

Chapter-2

CONTROL AND COORDINATION

MULTIPLE CHOICE QUESTIONS

1. The growth of tendrils in pea plants is due to the:
(i) Effect of sunlight on the tendril cells facing the sun.
(ii) Effect of gravity on the part of tendril hanging down towards the earth.
(iii) Rapid cell division and elongation in tendril cells that are away from the support.
(iv) Rapid cell division and elongation in tendril cells in contact with the support.
2. The plant hormone which triggers the fall of mature leaves and fruits from the plant body is:
(i) Auxin
(ii) Gibberellin
(iii) Abscissic acid
(iv) Cytokinin
3. The stimulus in the process of thigmotropism is:
(i) Touch
(ii) Gravity
(iii) Light
(iv) Chemical

FILL IN THE BLANKS

4. The----- gland is present just below the brain.
5. ----is the structural and functional unit of the nervous system.
6. The----nerve connects all the parts in the body directly by the brain.

ONE MARK QUESTIONS

7. Name two tissues that provide control and coordination in multicellular animals.
8. Name the hormones that help in regulating the level of sugar in our blood.
9. Mention the part of the body where gustatory and olfactory receptors are located.

ASSERTIONS AND REASONS

For the question numbers 10, 11 and 12, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
10. Assertion: The brain is the anterior-most part of the central nervous system.
Reason: The brain controls all the voluntary and involuntary activities of the body.
 11. Assertion: Endocrine glands secrete hormones.
Reason: Hormones are also known as chemical messengers.
 12. Assertion: A receptor is a specialised group of cells in a sense organ that perceive a particular type of stimulus.
Reason: Different sense organs have different receptors for detecting stimuli.

THREE MARK QUESTIONS

13. What is a reflex action? Draw the diagram of a reflex arc. Describe the steps involved in a reflex action.
14. Name the system which facilitates communication between the central nervous system and other parts of the body.
(a) Mention the two types of nerves it consists of along with their organs of origin.

- (b) How does our nervous system detect stimuli or changes in the external or internal environment of the body?
15. (a) Draw the structure of a neuron and label a cell body and the axon.
(b) Name the parts of a neuron-
(i) which acquires information?
(ii) through which information travels as an electrical impulse.
16. What is phototropism? Describe an activity with the help of a diagram to demonstrate phototropism.

FIVE MARK QUESTIONS

17. (a) Draw a neat and well-labelled diagram of a human brain.
(b) How is the brain protected from injury and shock?
(c) Name two main parts of the hindbrain and state their functions.
18. Explain with the help of a diagram how auxin helps in the bending of the plant stems towards the light.
19. Hormones are needed by our body in an appropriate amount; slightly more or less secretion causes disorders in our body. Illustrate this process by using three examples.
(b) What will happen, if the pancreas of a person stops functioning?

20. CASE STUDY

Answer question numbers 20 (a) to 20 (d) based on your understanding of the following paragraph and the related studied concepts.

Movement of a shoot towards light is called phototropism. This movement is caused due to more growth of cells towards the shaded side of the shoot as compared to the side of the shoot towards the light. More growth of cells is due to secretion of auxin towards the shaded side.

- (a) A potted plant is made to lie horizontally on the ground. Which part of the plant will show
(i) Positive geotropism? (ii) Negative geotropism?
(b) Give an example of a plant hormone that promotes its growth. Where is it synthesized?
(c) Define chemotropism in plants.
(d) Define nastic and tropic movement in the plant.

