

# COORDINATION

# LEARNING OUTCOMES:

*Students will be able to:*

1. define coordination;
2. differentiate the two main types of coordination in living organisms. i.e. nervous and hormonal (chemical);
3. differentiate between the modes of coordination i.e. 'electrical' in case of nervous and 'chemical' in case of hormonal;
4. identify the main organs responsible for coordination and control;
5. state that receptors receive stimuli and transmit information to effectors through central nervous system;
6. label the diagram of the brain;
7. explain the functions of the parts of the brain.

# COORDINATION

The harmonious functioning of interrelated organs and parts, applied especially to the process of the motor apparatus of the brain which provides for the co-working of particular groups of muscles for the performance of definite adaptive useful responses.

# Types of coordination

1. NERVOUS

2. HORMONAL

**Differences in modes of coordination**

**Organs for coordination and control**

**Receptors**

# THE HUMAN BRAIN

# **PARTS OF THE HUMAN BRAIN AND THEIR FUNCTIONS**

## **FOREBRAIN**

### **Cerebral Hemispheres (Cerebrum)**

Intelligence, memory, voluntary actions, sensations

### **Hypothalamus**

Regulation of body temperature and osmotic pressure in blood, appetite and emotions.

### **Pituitary gland**

Secretes a number of hormones.

## **MIDBRAIN**

### **Optic lobes**

Concerned with sight and movement of eyeball.

## **HINDBRAIN**

### **Cerebellum**

Muscular co-ordination and bodily balance.

### **Medulla oblongata**

Involuntary actions e.g. heartbeat, respiratory movements, peristalsis.



# *Multiple Choice Questions*

1. The breathing rate is controlled by

- A. lungs.
- B. medulla.
- C. cerebrum.
- D. cerebellum.

2. All of the following are controlled by the cerebrum **EXCEPT**

- A. intelligence.
- B. memory.
- C. sensations.
- D. digestion.

3. Muscular coordination is controlled by the

- A. spinal cord.
- B. cerebellum.
- C. cerebrum.
- D. midbrain.

