

Chapter – (Control And Co-ordination)**Topic - 1 (Tropic Movements and Introduction of Plant Hormones)****Very Short Answer Type Questions**

- Q.1. Define Phototropism.
- Q.2. What are plant hormones?
- Q.3. What is meant by tropic movements?
- Q.4. Give an example of plant hormone that promote growth.
- Q.5. Give one example of Chemotropism.
- Q.6. State the main functions of abscisic acid in plants.
- Q.7. How do the shoot and roots of a plant respond to the pull of earth's gravity?
- Q.8. How does chemical co-ordination occur in plants?

Short Answer Type Questions – I

- Q.1. What are nastic and curvature movements? Give one example of each.
- Q.2. How does auxin promote phototropism ?
- Q.3. How do auxins promote the growth of a tendril around a support?
- Q.4. How is the movement of leaves of the sensitive plant different from the movement of a shoot towards light?
- Q.5. Explain the cause of shoots of the plant bending towards light.

Short Answer Type Questions – II

- Q.1. What is phototropism? Describe an activity to demonstrate phototropism?

OR

- (a) Write an activity to show phototropism and geotropism.
- (b) What type of movement is shown by mimosa plant leaves when touched with a finger.
- Q.2. Define positive geotropism and negative geotropism. Give one example of each.
- Q.3. Give one example, of following plants:
- (a) Which is (i) positively phototropic and (ii) negatively geotropic.
- (b) Which is positively hydrotropic as well as positively geotropic.
- (c) Which synthesizes auxin?

- Q.4. How do auxins promote the growth of a tendril around a support? Describe in brief.
- Q.5. (i) State the function of plant hormones. Name a plant hormone which is essential for cell division.
(ii) Name the hormone which is involved in phototropism. Explain its role.
- Q.6. How do auxins help in bending of stem towards light? Explain.
- Q.7. Illustrate with the help of a diagram, the effect of auxins in different parts of a plant.
- Q.8. Name the plant hormone that promotes growth. How do these hormones bring about phototropism in the shoots of a plant?
- Q.9. Design an experiment to demonstrate hydrotropism.
- Q.10. Name and state briefly one function each of any three phyto-hormones.
- Q.11. Florist sprinkled a plant hormone to prevent wilting of leaves. Name the hormones he must have used. Give two more examples of plant hormones and also write their functions.
- Q.12. List in tabular form three differences in the movement of leaves of a Touch-me-not plant (the plant of Mimosa family) when touched and movement of a tendril towards a support.

Long Answer Type Questions

- Q.1. What are plant hormones? Give four different types of plant hormones and state their functions briefly.
- Q.2. (a) Write the names and one function of each of any three growth hormones in plants.
(b) In the absence of muscle cells, how do plant cells show movement?
- Q.3. A natural occurring class of plant hormones cytokinins has been found to help increase cotton yields during drought conditions. It has been observed that young cotton seedlings have small root system, making it difficult for them to reach available soil water. Cytokinins assist the young plants in water stress defenses, promoting the plant to quickly build a bigger root system to access deep soil moisture. To be effective this phytohormone should be applied at an early stage of development.
- (i) What are phytohormones?
- (ii) Which hormone is synthesized at the shoot-tip of plant body?
- (iii) "Plant hormones help to co-ordinate growth". Justify the statement by giving three examples.

Topic - 2 (Control and Co-ordination in Animals)

Very Short Answer Type Questions

- Q.1. Define feedback mechanism of hormones.
- Q.2. What is Synapse?
- Q.3. Name the largest cell present in the human body.
- Q.4. Name the hormones in humans which regulates carbohydrate, protein and fat metabolism in the body. Mention the site where it is synthesized.
- Q.5. Name the two components of peripheral nervous system.
- Q.6. Mention the part of the brain which controls the involuntary actions like blood pressure, salivation etc.
- Q.7. Name the two components of peripheral nervous system.
- Q.8. Name two tissues which provide control and co-ordination in animals.
- Q.9. Name the sensory receptors found in the nose and on the tongue.
- Q.10. Name the part of the brain which controls posture and balance of the body.
- Q.11. Name the two components of central nervous systems in humans.
- Q.12. Mention the part of the body where gustatory and olfactory receptors are located.
- Q.13. Name the part of the neuron where information is acquired.
- Q.14. Name the part of neuron through which the information travels as an electric impulse.
- Q.15. Name the mechanism by which amount of hormone in the blood is regulated.
- Q.16. Name the diseases by which a person is likely to suffer due to the deficiency of:
- (i) Iodine (ii) Insulin.

Short Answer Type Questions-I

- Q.1. Define neuron. Name the parts of neuron where:
- (i) Information is acquired.
- (ii) Impulse must be converted into chemical signal for onward transmission.
- Q.2. What are receptors? Name the receptors that are located in (i) tongue, (ii) nose.
- Q.3.(i) What is a reflex action?
- (ii) Give example of involuntary action.
- Q.4. Name the parts of the brain that perform the following functions:
- (i) Maintaining the posture and balance of the body.

(ii) Regulating blood pressure.

(iii) Sensation of hunger or feeling full.

(iv) Seeing

Q.5. Name the glands present in the wall of the stomach that release secretions for digestion of food. Write the three components of secretion that are released by these glands.

Q.6. Write the main functions of the following:

(i) Sensory neuron

(ii) Cranium

(iii) Vertebral column

(iv) Motor neuron.

Q.7. Write the name and functions of any two parts of the hind-brain.

Q.8. Name the hormone responsible for the regulation of (i) metabolism of carbohydrates, fats and proteins, (ii) balance of calcium and phosphate, (iii) blood pressure, (iv) water and electrolyte balance.

Q.9. Name the hormones responsible for:

(i) development of moustache and beard in males.

(ii) controlling the uterus changes in menstrual cycle.

(iii) increasing blood glucose level.

(iv) maintaining water and electrolyte balance.

Q.10. State the role of brain in reflex action.

Q.11. How does our body maintain blood sugar level?

Q.12. What happens at the synapse between two neurons?

Q.13. Taking the example of heart beat, justify the antagonistic action of the sympathetic and the parasympathetic nerves.

Q.14. During exercise, the breathing rate is automatically enhanced. What is the reason behind it?

Q.15. On touching a hot plate, you suddenly withdraw your hand. Which category of neurons became active first and which one next?

Q.16. The hormones of pancreas are antagonistic in nature. How?

Short Answer Type Questions-II

Q.1. Draw a neat diagram of human brain and label on it the following parts:

- (i) Mid brain
- (ii) Pituitary gland
- (iii) Cerebellum
- (iv) Cerebrum

OR

- (i) Draw a well-labelled diagram of human brain.
- (ii) Which is the main thinking part of brain?

Q.2. Define reflex action. Give one example. Show with the help of a flow diagram the path of the reflex action.

Q.3. A motorcycle rider without helmet met an accident and suffered a spinal cord injury. In this case which signals will get disrupted and why?

Q.4. Explain the feed back mechanism to regulate the action of the hormones with the help of one suitable example.

Q.5. (a) Identify the glands that secrete:

- (i) Insulin
- (ii) Thyroxin

(b) Explain with an example how the timing and amount of hormone secreted are regulated in the human body.

Q.6. Write three main functions of the nervous system.

Q.7. Mention three characteristics features of hormonal secretions in human beings.

Q.8. Name a hormone secreted by:

- (i) Pancreas
- (ii) Pituitary
- (iii) Thyroid

State one function of each of the hormones.

Q.9. (i) Name the hormone secreted by thyroid gland and state its function.

(ii) Why is it important for us to have iodised salt in our diet?

(iii) Name the disease caused due to deficiency of iodine and mention its main symptom.

Q.10. Name the hormone which regulates carbohydrates, protein and fat metabolism in our body. Which gland secretes this hormone? Why is it important for us to have iodised salt in our diet?

Q.11. State three common features of respiratory organs of animals.

Q.12. (a) An old man is advised by his doctor to take less sugar in his diet. Name the disease from which the man is suffering. Mention the hormone due to imbalance of which he is suffering from this disease. Which endocrine gland secretes this hormone?

(b) Name the endocrine gland which secretes growth hormone. What will be the effect of the following on a person:

(i) Deficiency of growth hormone.

(ii) Excess secretion of growth hormone.

Q.13. Explain how muscles change their shape?

Q.14. (a) How is brain protected from injury and shock?

(b) Name two main parts of hind brain and state the function of each.

Q.15. (i) Write the role of motor areas in brain.

(ii) A nerve input signal travelled only upto the spinal cord and gave output signal for a response. What type of action will the body show – voluntary or involuntary?

(iii) Draw a nerve pathway for the above action.

Q.16. (a) Draw the structure of neuron and label cell body and axon.

(b) Name the part of neuron:

(i) where the information is required.

(ii) Through which information travels as an electrical impulse.

Q.17. (a) Name the part of brain which controls:

(i) Voluntary action (ii) Involuntary action.

(b) What is the significance of the peripheral nervous system? Name the components of this nervous system and distinguish between the origin of the two.

Q.18. Mention one role of each of the following:

(i) Cerebellum

(ii) Fore-brain

(iii) Medulla.

Q.19. Name the main thinking part of the human brain. List four major functions (other than thinking) of this part.

Q.20. Name the hormone that is secreted by our body to deal with scary situations. List any two responses shown by our body when this hormone is secreted into the blood.

- Q.21. For a receiving tennis player, what is the path from the stimulus to the response?
- Q.22. Explain with the help of an example how the timing and amount of hormone released are regulated?
- Q.23. How do we respond when adrenal gland secretes its hormone?
- Q.24. List in tabular form three difference between nervous control and chemical control.
- Q.25. 'Brain and Spinal cord are two vital organs of our body'. How is our body designed to protect them?

Long Answer Type Questions

Q.1. (i) Define receptor and state their location in our body. Mention any two receptors present in our forebrain and their functions.

(ii) How do nerve impulses travel in our body?

Q.2. (a) Draw the structure of a neuron and label the following on it:

(i) Dendrite (ii) Cell body (iii) Nucleus (iv) Axon

(b) Name the parts of a neuron:

(i) Where information is acquired

(ii) Through which information travels as an electrical impulse

(iii) Where this impulse must be converted into a chemical signal for onward transmission.

(c) Define neuromuscular junction

Q.3. (i) Define reflex arc. Draw a flowchart showing the sequence of events which occur during sneezing.

(ii) List four plant hormones. Write one function of each.

Q.4. (a) Define hormone. Write any four characteristics of hormones in humans.

(b) Name the disorder caused by following situations

(i) Under secretion of growth hormone.

(ii) Over secretion of growth hormone.

(iii) Under secretion of insulin.

(iv) Deficiency of Iodine.

Q.5. (i) Define reflex action. State its significance.

(ii) How do plants respond to external stimuli?

Q.6. (i) Write names of hormones secreted by pituitary gland and adrenal gland. State their functions in the body.

(ii) Explain feedback mechanism for regulation of hormonal secretion with the help of one example.

Q.7. (i) Draw a neat labelled diagram of human brain.

(ii) Name the gland that secretes insulin. Why are some patients of diabetes treated by giving injections of insulin?

Q.8. (a) What is the function of mid brain?

(b) Name the three different parts of hind brain and give one function of each.

Q.9. (a) Name two hormones secreted by pancreas write one function of each hormone.

(b) How does our body respond when adrenaline is secreted into the blood?

(c) Cite an example to explain the feedback mechanism for regulation of hormonal secretion.

Q.10. What constitutes the central and peripheral nervous systems? How are the components of central nervous system protected?