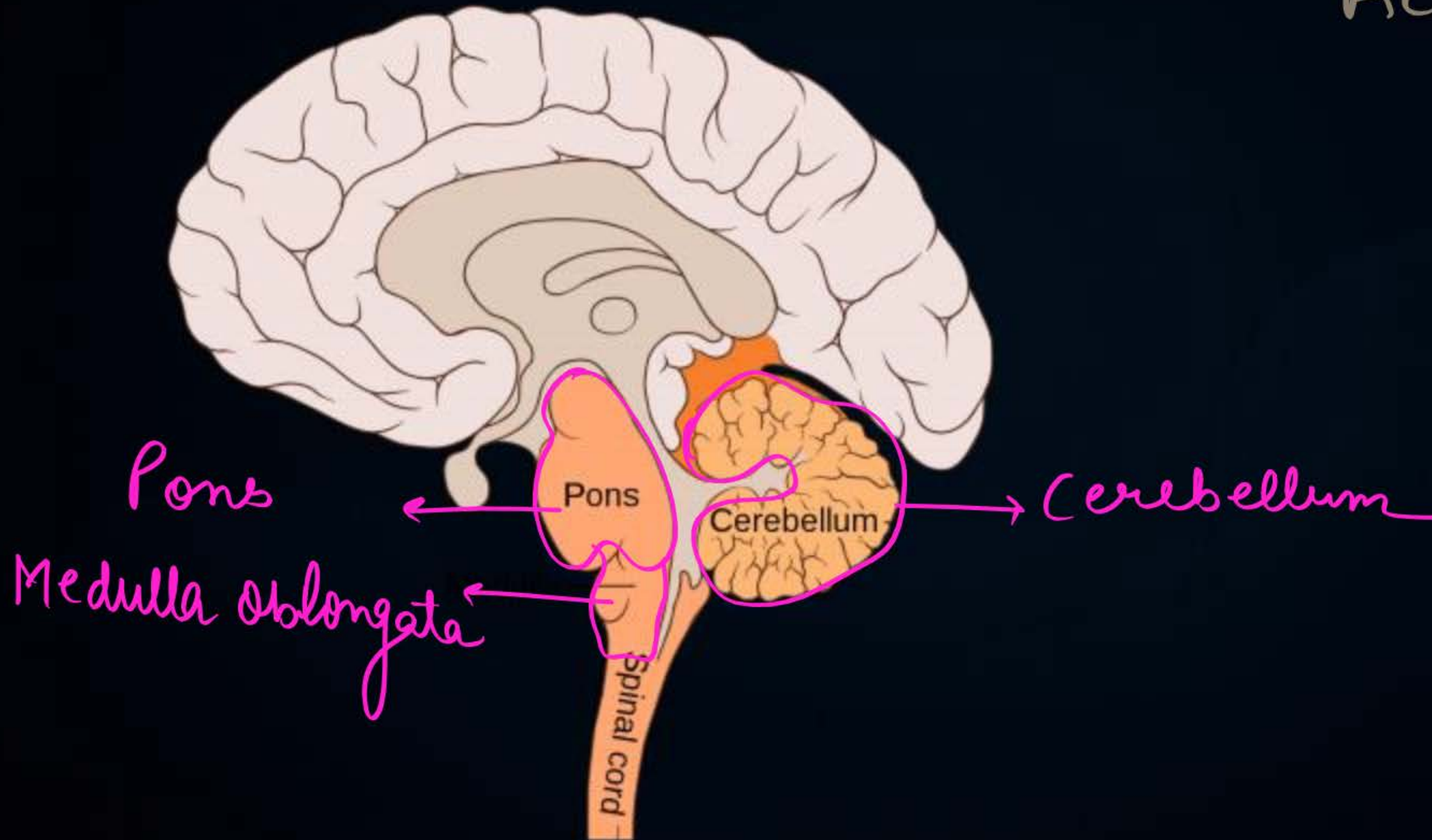


Involuntary
action



HIND BRAIN

Involuntary
Action



HIND BRAIN



Cerebellum

Balancing

coordinates the movements, balance of the body and maintains posture.

Pons

concerned with regulation of breathing rate, sleep cycle.

Medulla oblongata

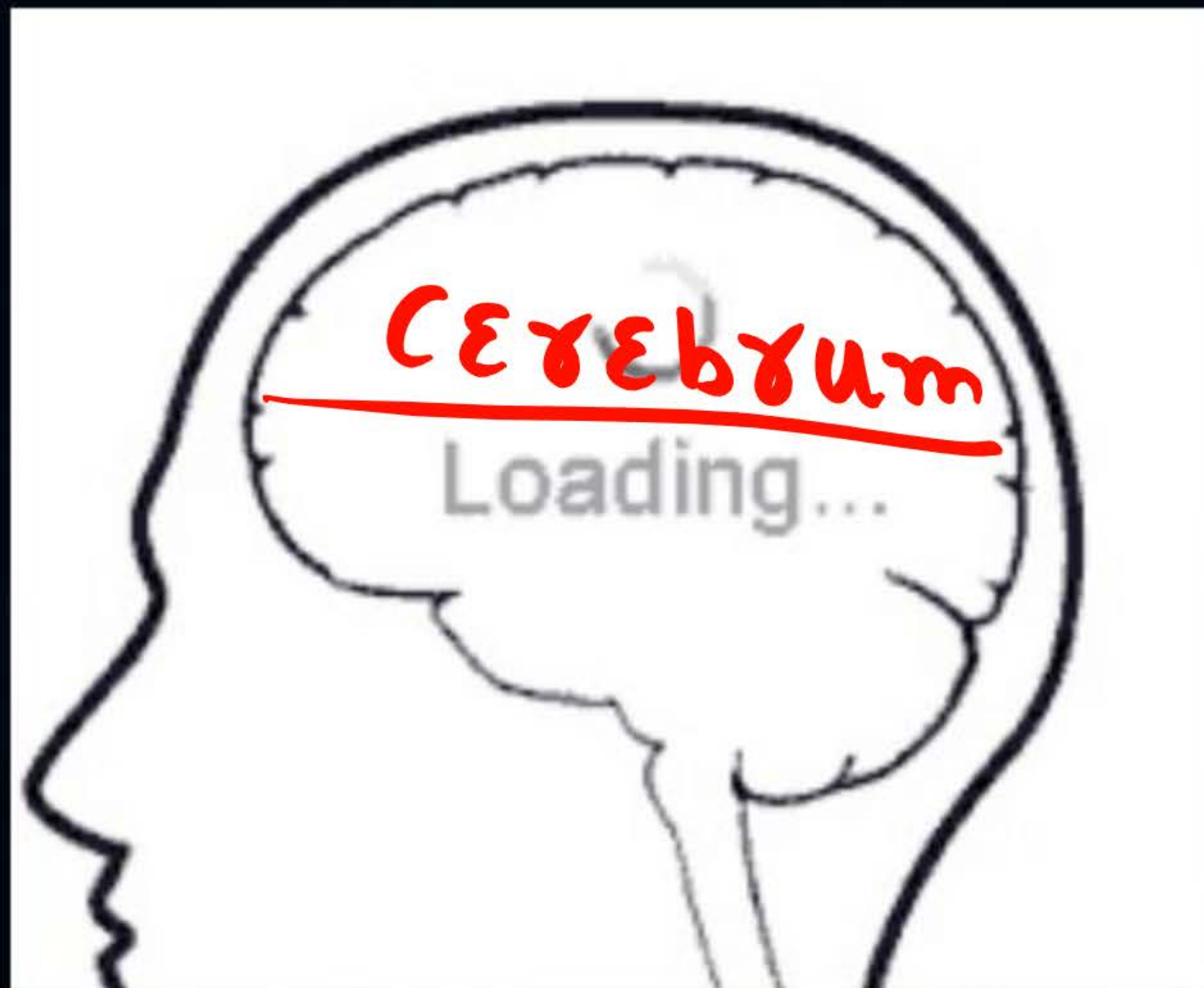
Regulates heart beat, blood pressure, coughing, sneezing, salivation and vomiting and rate of respiration.





Trying to remember answer during exam

Our brain :



Which of the following part of human brain will help us to maintain posture while cycling ?

- ☐ A Cerebrum
- ☒ B Cerebellum
- ☐ C Medulla oblongata
- ☐ D Pons

↓
Balancing

Which of the following structure connects left and right hemisphere of brain ?

- ☐ A Synapse
- ☐ B Spinal cord
- ☒ C Corpus callosum *um*
- ☐ D Hind brain

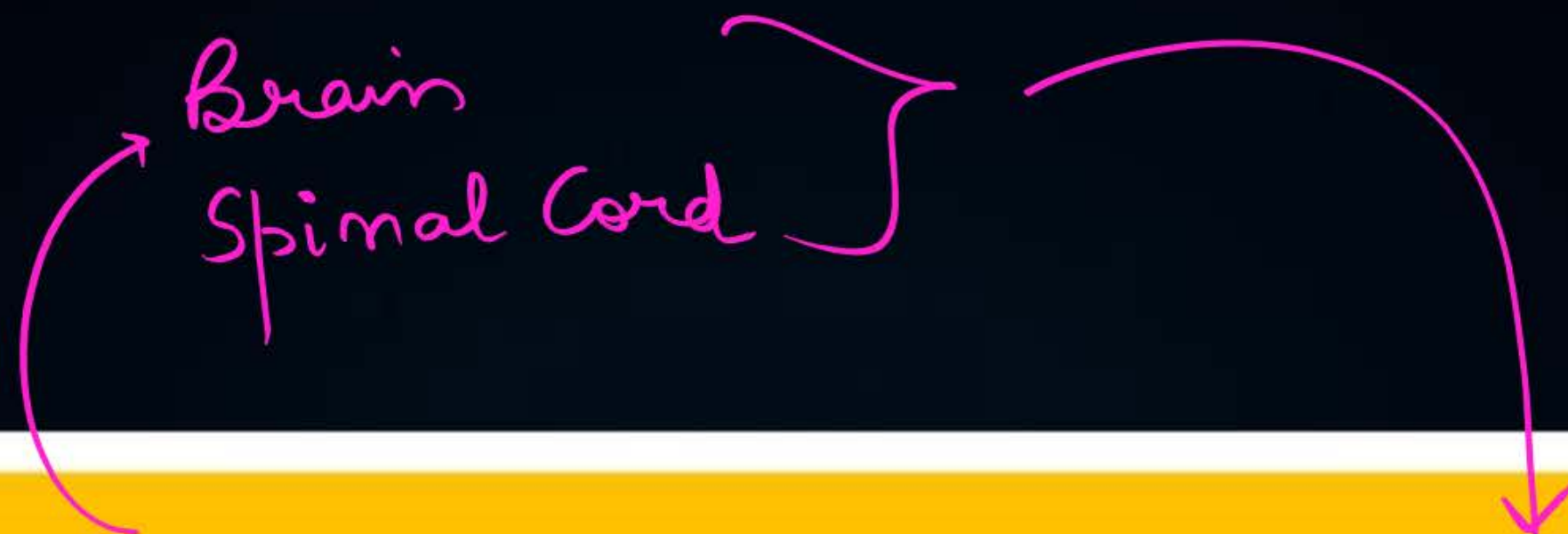
Involuntary action



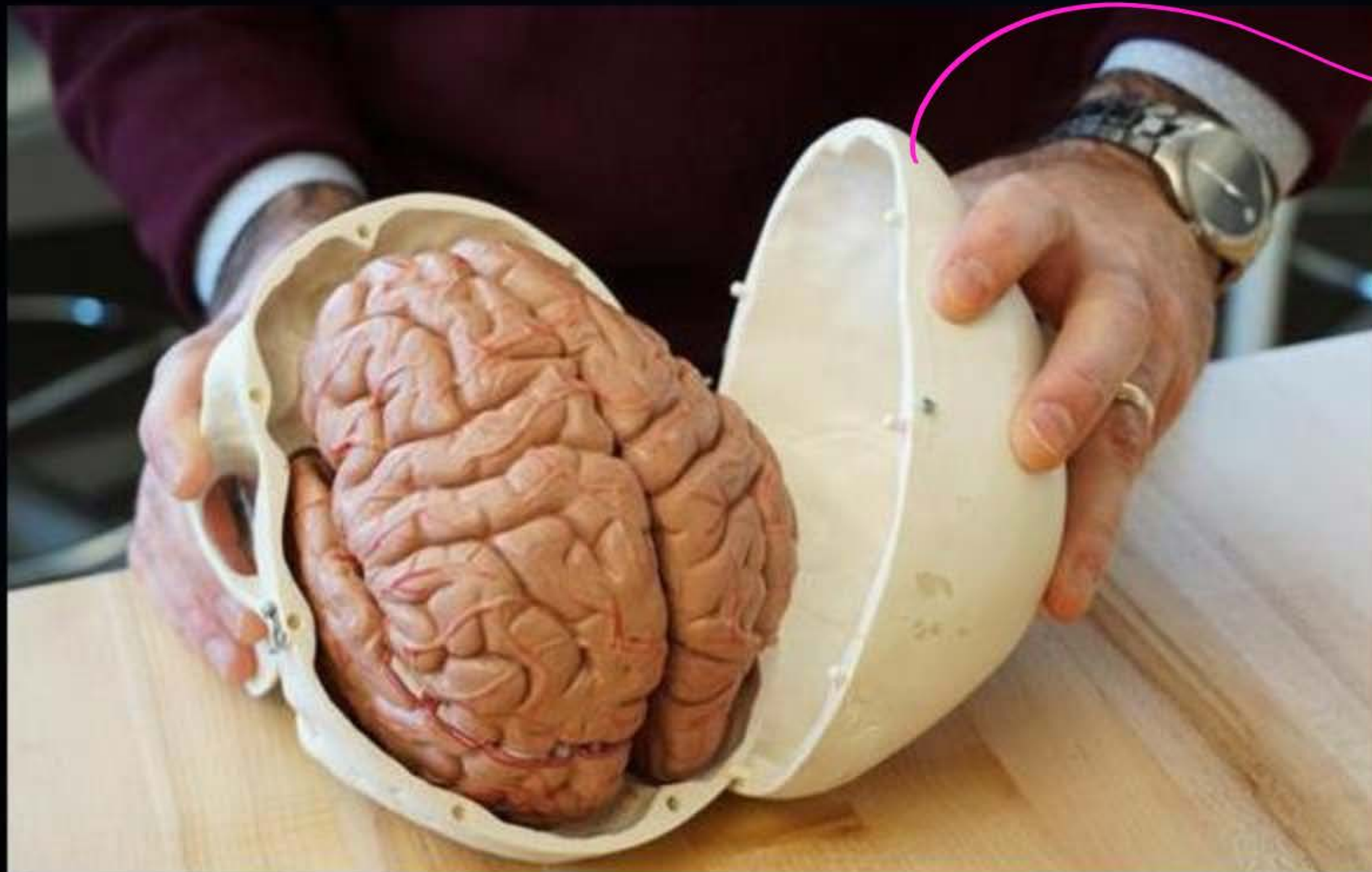
Which part of human brain control vomiting?

- A Medulla
- B Cerebrum X
- C Pons X
- D Cerebellum X

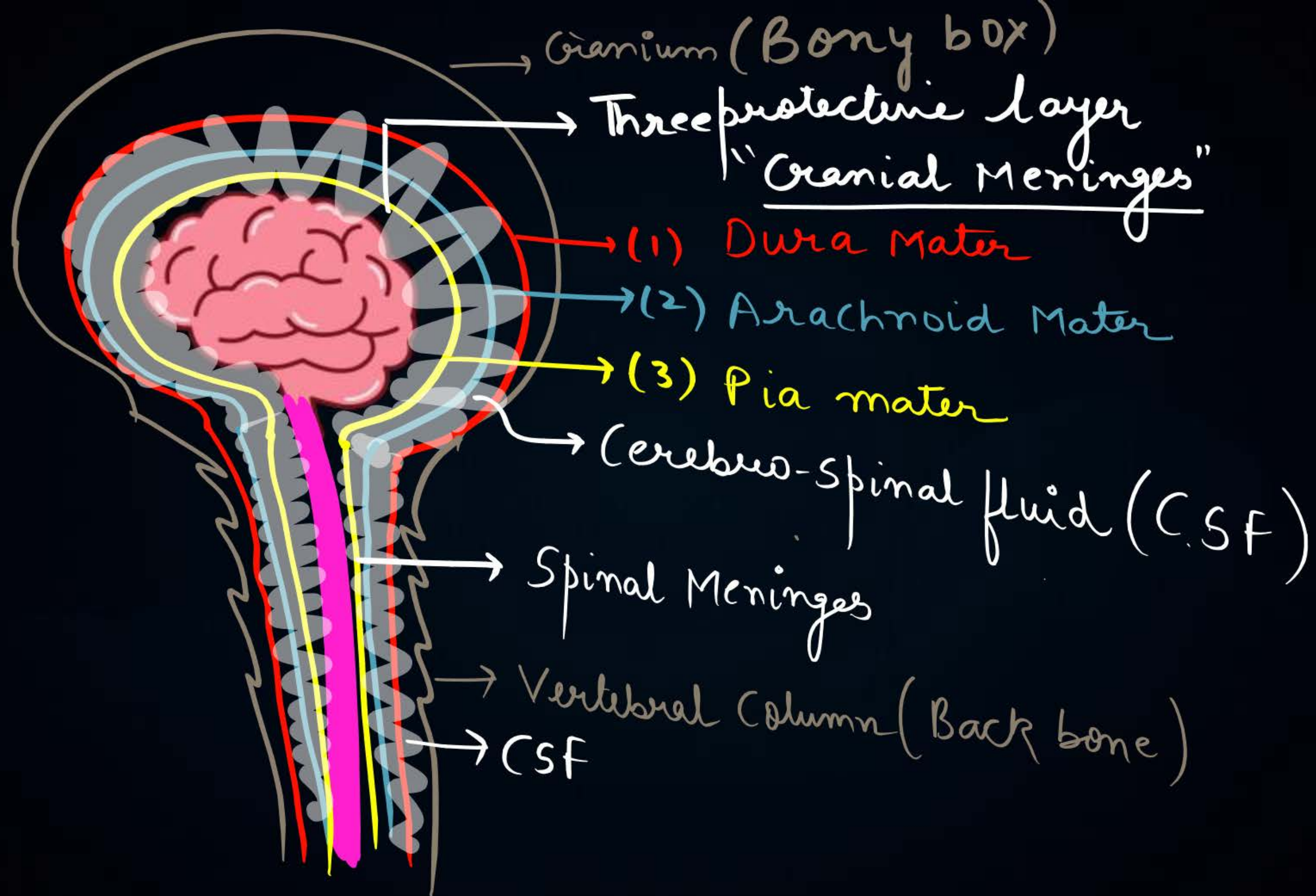
Brain
Spinal Cord

A hand-drawn diagram in pink ink. A bracket groups the words 'Brain' and 'Spinal Cord'. A curved arrow points from the 'Brain' text to the yellow title box. Another curved arrow points from the 'Spinal Cord' text to the same yellow title box.

HOW ARE NERVOUS ORGANS PROTECTED ?



Bony box
↓
Cranium



Question : HOW ARE NERVOUS ORGANS PROTECTED ?



#imp

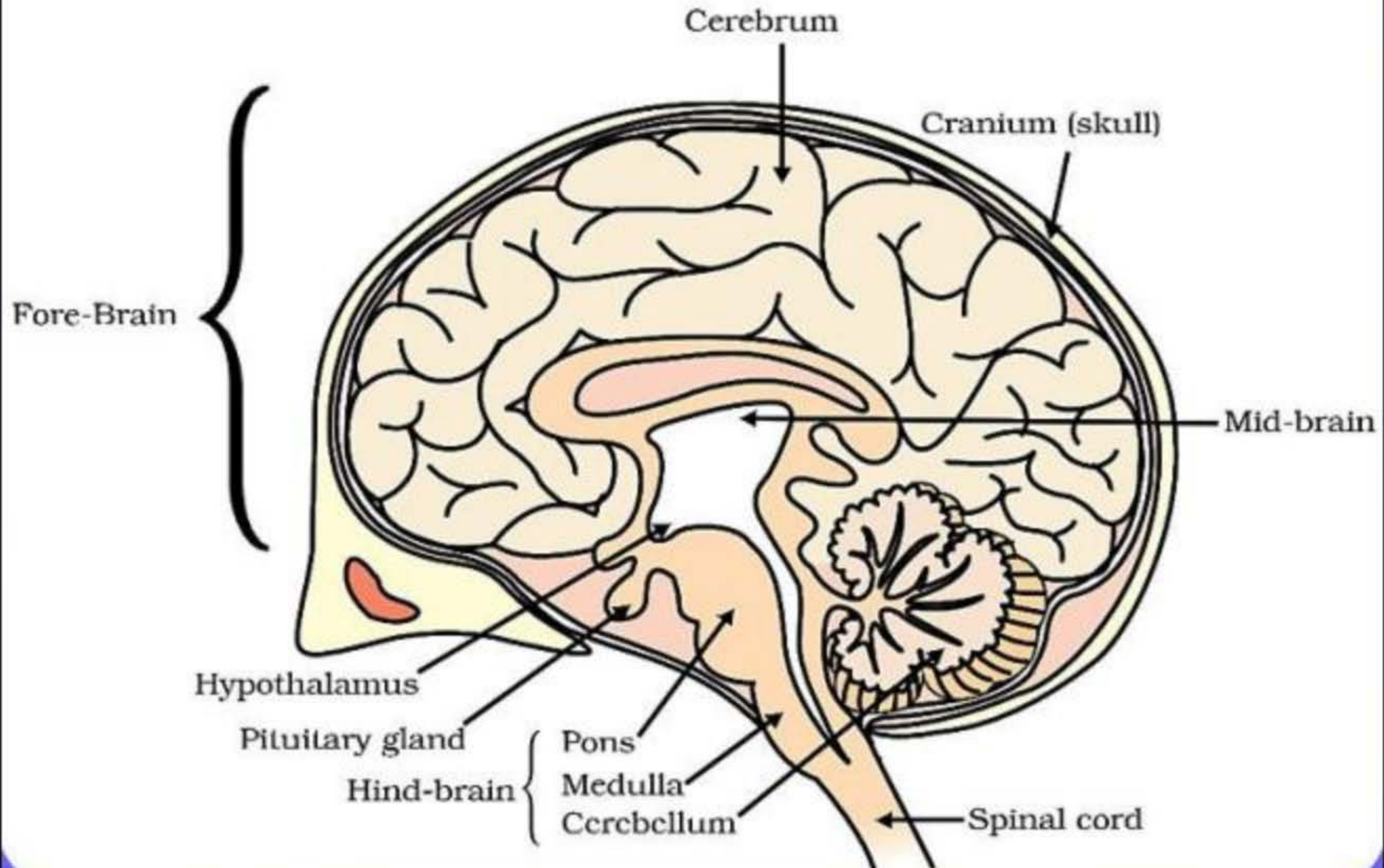
→ Protection of Brain:

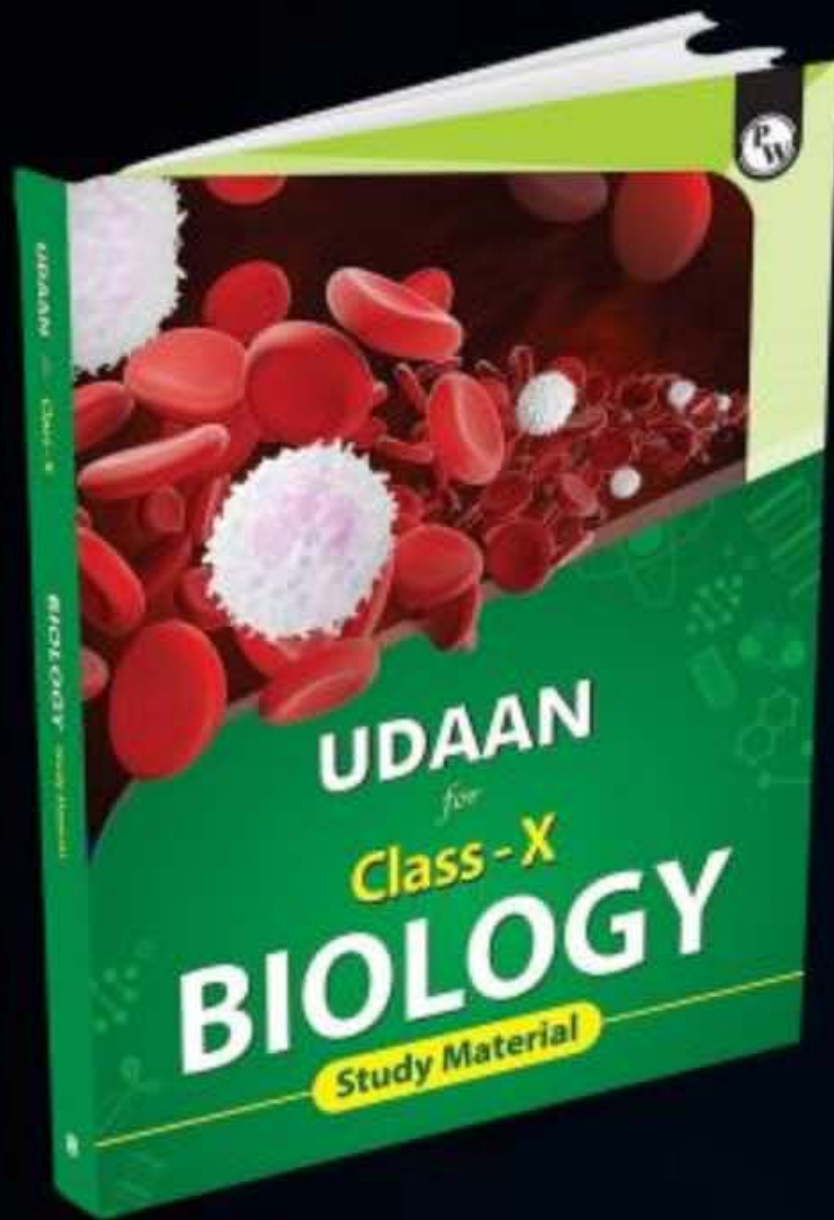
- The brain is placed in a bony box called **cranium** and is a part of the skull. D, A, P
- Brain is wrapped in three separate membranes called **meninges**.
- The space present between these layers is filled with cerebro-spinal fluid (CSF).
- This fluid-filled balloon acts as a shock absorber/ spring/ cushion
- and protects the brain from injuries and shocks.

→ Protection of Spinal Cord:

- Like brain, spinal cord is also wrapped in spinal meninges and consist of Cerebrospinal fluid (CSF).
- The spinal cord is protected by the vertebral column or backbone .
- The vertebral column is formed by 33 individual bones called vertebrae

HUMAN BRAIN STRUCTURE





Homework



FROM PW MODULE
(Udaan - CLASS 10)

PAGE : 100 - Q-16 , Q-17



Joke/Meme of the Day



My brain when I try and remember anything important...



DNA
NCERT } Revision



THANK
YOU

