

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

Class 10<sup>th</sup>

Subject Biology

Date:- 08.06.21

## **Control and Coordination**

### **Topics in the Chapter**

- Introduction
- System for control and coordination in animals
- Nervous System
  - Receptors
- Neuron
  - Functioning of Neuron
  - Parts of Neuron
  - Synapse
- Reflex Action
  - Types of Responses
  - Need for Reflex Action
- Human Nervous System
- Human Brain
  - For-Brain
  - Mid-Brain
  - Hind-Brain
  - Protection of Brain and Spinal Cord
  - Coordination between Nervous and Muscular Tissue
  - Limitation of Electric communication/Nervous System
  - Chemical combination
- Coordination in Plants

- Independent of growth
- Dependent of growth
- Plant Hormones
- Hormones in Animals
- Endocrine gland and their functions
- Importance of iodine
- Diabetes
- Cause of Diabetes
- Treatment of Diabetes
- Feedback Mechanism

## **Introduction**

- All the living organisms respond and react to changes in the environment around them.
- The changes in the environment to which the organisms respond and react are called **stimuli** such as light, heat, cold, sound, smell, touch etc.
- Both plants and animals respond to stimuli but in a different manner.

## **Systems for Control and Coordination in Animals**

- Control and Coordination in animals is done with the help of two main systems:
  - (i) Nervous system
  - (ii) Endocrine system

## **Nervous System**

- Control and coordination are provided by nervous and muscular tissues.
- Nervous tissue is made up of an organized network of nerve cells or neurons which is specialized for conducting information via electrical impulses from one part of the body to another.

## Receptors

→ These are specialized tips of some nerve cells that detect the information from the environment. These are located in our sense organs.

(i) Ear: It acts as phonoreceptors (receiving sound). It helps in hearing and maintaining the balance of body.

(ii) Eyes: It acts as photoreceptors (receiving light). It helps in seeing

(iii) Skin: It acts as thermoreceptors (feels temperature). It helps in feeling heat or cold and touch.

(iv) Nose: It acts as olfactory receptors (sense of smell). It helps in the detection of the smell.

(v) Tongue: It acts as Gustatory receptors (sense of taste). It helps in the detection of taste.

## Neuron

It is the structural and functional unit of nervous system.

