

UPDAAN

2025



Control and Coordination ✓

Biology

Lecture 01

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Topics to be covered

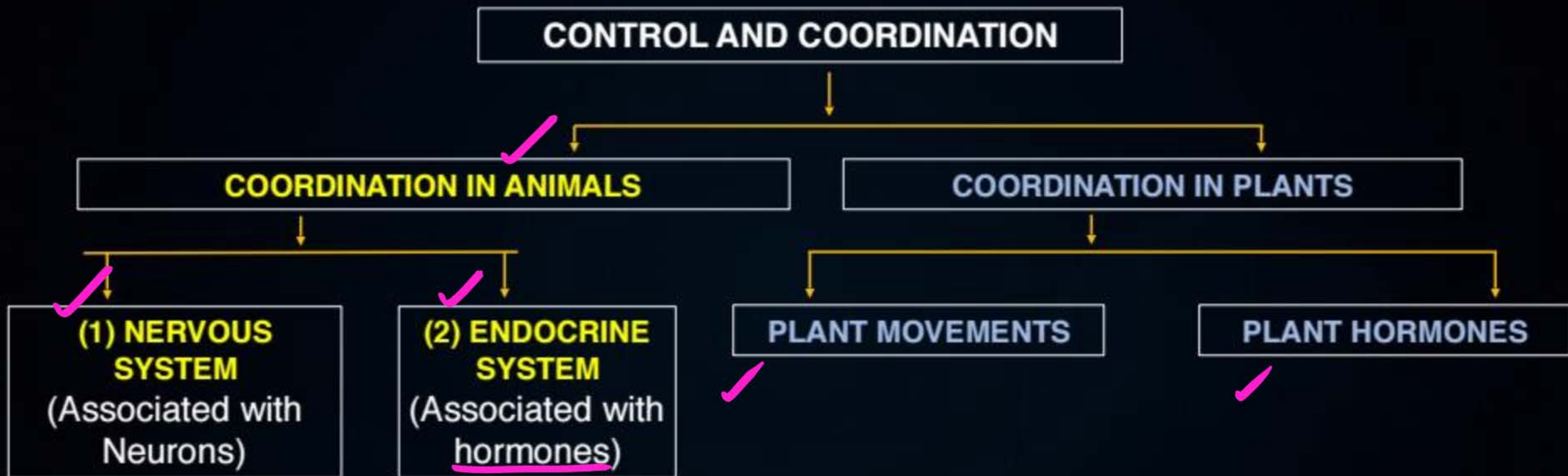
1 Introduction to control and coordination ✓ ✓

2 Neuron and its parts ✓ ✓ → T.T.

3 Synapse and NMJ ✓ ✓

3 MCQ practice and Homework ✓ ✓





Q. Think and answer

Which receptors are present on our tongue ?

→ food Taste Sense

- A Photoreceptors
- B Thermoreceptors
- ☒ C Gustatory receptors
- D None of these ✗





What is Control and Coordination ?



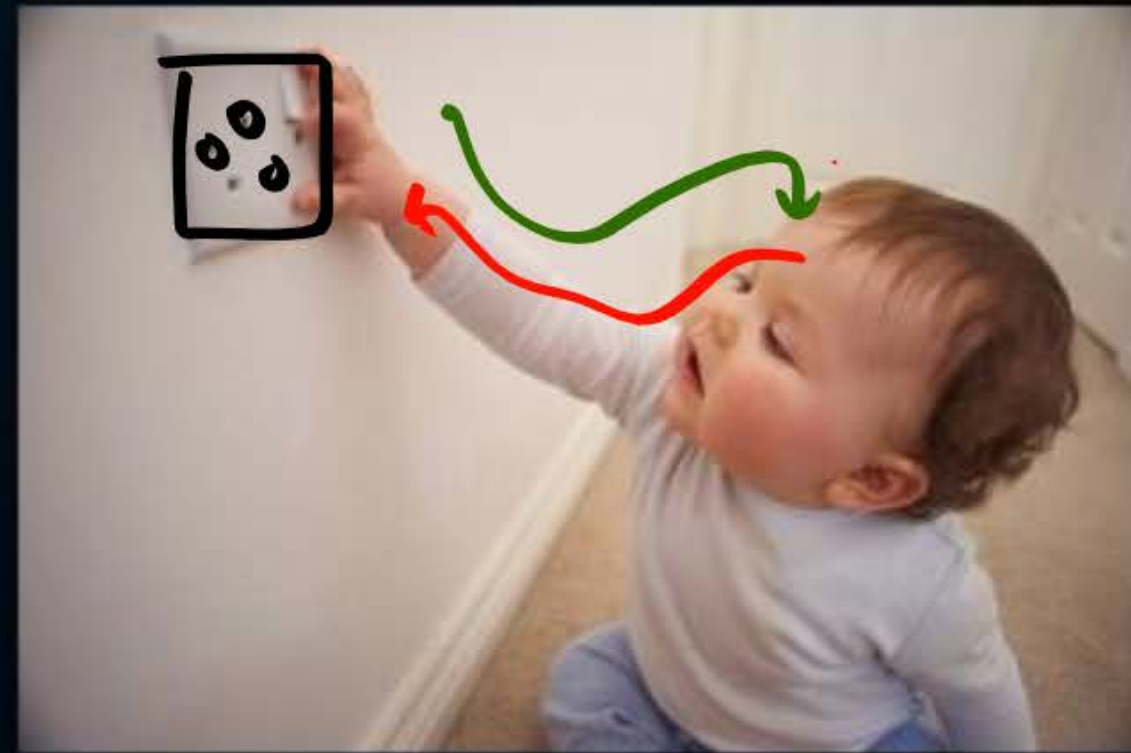
make a gif.com



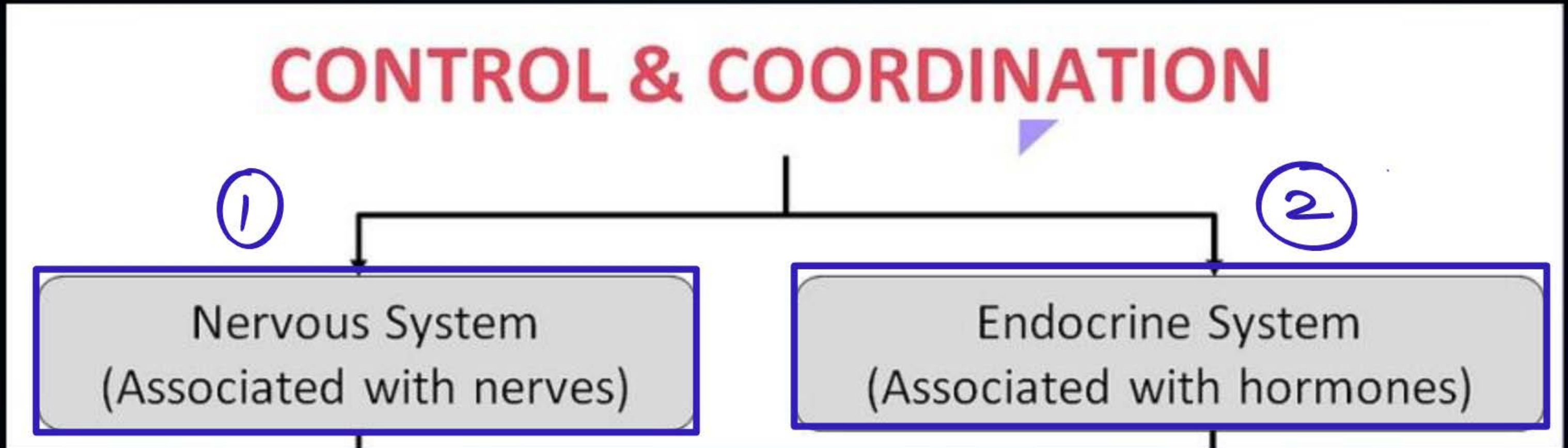
- Proper control and coordination is necessary to carry out various functions / activities of the life.



Agree



Control and Coordination in animals is done with the help of two main systems:



NERVOUS SYSTEM

(CNS)

CENTRAL NERVOUS
SYSTEM

Brain

Spinal Cord

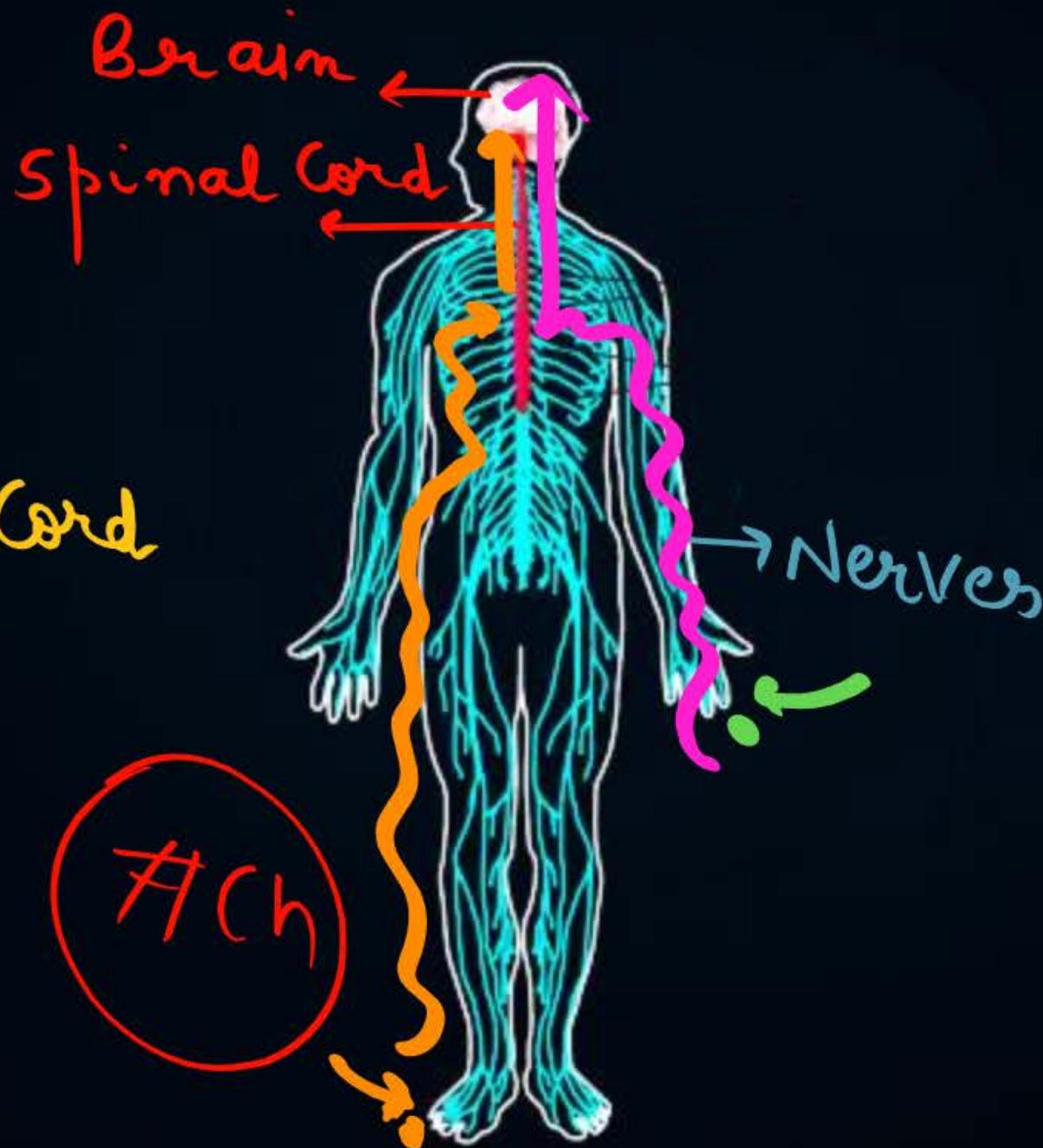
(PNS)

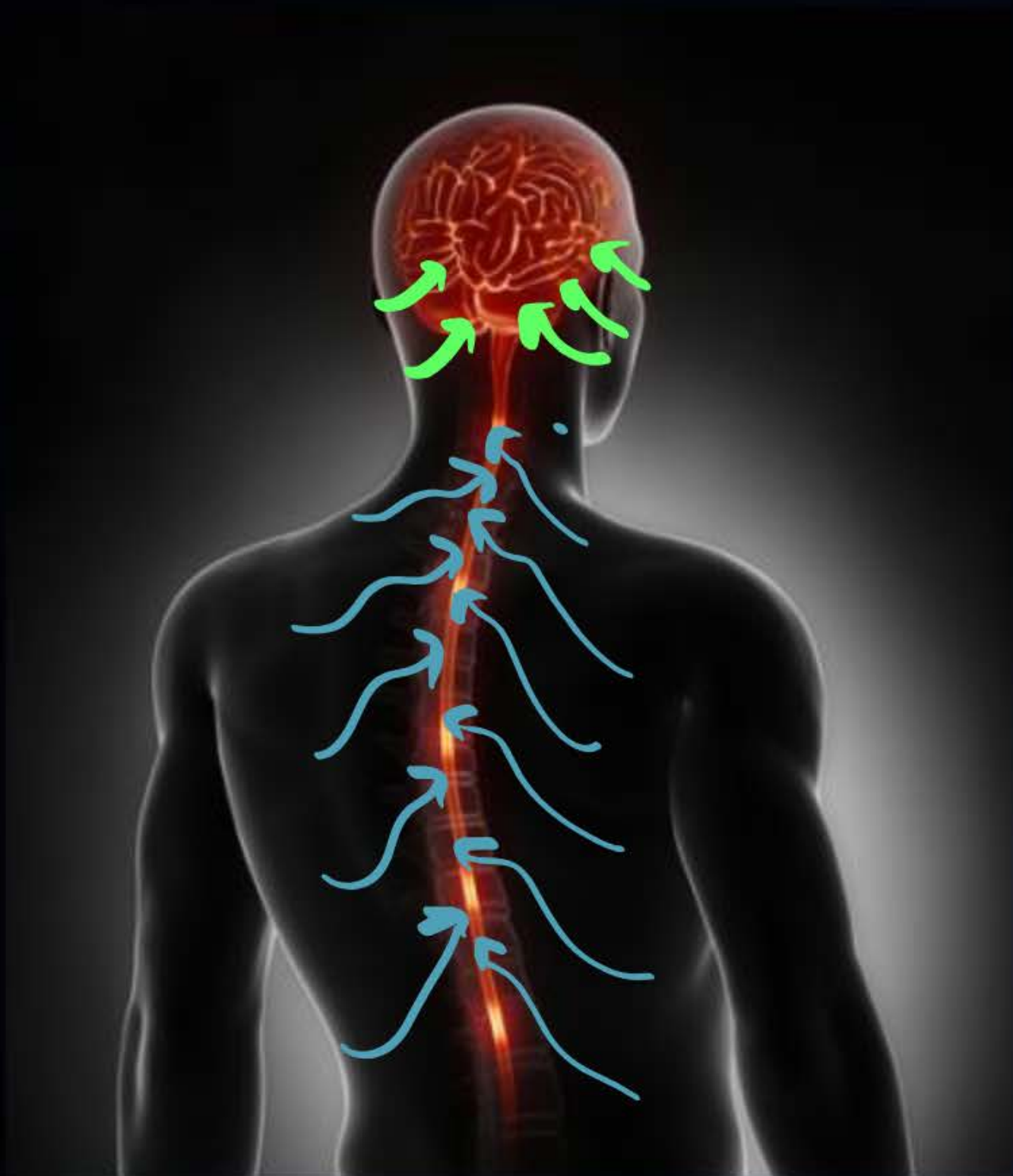
PERIPHERAL NERVOUS
SYSTEM

Made up of Nerves

Cranial
Nerves

Spinal
Nerves.

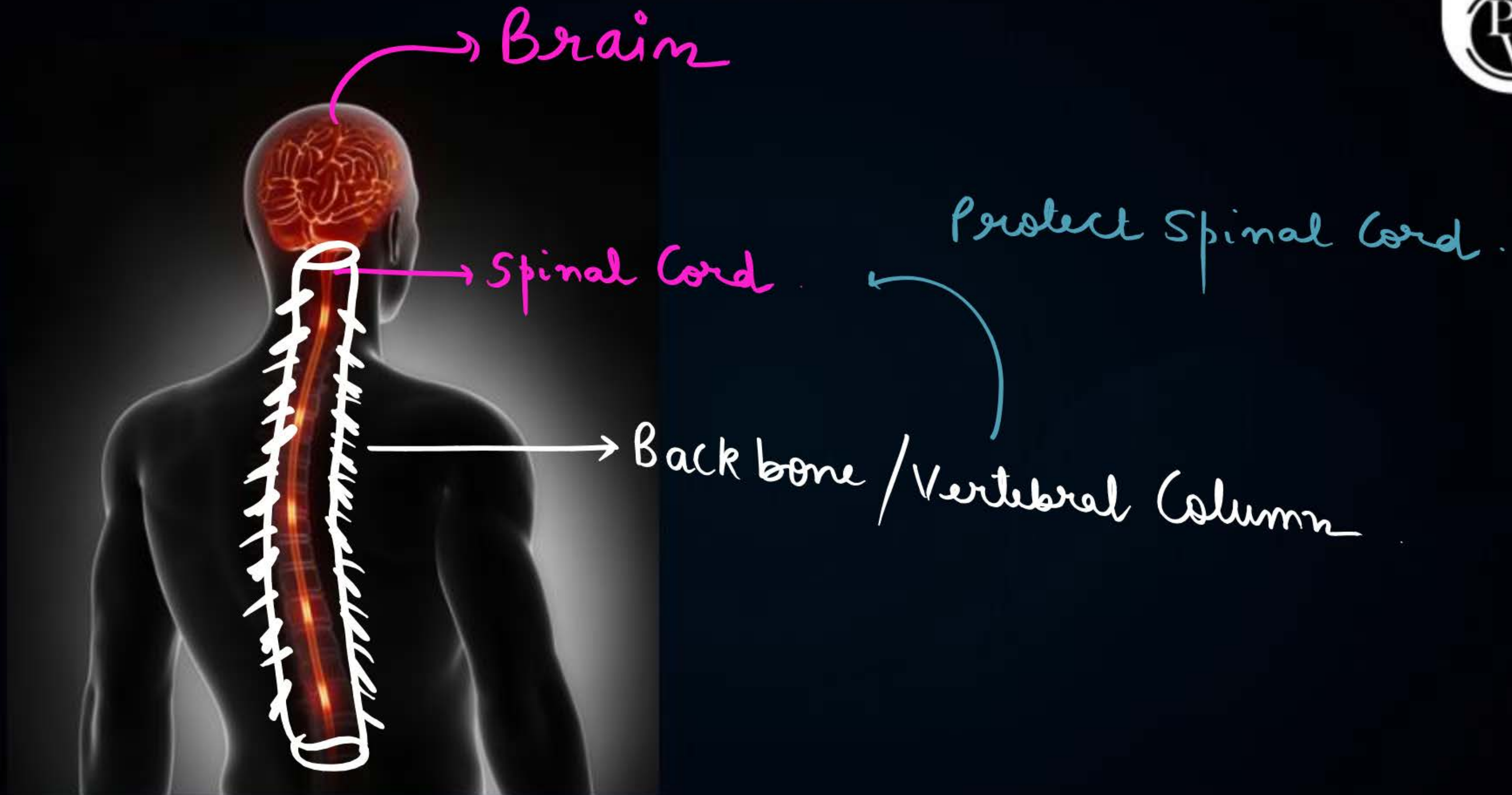


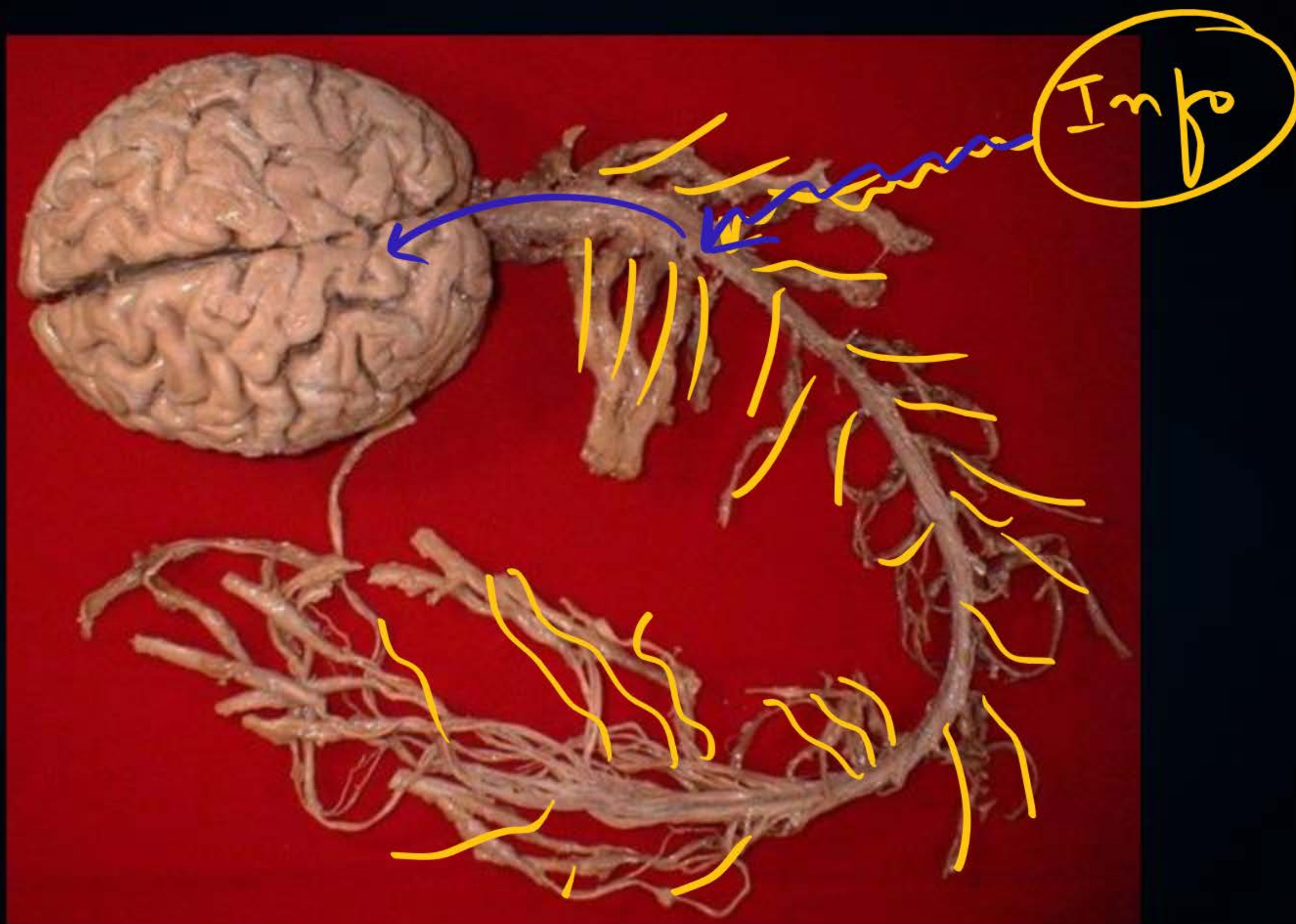


~~Spinal Cord = Back bone.~~

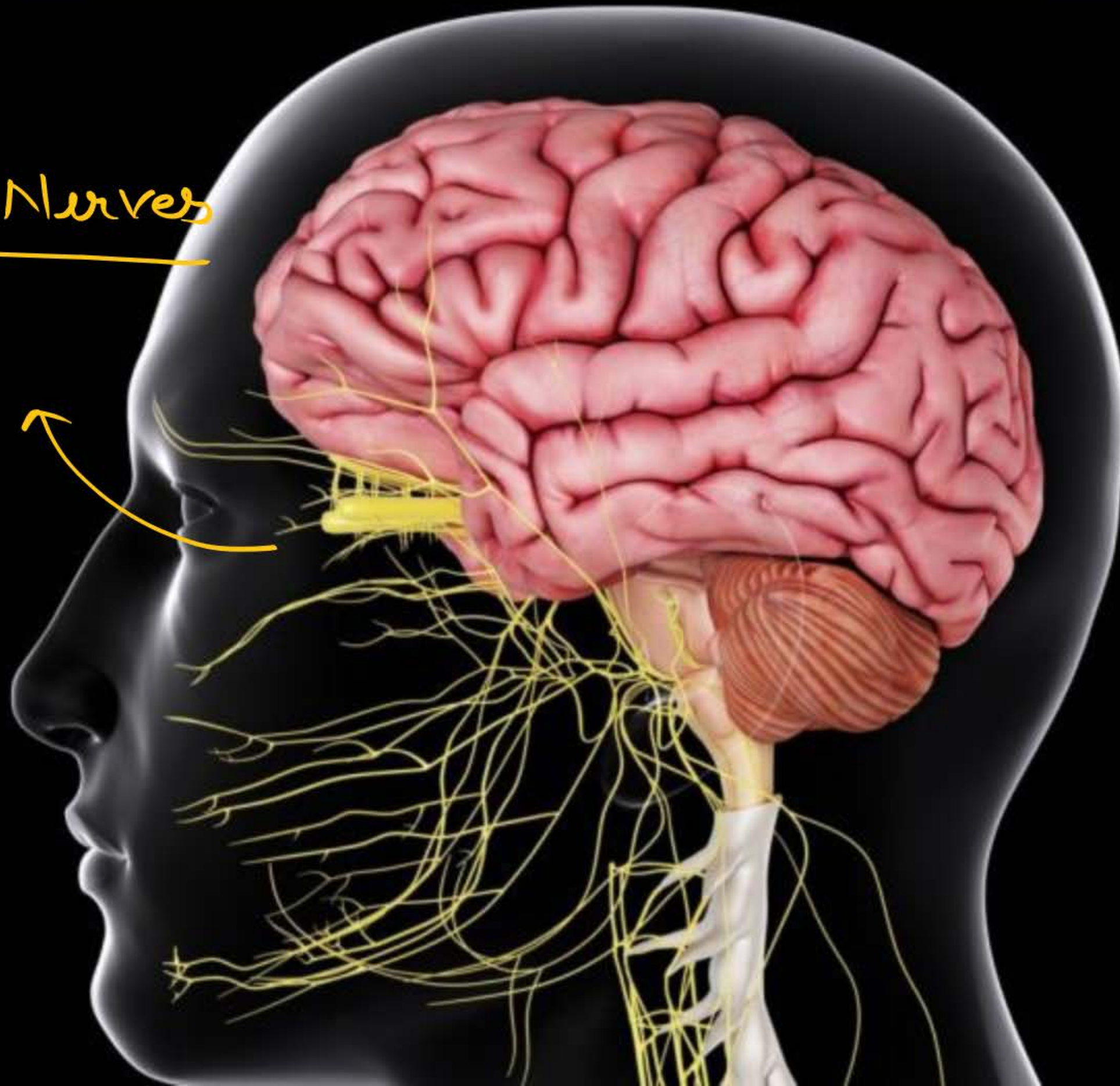
(A) True

~~(B) False~~





Cranial Nerves



CNS

PNS

①

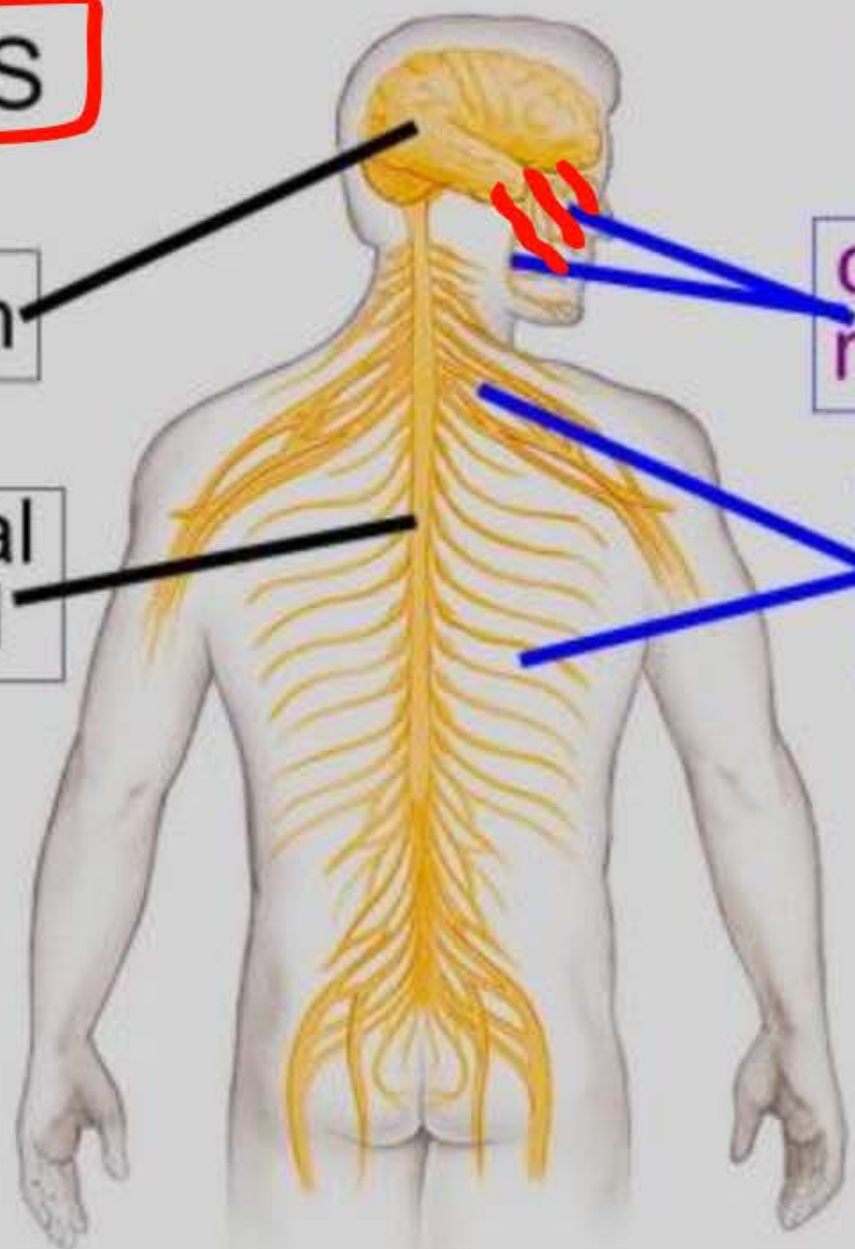
brain

②

spinal
cord

cranial
nerves

spinal
nerves



→ Nerves which directly
• arises from brain
• 12 pairs

→ Nerves which arises from Spinal
Cord
• 31 pairs

Brain is a part of

- ☒ A CNS
- ☐ B PNS
- ☐ C Spinal cord
- ☐ D None of these

Key terms to understand the functioning of Nervous system:



→ "anything which we can sense, is stimulus for our body".

Stimulus (s) Stimuli (Pl.)	• Any the change, factor or agent which causes a <u>change in activity</u> or <u>behaviour</u> of an organism.
✓ Receptors	• Receptors are the cells, tissues or organs that <u>receive</u> the stimulus
Effector	• Effector are tissues, glands or muscles which act in response to stimulus received
Response	• Response is the reaction towards a stimulus by an organism.

#Ch





Rohit accidentally burnt his tongue while having a sip of hot coffee. Which of the following receptors are likely to be affected ?

- ☐ A Phono receptors
- ☐ B Photo receptors
- ☒ C Gustatory receptors
- ☐ D Thermo receptors

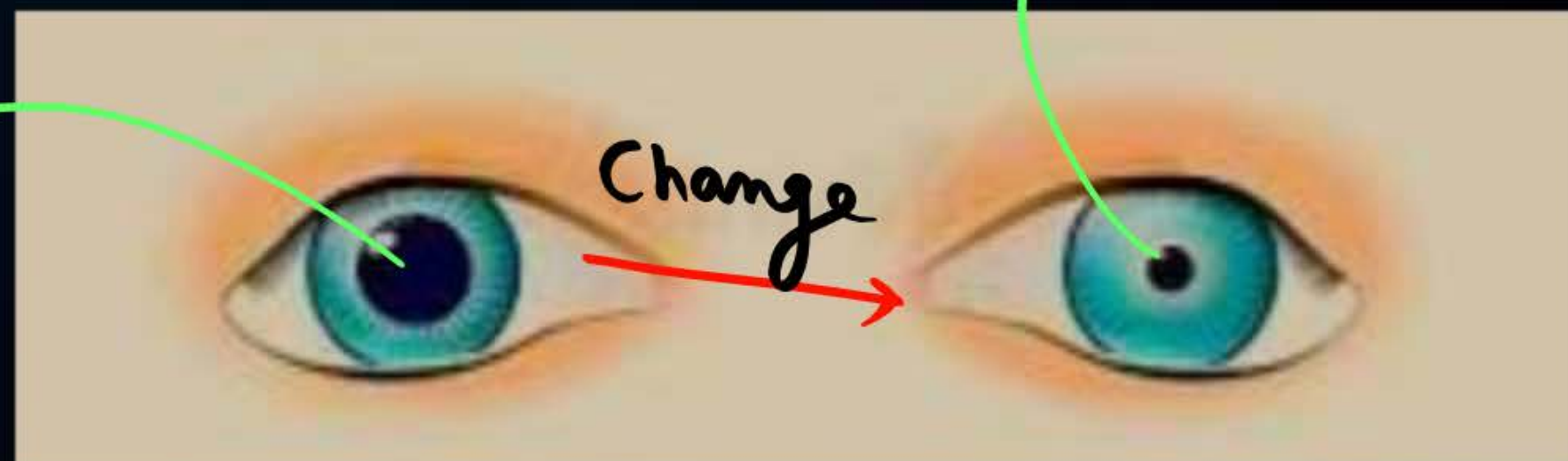


Stimulus

• "Light"

Bright light

Low light





Stimulus: "Sound"

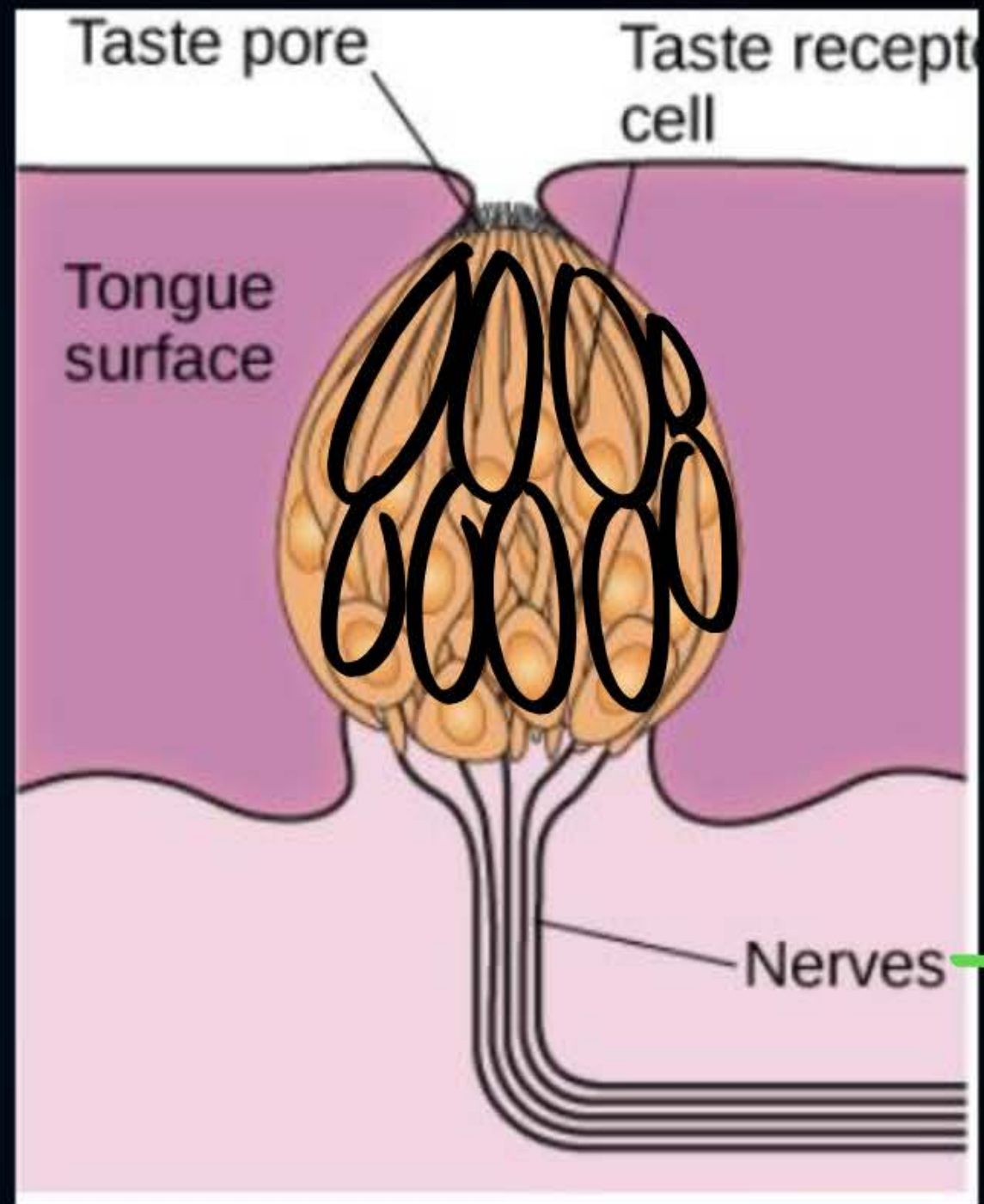
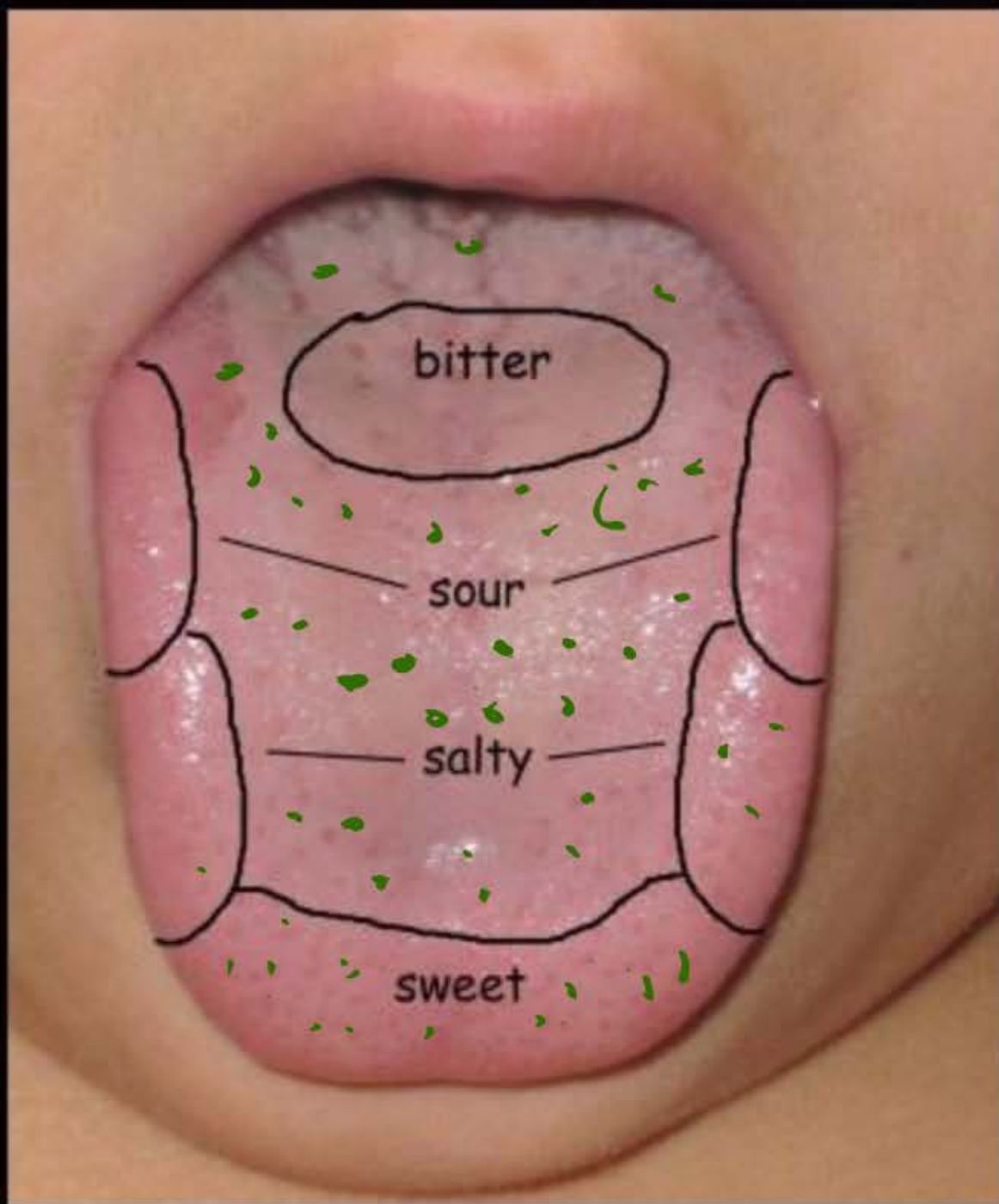


Wow!

Ew!

Stimulus: Smell





CNS

6 BASIC SENSORY RECEPTORS IN HUMAN



Receptor	Sense Organ	Stimuli
Photo receptors	Eyes	Light ✓
Olfactory receptors	Nose	Smell ✓
Gustatory receptors	Tongue	Taste ✓
Phono receptors	Ear	Sound ✓
Thermoreceptors	Skin	Heat/Cold ✓
Nociceptors	Skin	Pain ✓



EFFECTORS



- Effectors are tissues, glands or muscles which act in response to stimulus received from the nervous system.

Dog → Sound

Brain

Legs Muscle

Effector



Touching a hot object

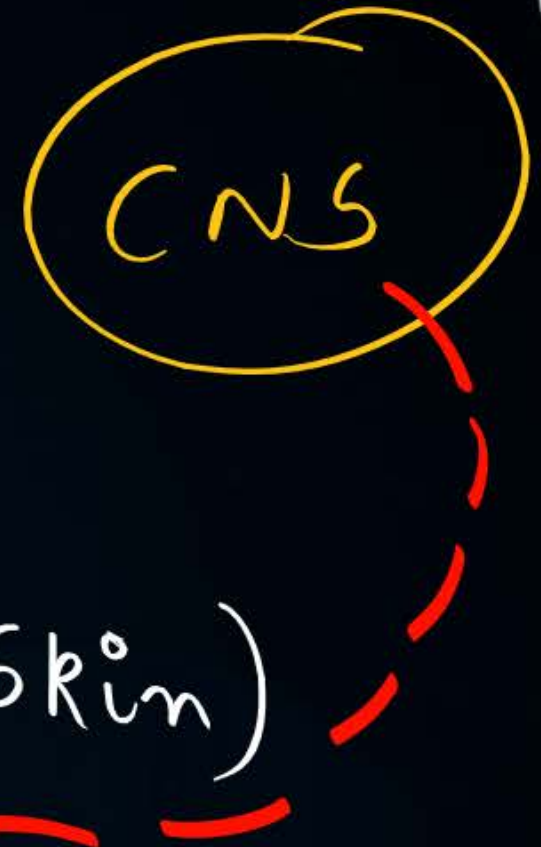
* Stimulus → Heat

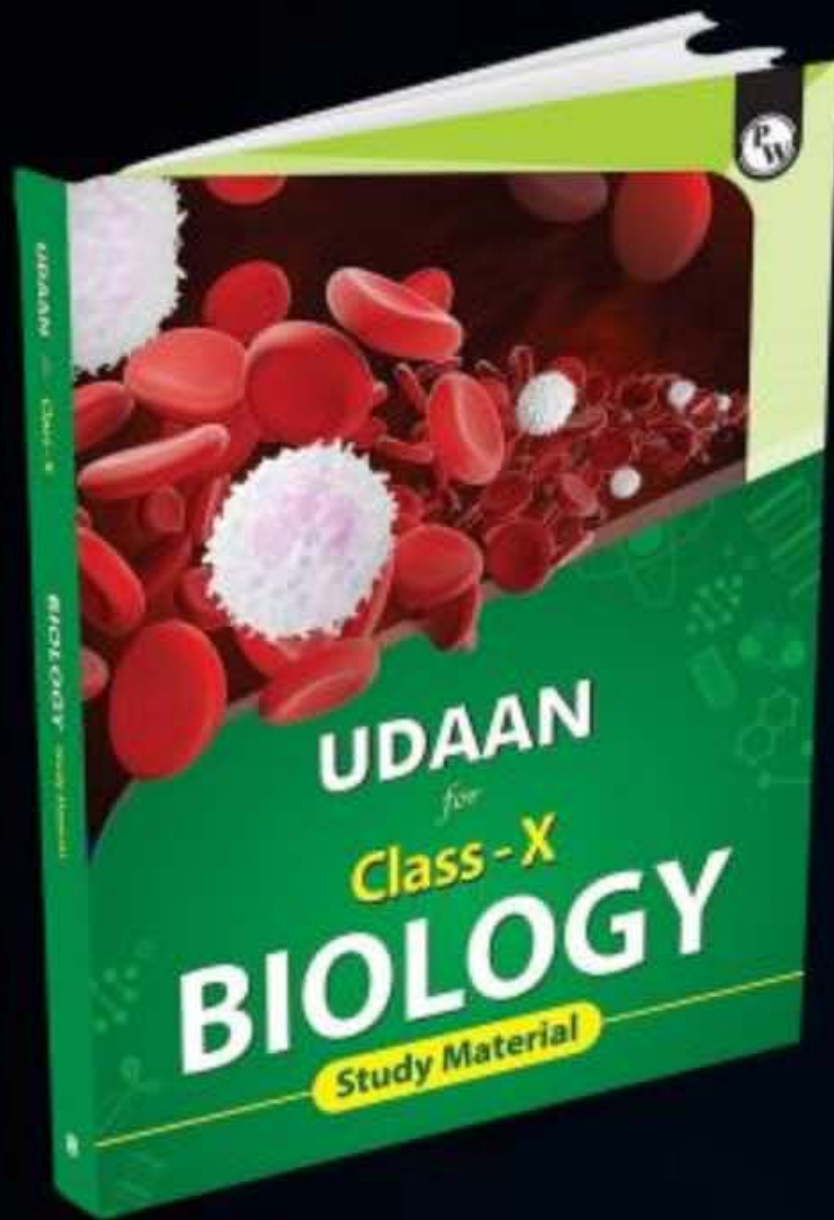
* Receptor → Thermoreceptors (Skin)

* Effectors → Hand Muscle

* Response → Removal of hand

Signal





Homework



FROM PW MODULE
(Udaan - CLASS 10)

PAGE : 101 — Q-23, Q-25



Question of the Day



weight of human brain



Joke/Meme of the Day



**"ME TRYING TO REMEMBER ANSWER
IN EXAM HALL!!**

My brain 🧠 :-





THANK
YOU

