Control and Coordination

1. **What are Receptors?**

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

1. Phono-receptors: These are present in inner ear. The main functions are hearing and balance of the body.
2. Photo-receptors: These are present in the eye. These are responsible for seeing.
3. Thermo-receptors: These are present in skin. These receptors are responsible for pain, touch and heat stimuli. These receptors are also known as thermoreceptors.
4. Olfactory-receptors: These are present in nose. They help in smelling.
5. Gustatory-receptors: These are present in the tongue. These helps in taste detection
6. Name the two systems which control and coordinate the animals

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

1. What is neuron? Explain its structure and functions

A neuron, also known as nerve cell, is the structural and functional unit of the nervous system. **It**  is a highly specialized cell which is responsible for the transmission of nerve impulses. The neuron consists of the following parts

* 1. **Cell body**: This is irregular in shape and it is also called as cyton. Cell body contains cytoplasm with typical cell organelles and certain granular bodies are called Nissl granules.
  2. **Dendrites**: These are the hair-like structures or fibres protruding from the cell body or cyton. Dendrites transmit electrical impulses or nerve impulses towards the cyton.
  3. **Axon**: One of the fibres arising from the cell body is very long and it is called as Axon. The Axon is also called the tail of the neuron. The Axon transmits the electric impulse from the cyton.
  4. **Nerve ending: The Axon ends at** several hair-like structures, called nerve ending. The nerve ending receives the electric impulse from Axon and pass on to the next neuron.
  5. **Myelin sheath:** There is an insulator cover around the axon. This is called myelin sheath.

1. **What is a Synapse**

The point contact between the nerve ending of axon of one neuron with the dendrite of another neuron is called synapse.

1. **What is nerve impulse? How is it transmitted?**

The conduction of stimuli by the nerve cells is called *nerve impulse*. The dendrites will receive the stimuli from the receptor (sense organ) and conduct the same as electrical impulse to the axon through the cyton. At the end of the axon, the electrical impulse sets off the release of some chemicals. These chemicals cross the gap, or synapse, and start a similarelectrical impulse in a dendrite of the next neuron.