

Oral Questions

Fill in the blanks :

1. _____ movements are growth movements of plants in response to a stimulus from a specific direction. [Ans. Tropic]
2. Receptors are structures which are able to detect _____. [Ans. stimuli]
3. Coordination in plants take place by means of chemical substance called _____. [Ans. phytohormone]
4. Endocrine glands secrete their secretion in _____. [Ans. blood]
5. The hormone which controls the development of male secondary sexual character is called _____. [Ans. testosterone]

State True or False :

1. Stems are positively geotropic while roots are negatively geotropic. [Ans. False]
2. Cytokinins are present in greater concentration in young fruits and seeds. [Ans. True]
3. Control and coordination are functions of nervous and endocrine systems. [Ans. True]
4. Junction between two neurons is called synapse. [Ans. True]
5. Spinal cord originates from cerebellum. [Ans. False]

VERY SHORT ANSWER TYPE QUESTIONS

[1 MARK]

Previous Years' Questions

1. Name the part of the brain which controls posture and balance of the body. [CBSE (CCE) 2012]
2. Give one example of chemotropism. [CBSE (CCE) 2012]
3. Name the two components of central nervous systems in humans. [CBSE (CCE) 2012]
4. Mention the part of the body where gustatory and olfactory receptors are located. [CBSE (CCE) 2012]
5. How is the spinal cord protected in the human body ? [Delhi 2010]
6. A potted plant is made to lie horizontally on the ground. Which part of the plant will show
(i) positive geotropism ?
(ii) negative geotropism ? [Delhi 2010]
7. Name the hormone that helps in regulating level of sugar in our blood. Name the gland that secretes it. [AI 2010]
8. Mention the function of the hind-brain in humans. [AI 2010]
9. Name any two types of tropism. [Foreign 2010]
10. Mention the function of adrenaline hormone. [Foreign 2010]
11. Name one plant growth hormone which retards growth during extremely dry season. [CBSE Sample Paper 2009]
12. Name one organ where growth hormone is synthesized in case of plants and man. [CBSE Sample Paper 2009]
13. A young green plant receives sunlight from one direction only. What will happen to its shoots and roots ? [HOTS, Delhi 2009C]
14. Name the plant hormones which help/promote
(i) cell division (ii) growth of the stem [Delhi 2009C]
15. What is the function of thyroxine hormone in our body ? [Delhi 2009C]
16. Name the main hormone secreted by thyroid gland and state its one function. [AI 2009C]
17. Name two tissues that provide control and coordination in multicellular animals. [Delhi 2009]
18. Which endocrine gland secretes the growth hormone ? [AI 2009C, Foreign 2009]
19. Which one of the following actions on touch is an example of chemical control ?
(i) Movement on the touch-sensitive plant.
(ii) Movement in human leg. [Foreign 2009]

0. Why is the use of iodised salt advisable ? [Delhi 2008C]
1. Name the hormone the secretion of which is responsible for dramatic changes in appearance of girls when they approach 10 – 12 years of age. [Delhi 2008C]

22. What is the function of the hormone secreted by the endocrine gland, pituitary gland ? [Delhi 2007]
23. What is neuron ?

Important Questions

24. Name one gland in human body which secretes digestive enzymes as well as hormones.
25. Mention the exact part of brain which controls the voluntary movements of muscles.
26. Name the hormone secreted by the alpha cells of Islets of Langerhans in Pancreas.
27. Give the function of growth hormone.
28. Where are Nissl's granules found and what is their nature ?
29. Name the hormones that control the metabolism of calcium and phosphorus.
30. Give technical terms for following events :
 (a) The movement of plant in the direction of light.
 (b) The movement of plant parts in response to water.
 (c) The movement of plant parts towards chemical substance.
 (d) The downward movement of roots in response to gravitational force.
31. Where is glucagon secreted ? What is its function ?
32. What is the significance of reflex action ?
33. Name the fluid that is found between the meninges.
34. Which part of the brain is concerned with memory, will and power ?
35. Name the glands which secrete estrogen and progesterone.
36. Name the place of the human body where largest number of neurons are found.
37. Name the part of the brain which is concerned with muscular coordination in the body.
38. Name the neurons which carry impulses from receptor to brain.
39. Which part of the brain is most important ? Why ?
40. What is spinal cord ? How is it protected ?
41. Explain why brain and spinal cord are considered as central nervous system.
42. Name the hormone which is associated with the metabolism of carbohydrates, proteins, calcium and phosphorus.
43. Name the hormone secreted by pancreas. State one function.
44. Why is pituitary called the master gland ?
45. Why hormones are called as 'chemical messengers' ?
46. Name the hormone secreted by the adrenal gland.
47. Name the part of human body in which the adrenal and pituitary glands are located.
48. State the position of thyroid and adrenal glands in man.
49. Why are endocrine glands called ductless glands ?
50. What are the functions of the Hypothalamus ?
51. Which part of the brain controls the body temperature and blood pressure ?
52. Name a structure associated with nervous system which is integrated with endocrine system and also secretes hormones.
53. What is the stimulus in
 (a) Phototropism (b) Geotropism and
 (c) Chemotropism ?
54. Which plant hormone makes the shoot bend towards sunlight ?
55. What type of movement is shown by *Mimosa* plant leaves when touched with a finger ?
56. Name the specialised cell of multicellular animals that perceive external stimuli.
57. Name the hormone that controls the basal metabolism and its source gland.
58. Name the hormone that controls the water and electrolyte balance in the body and its source glands.

NCERT Questions

59. Which of the following is a plant hormone ?
 (a) insulin (b) thyroxine
 (c) oestrogen (d) cytokinin
60. The gap between two neurons is called a
 (a) dendrite (b) synapse
 (c) axon (d) impulse
61. The brain is responsible for
 (a) thinking
 (b) regulating the heart beat
 (c) balancing the body
 (d) all of these
62. What happens at the synapse between two neurons ?
63. Which part of the brain maintains posture and equilibrium of the body ?
64. How do we detect the smell of an *agarbatti* (incense sticks) ?
65. Give an example of a plant hormone that produces growth.
66. Which signals will get disrupted in case of a spinal cord injury ?

Previous Years' Questions

1. Name the two main organs of our central nervous system. Which one of them plays a major role in sending command to muscles to act without involving thinking process? Name the phenomenon involved. [AI 2010]
2. Name the hormone secreted by human testes. State its functions. [AI 2010]
3. Name and explain the function of the hormone secreted by the pituitary gland in humans. [AI 2010]
4. List the sequence of events that occur when a plant is exposed to unidirectional light, leading to bending of a growing shoot. Also name the hormone and the type of movement. [HOTS, CBSE Sample Paper 2009]
5. The given experimental set-up establishes the response of different plant parts towards gravity. [CBSE Sample Paper 2009]



- (a) Give the scientific term used for such response/movement.

- (b) How is shoot response different from root response/movement?
6. Write the name and functions of any two parts of the human hind-brain. [AI 2009C]
 7. What are plant hormones? Write two important functions of auxin. [NCERT, AI 2009C]
 8. What are 'nastic' and 'curvature' movements? Give one example of each. [Delhi 2009]
 9. Explain the cause of shoots of the plant bending towards light. [Delhi 2008C]
 10. "There is a need for a system of control and coordination in an organism." Justify the statement. [Delhi 2008C]
 11. Name the three major regions (or parts) of the human brain. Which part of the brain maintains posture and equilibrium of the body? [Foreign 2008]
 12. (a) Distinguish between voluntary and involuntary actions of our body.
(b) Choose involuntary actions from amongst the following :
Reading, beating of heart, salivation in the mouth of viewing a tasty food, talking. [Foreign 2008]

Important Questions

13. How does control and coordination take place in plants?
14. List the functions of testosterone and estrogen.
15. Name the two types of neurons? How is the functioning of one different from the other?
16. Which is the control centre of a reflex action? What is the route taken by the reflex action called?
17. How do you support the statement that 'pancreas' are the overall controller of the blood glucose level? [HOTS]
18. Name the hormone associated with :
(a) maintenance of pregnancy
(b) regulation of male sex characters
19. What are 'releasing hormones'? Where are they released from?
20. Classify the following movements as tropic or nastic :
(a) Opening of flower.
(b) Roots moving downwards.
(c) Shoots moving towards light.
(d) Twirling of a tendril.
21. Where are pons present in the brain? Which activity do they control?
22. Justify that the pancreas and the gonads perform dual functions.
23. Out of all the pituitary hormones, which two are exclusively female? What function do they serve?
24. What do you understand by the term 'target organ'? Give any one example.
25. Why do stem and root show unilateral growth towards light and gravity of earth respectively?
26. Which is the largest part of the brain? What are its functions?
27. What are auxins and where are they synthesised in the plant body?
28. Glucagon and insulin are antagonistic to each other. Justify the statement.
29. Write the difference between cerebellum and cerebrum.
30. Write the difference between motor nerve and mixed nerve.
31. Distinguish between estrogen and progesterone.
32. Distinguish between vasopressin and oxytocin.
33. Distinguish between exocrine and endocrine glands.
34. Distinguish between sympathetic and parasympathetic nervous system.
35. Distinguish between cerebrum and spinal cord.
36. Distinguish between spinal nerve and cranial nerve.
37. Distinguish between nervous system and endocrine system.
38. How does the nervous system serve for coordination of all other systems in the body?
39. What are cranial nerves? How many cranial nerves does a human being have?
40. What are spinal nerves? How many spinal nerves are

- present in a human being ? Are they sensory, mixed or motor ?
41. What is antagonism with reference to hormone functioning ? Give two examples.
 42. "There is a close coordination between nerves and hormones". Explain with an example. [HOTS]
 43. What is the location of parathyroid gland ? Name one important hormone of parathyroid gland.
 44. Give a schematic diagram to explain the effect of auxins in different parts of the plant.
 45. How does hypothalamus function as endocrine gland ?
 46. What is meant by receptors and effectors ? Give one examples of each.
 47. How do hormones reach the organs they control ?
 48. Where is hypothalamus gland located ? What does it produce ? State the function of hypothalamus.
 49. Write names of four hormones secreted from pituitary gland and also write their functions.
 50. Name the four regions of the fore-brain and mention any one function per region.
 51. How do you support the statement that 'pancreas' are the overall controller of the blood glucose level ?

NCERT Questions

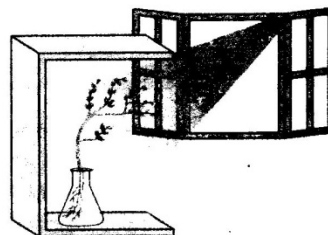
52. What is the difference between a reflex action and walking ?
53. What is the role of the brain in reflex action ?
54. How is the movement of leaves of the sensitive plant different from the movement of a shoot towards light ?
55. How do auxins promote the growth of a tendril around a support ?
56. How does our body respond when adrenaline is secreted into the blood ?
57. Why are some patients of diabetes treated by giving injections of insulin ?
58. How does phototropism occur in plants ?
59. What is the need for a system of control and coordination in an organism ?
60. How are involuntary actions and reflex actions different from each other ?

SHORT ANSWER TYPE QUESTIONS(II)

[3 MARKS]

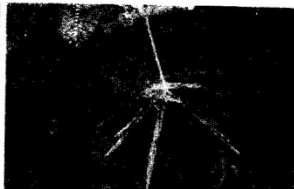
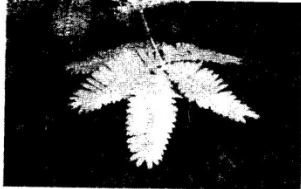
Previous Years' Questions

1. Smita's father has been advised by a doctor to reduce his sugar intake.
 - (i) Name the disease he is suffering from and name the hormone whose deficiency causes it.
 - (ii) Identify the gland that secretes it and mention the function of this hormone.
 - (iii) Explain how the time and amount of secretion of this hormone is regulated in human system. [CBSE(CCE) 2012]
2. State the functions of plant hormones. Name four different types of plant hormones. [CBSE(CCE) 2012]
3. (a) How is brain protected from injury and shock ?
(b) Name two main parts of hind brain and state the functions of each. [CBSE(CCE) 2012]
4. (a) Draw the structure of neuron and label cell body and axon.
(b) Name the part of neuron :
 - (i) where information is acquired
 - (ii) through which information travels as an electrical impulse. [CBSE(CCE) 2012]
5. (a) Which plant hormone is present in greater concentration in the areas of rapid cell division ?
(b) Give one example of a plant growth promoter and a plant growth inhibition. [CBSE(CCE) 2012, 2011]
6. Which organ secretes a hormone when blood sugar rises in our body ? Name the hormone and name one enzyme released by this organ. [CBSE(CCE) 2011]
7. (a) Explain how auxins help in bending of plant stem towards light
- (b) State the objective of the experiment for which experimental set up is shown in the given diagram. [CBSE(CCE) 2011]



8. What causes a tendril to encircle or coil around the object in contact with it is. Explain the process involved. [CBSE(CCE) 2011]
9. Name the hormone synthesised at the shoot tips. How does it help the plant to respond to light ? [CBSE(CCE) 2011]
10. Name any three endocrine glands in human body and briefly write the function of each of them. [CBSE(CCE) 2011]
11. Which part of the brain controls involuntary actions ? Write the function of any two regions of it. [CBSE(CCE) 2011]
12. What is chemotropism ? Give one example. Name any two plant hormones and mention their functions. [CBSE(CCE) 2011]

13. State the functions of any three of the structural and functional unit of nervous system. [CBSE(CCE) 2011]
14. List the components of reflex arc in correct sequence. State in brief the role of brain in reflex action. [HOTS, Foreign 2010]
15. What is 'phototropism'? How does it occur in plants? Describe an activity to demonstrate phototropism. [HOTS, Delhi 2010, AI 2009]
18. Following are the two examples of plant movement.



A - Sensitive plant

B - Pea plant

- (a) What is the stimulus which is common for movement in both the cases?
- (b) Does the movement take place away/at the point where stimulus is received? Mention separately for both.
- (c) Give one reason for the movement in each case. [HOTS, CBSE Sample Paper 2009]
19. What is 'hydrotropism'? Describe an experiment to demonstrate 'hydrotropism'. [CBSE (CCE) 2011, AI 2009]
20. What are 'hormones'? State one function of each of the following hormones :
(i) Thyroxine (ii) Insulin [CBSE(CCE) 2011, AI 2009]
21. (a) Name the two main constituents of the Central Nervous System in human beings.
- (b) What is the need for a system of control and coordination in human beings? [Foreign 2009]
22. Which animal or plant hormone is associated with the following? [Delhi 2008C]
(i) Increased sugar level in blood.
(ii) Changes at puberty in boys.
(iii) Inhibits growth of plants
(iv) Rapid development of fruits
(v) Dwarfism (vi) Goitre

Important Questions

23. Name the source gland and give one main action of the following hormones :
(i) Prolactin (ii) Calcitonin
24. Name the source and one main function of the following :
(i) Insulin (ii) Testosterone
25. Name the source gland and one major effect of each of the following hormones :
(i) Parathormone (ii) Progesterone
26. Nervous and hormonal system together perform the function of control and coordination in human beings. Justify the statement. [HOTS, NCERT Exemplar]
27. Suggest a proof that even unicellular organisms like *Amoeba* respond to stimuli. Justify giving two examples that even plants respond to stimuli.
28. Define the following terms :
(a) Nerve impulses
(b) Axon
(c) Olfactory receptors
29. What is cerebrospinal fluid? What are its functions?
30. How does control and coordination take place in animal body?
31. Give the difference between auxins and gibberellins.
32. Write the main difference between auxins and cytokinins.
33. Give one example to show how the endocrine system coordinates our body activities.

NCERT Questions

34. How does chemical coordination take place in animals?
35. What is the function of receptors in our body? Think of situation where receptors do not work properly. What problems are likely to arise? [CBSE (CCE) 2011, HOTS]
36. How does chemical coordination occur in plants?
37. Compare and contrast nervous and hormonal mechanisms for control and coordination in animals.
38. What is the difference between the manner in which movement in the sensitive plant and movement in our legs takes place? [HOTS]

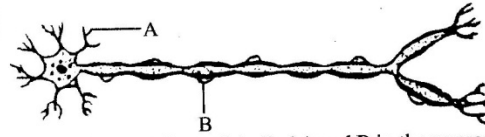
Previous Years' Questions

- (a) Draw the structure of a neuron and label the following on it :
Nucleus, Dendrite, Cell body and Axon.
[CBSE (CCE) 2012]

(b) Name the part of neuron :
(i) where information is acquired.
(ii) through which information travels as an electrical impulse.
[AI 2008]
- (a) What is (i) phototropism and (ii) geotropism ? With labelled diagrams, describe an activity to show that light and gravity change the direction that plant parts grow in

(b) Mention the role of each of the following plant hormones :
(i) Auxin (ii) Abscisic acid
[HOTS, AI 2008]

3. (a)

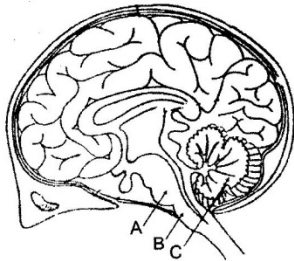


- Name the parts labelled A and B in the neuron drawn above.
 - Which part acquires the information in the neuron ?
 - Through which part does the information travel ?
 - In what form does this information travel ?
 - Where is the impulse converted into a chemical signal for onward transmission ?
- (b) Name the hormone secreted by thyroid. What is its function ? Why is the use of iodised salt advisable ?
[AI 2008C]

Important Questions

- (a) What are plant hormones ? Give one example each of a plant hormone that
(i) promotes growth.
(ii) inhibits growth.

(b) Name the parts labelled A, B and C in the diagram given below. Write one function of each part.



- What are the three major components of the nervous system in animals ? How are nerves classified ? What are the three

major types of nervous system and how is one different from the other ?

- With the help of a flow chart, highlight the various types of plant movements with suitable examples. [HOTS]
- Suggest six reflex actions of the body. Explain how the reflex arc is the same in all of them.
- What is a reflex arc ? Draw a neat labelled diagram of the components in a reflex arc. Why do impulses flow only in one direction in a reflex arc ? [HOTS]
- Show in a tabular form the names of endocrine glands, hormones secreted by them and their functions.
- What is endocrine system ? What are its functions ? Name the important endocrine glands present in a human body. Draw a labelled diagram to show the positions of these endocrine glands in the human body (male/female).

NCERT Question

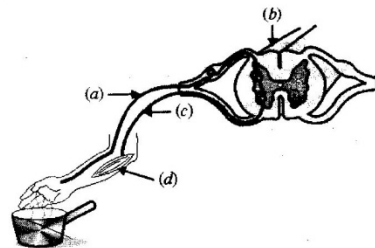
- Draw the structure of a neuron and explain its function.

[NCERT Exemplar]

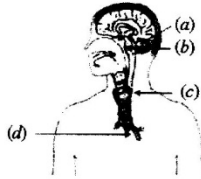
NCERT Exemplar Problems

SHORT ANSWER TYPE QUESTIONS

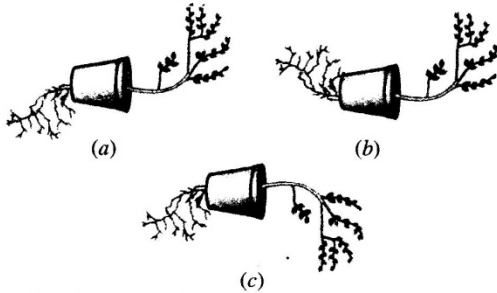
- Label the parts (a), (b), (c) and (d) and show the direction of flow of electrical signals in the given figure.



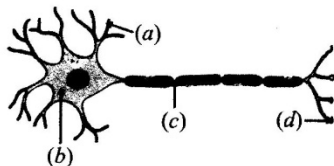
2. Name the plant hormones responsible for the following :
- Elongation of cells
 - Growth of stem
 - Promotion of cell division
 - Falling of senescent leaves.
3. Label the endocrine glands in the given figure.



4. In the given figure (a), (b) and (c), which appears more accurate and why ?



5. Label the parts of neuron in the given figure.



LONG ANSWER TYPE QUESTIONS

12. What are the major parts of the brain ? Mention the functions of different parts.
13. What constitutes the central and peripheral nervous systems ? How are the components of central nervous system protected ?

6. Match the terms of Column (A) with those of Column (B)

Column (A)	Column (B)
(a) Olfactory receptors	(i) Tongue
(b) Thermoreceptors (Temperature receptors)	(ii) Eye
(c) Gustatoreceptors	(iii) Nose
(d) Photoreceptors	(iv) Skin

7. What is tropic movement ? Explain with an example.
8. What will happen if intake of iodine in our diet is low ?
9. What happens at the synapse between two neurons ?
10. Answer the following :
- Which hormone is responsible for the changes noticed in females at puberty ?
 - Dwarfism results due to deficiency of which hormone ?
 - Blood sugar level rises due to deficiency of which hormone ?
 - Iodine is necessary for the synthesis of which hormone ?
11. Answer the following :
- Name the endocrine gland associated with brain.
 - Which gland secretes digestive enzymes as well as hormones ?
 - Name the endocrine gland associated with kidneys.
 - Which endocrine gland is present in males but not in females ?

VALUE BASED QUESTIONS

1. A young boy met an accident while riding a bike. Petrolling police found the boy and brought him to a hospital for treatment. After the accident, the boy lost his memory completely. Left side of his body also suffered from paralysis.
- What values was shown by police persons ?
 - Which injured body part can cause paralysis ?
 - What precaution should one take while riding a two-wheeler ?
2. Mr. Bora has a habit to iron his shirt every morning before going to office. One morning he forgot to keep the hot iron in proper place and left for office. His two years old daughter touched the iron and her hand got burnt. Mrs. Bora immediately put the hand of her daughter under a running tap as a first aid.
- What value was shown by Mrs. Bora ?
 - How do we react when we touch a hot object ?
 - What other materials commonly cause burn injury ?

3. You along with your parents went to visit the house of your uncle on a weekend. Your aunt has a very good aesthetic sense and she keeps her house beautifully. She had kept few potted plants in the drawing room. Your aunt however complained that the plants were not kept straight. All the plants were bending towards one direction.

- (a) What can be the reason behind bending of the plants ?
- (b) How can your aunt keep the plants straight ?
- (c) Do animals also show such movements ?
- (d) What values are passed by your aunt ?

4. The pharmacist from the nearby pharmacy visits your house every morning. He gives an injection to your grandfather and then proceeds towards his pharmacy. When asked, he told you that your grandfather was suffering from diabetes.

- (a) What happens when a person suffers from diabetes ?
- (b) What complications may diabetes cause to your grandfather ?

(c) How can the injection given by the pharmacist help your grandfather ?

(d) What values are shown by pharmacist ?

5. Few children in your village have complained of swollen necks. More and more children have complained about swollen necks every month. A villager, Hari Singh is superstitious and he thinks that the village is cursed by a 'devil'. Shyam is another villager, who thinks it as a disease which needs consultation with a doctor.

(a) Do you agree with Hari Singh ?

(b) What can be the reason behind swollen necks of the young children in the village ? How can the problem be overcome ?

(c) What social change is required in the village to make it free from blind faith ?

(d) What values are shown by Shyam ?

SOLUTION