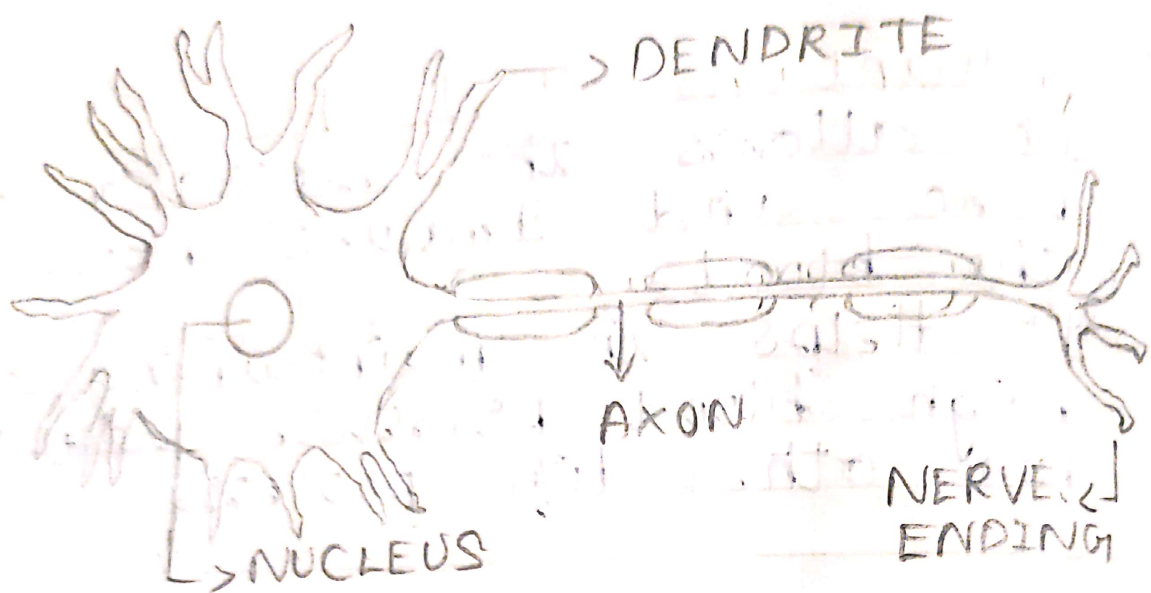




STRUCTURE OF AN NEURON

07.04.2026

CONTROL AND COORDINATION

I. Assertion and Reasoning Questions.

1. Assertion (A) :- Impulse Travels from Dendrite to cell body and then along the axon to its end.

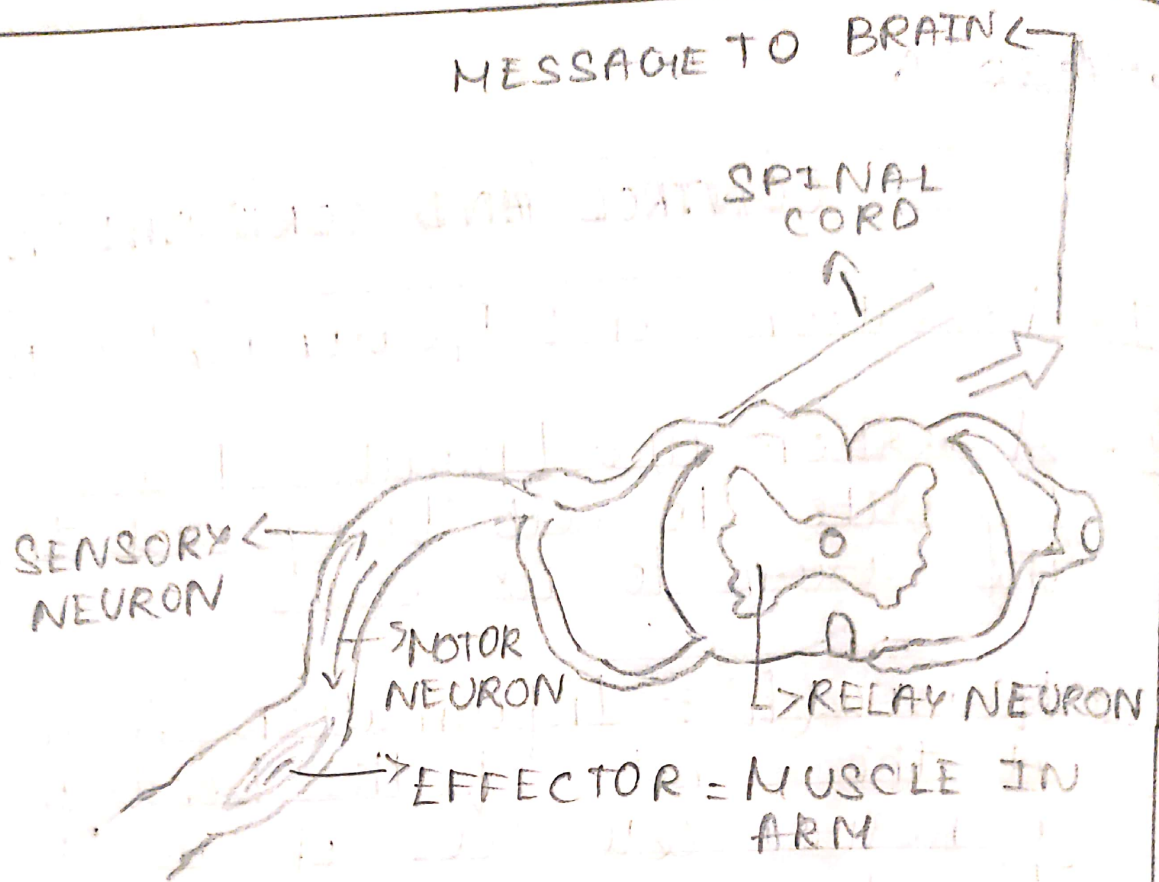
Reason (R) :- Information Acquired at the End of the Dendrite tip of a nerve cell sets off an Electric Impulse.

Ans :- (C) Assertion is True but Reason is False.

2. Assertion (A) :- Plants Do Have a nervous System for control and coordination.

Reason (R) :- Plants use Electro-chemical means to convey Information From cell to cell.

Ans :- (d) The Statement of the Assertion is False but the Reason is True.



REFLEX ARC

II. Very short Answers.

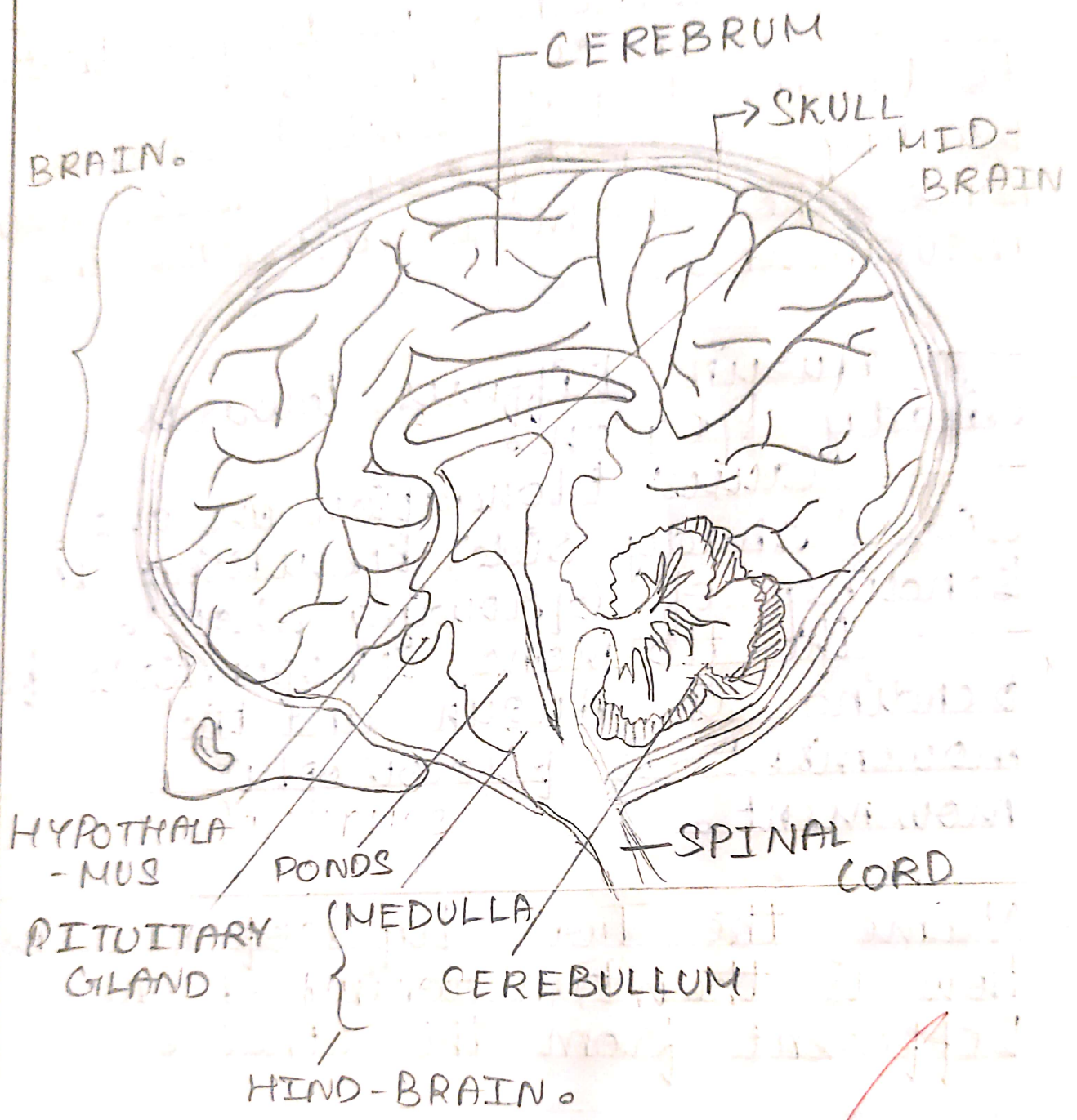
1. List the sequence of Events that occur when a plant is Exposed to Unidirectional light, leading to bending of a growing shoot. Also name the Hormone and type the movement.

Ans: —→ Auxin Diffuses Towards Shady Region.
 —→ Causes Elongation on one side (shady side) Resulting in Bending of Growing shoot.
 —→ The hormone responsible for bending is Auxin and the movement is phototropic movement.

2. Name the Two Types of neurons? How is the Functioning of one Different from the other?

Ans: Two Types of neurons are:-
 (i) Sensory Neuron:- They pass Information from the Receptors to the Brain.

(ii) Motor Neurons:- They Transmit Information from the brain to the Effector Organs.



III. Short Answers.

1. (i) Name one Gustatory Receptor and one olfactory Receptor present in Human Beings.

Ans: Gustatory Receptor - Tongue.
Olfactory Receptor - Nose.

(ii) Write a and b in the Given Flow chart of neuron through which Information travels as an Electrical Impulse.

Dendrite → A → B → End point of the Neuron.

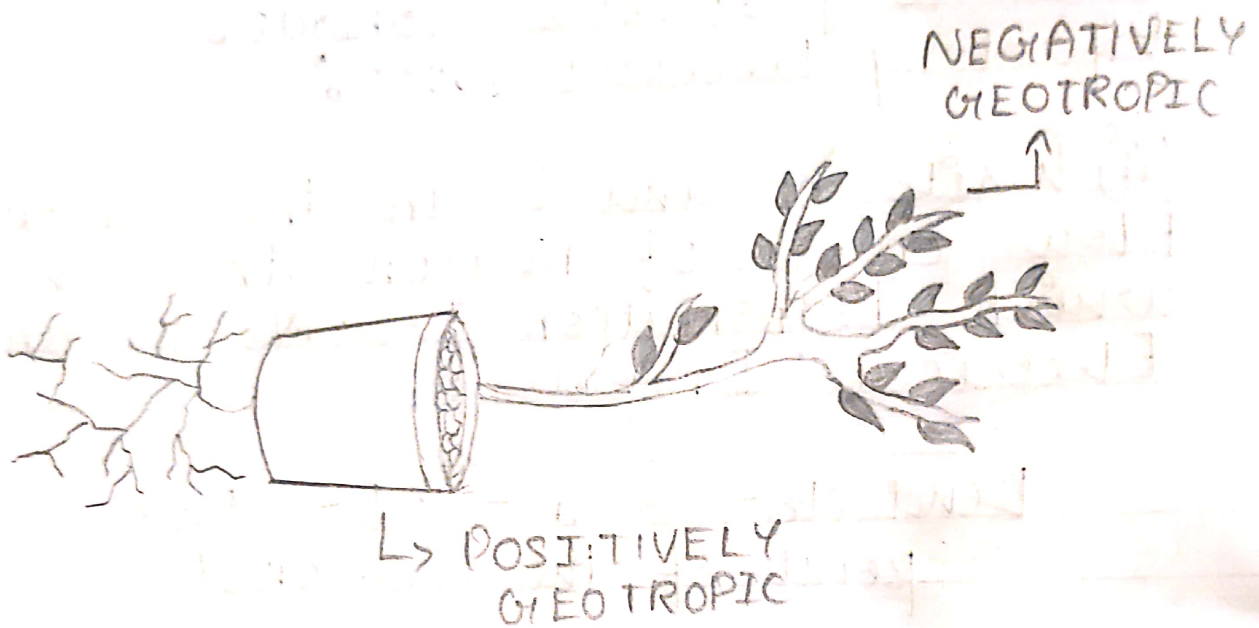
Ans: A - Cell Body / Cyton.
B - Axon.

So, Electric Impulse Flow Chart will be as Follows:-

Dendrite → Cell/Body → Axon → End point of the Neuron.

IV. Case Study.

1. When we eat Food, our Eyes, Hands and the mouth Works in perfect combination. The eyes Focus on the Food, the hands pick it up



PLANT SHOWING GEOTROPISM

and take it to the mouth where it is chewed. All these Actions are completed in a particular sequence. Similarly, Internal Functions of our Body are carried out by the nervous system in a particular sequence.

- (i) What is a Reflex Arc?
- (ii) How is the Spinal cord protected?
- (iii) How Does an Impulse travel in a nerve cell?

(or)

Do plants also have Nerve cells?
How does coordination take place in plant cells?

Answers:-

(i) Reflex Arc is the pathway taken by the Nerve Impulses in a Reflex Action from Receptor to Spinal cord to Effector Organ.

(ii) Spinal cord is Enclosed in a bony cage called vertebral column which protects the spinal cord from Injuries.

CONTROL AND COORDINATION

ANIMAL NERVOUS SYSTEM

COORDINATION IN PLANTS

HORMONES IN ANIMALS

ANIMALS NERVOUS SYSTEM

* NEURONS

→ LARGEST CELL

→ BRANCHED CELL

→ CARRY MESSAGE

CENTRAL NERVOUS SYSTEM

PERIPHERAL NERVOUS SYSTEM

AUTONOMIC NERVOUS SYSTEM

COORDINATION IN PLANTS

TROPIC MOVEMENT

NASTIC MOVEMENT

HORMONES IN ANIMALS

→ HYPOTHALMUS GLAND

→ PITUITARY GLANDS

→ THYROID GLANDS

→ PARATHYROID GLAND

→ PINEAL GLANDS

→ THYMUS

→ ADRENAL GLAND

→ PANCREAS

→ TESTIS

→ OVARIES

Date / / Page No.

(iii) The Information acquired at the Dendrite tip of a neuron creates an electric Impulse which travels from the Dendrite to the cyton along the Axon to its end. At the end of the Axon, the electric Impulse Release some Chemicals which cross the Synapse and start a similar Electrical Impulses in the Dendrite of The next neuron.

(or)

(ii) Plants do not have nerve cells. Plants Respond to various stimulus. Growth and movement of plant is controlled by certain chemical substances known as plant hormones (or) photohormones.

Ans 21/7/21