



# **BIOLOGY**

## **BOOKS - OSWAAL BIOLOGY**

### **(KANNADA ENGLISH)**

## **CONTROL AND CO-ORDINATION**

**Topic 1 Tropic Movements And Introduction Of  
Plant Hormones Multiple Choice Questions**

**1. Cytokinin promotes**

A. elongation of internodes

B. formation of branches

C. cell division

D. flowering

**Answer: C**



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**2. The growth of pollen tubes towards ovules is the example of :**

A. hydrotropism

B. geotropism

C. chemotropism

D. phototropism

**Answer: C**



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**Topic 1 Tropic Movements And Introduction Of  
Plant Hormones Very Short Answer Type  
Questions**

1. Define Phototropism.



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2. What is meant by tropic movements?



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3. Give an example of plant hormone that promotes growth



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4. Give one example of Chemotropism.



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5. State the main functions of abscisic acid in plants.



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6. How do the shoot and roots of a plant respond to the pull of earth's gravity ?



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## Topic 1 Tropic Movements And Introduction Of Plant Hormones Short Answer Type Question 1

1. What are nastic and curvature movements ?

Give one example of each.



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2. How does auxin promote phototropism ?



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3. Explain the cause of shoots of the plants bending towards light.



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**Topic 1 Tropic Movements And Introduction Of Plant Hormones Short Answer Type Questions li**

1. Define positive geotropism and negative geotropism. Give one example of each.



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2. What is phototropism ? Describe an activity to demonstrate phototropism.



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3. Give one example, of following :

Which is (i) positively phototropic and (ii)



negatively geotropic.



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4. Give one example, of following :

Which is positively hydrotropic as well as positively geotropic ?



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5. Give one example, of following :

Which synthesises auxin ?



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6. How do auxins promotes the growth of a tendrill around a support ? Describe in brief.



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7. State the function of plant hormones. Name a plant hormone which is essential for cell division.



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**8.** Name the hormone which is involved in phototropism. Explain its role.



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**9.** How do auxins help in bending of stem towards light ? Explain.



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**10.** Illustrate with the help of a diagram, the effect of auxins in different parts of a plant.



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**11.** Name the plant hormone that promotes growth. How do this hormones bring about phototropism in the shoots of a plant ?



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**12.** Name and state briefly one function each of any three phyto - hormones.



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**13.** Florist sprinkled a plant hormones to prevent wilting of leaves . Name the hormone he must have used. Give two more examples of plant hormones and also write their functions



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**14.** 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.



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**Topic 1 Tropic Movements And Introduction Of Plant Hormones Long Answer Type Questions**

**1. List four plant hormones. Write one function of each.**



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**2. Name and state briefly one function each of any three phyto - hormones.**



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**3.** In the absence of muscle cells, how do plant cells show movement ?



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**4.** 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



assists 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 at an early stage of development.

What are phytohormones ?



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**5.** 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 assists the young plants in water stress defences, promoting the plant to quickly build a bigger root system to access deep soil moisture. To be effective this phytohormone should be at an early stage of development.

Which hormone is synthesized at the shoot - tip of plant body ?



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6. 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 assists the young plants in water stress defences, promoting the plant to quickly build a bigger root system to access deep soil moisture. To be effective this phytohormone should be at an early stage of development.

"Plant hormones help to co - ordinate growth."  
Justify the statement by giving three examples.



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## Topic 2 Control And Co Ordination In Animals

### Multiple Choice Questions

1. Male hormone is

A. estrogen

B. testosterone

C. adrenaline

D. FSH

**Answer: B**



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2. The endocrine gland nearest to the heart is

A. thyroid

B. testis

C. pancreas

D. thymus

**Answer: D**



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## Topic 2 Control And Co Ordination In Animals

### Match The Column

1. Match the following columns

Column- A	Column- B
(i) Reflex action	(a) thinking
(ii) Stress hormone	(b) vomiting
(iii) Cytokinin	(c) abscisic acid
(iv) Hind brain	(d) cell division
(v) Fore brain	(e) sudden response



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2.

Column- A	Column- B
(i) Carries involuntary quick response	(a) Peripheral nervous system

(ii) Controls voluntary and conscious thinking	(b) Medulla
(iii) Maintains precision in voluntary actions and balance of the body	(c) Reflex Arc
(iv) Facilitates the communication between CNS and other body parts.	(d) Dendrite
	(e) Axon
	(f) Cerebellum
	(g) Forebrain



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**Topic 2 Control And Co Ordination In Animals  
Very Short Answer Type Questions**

1. Define feedback mechanism of hormones.



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2. What is Synapse ?



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3. Name the largest cell present in the human body.



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4. Name the hormones in humans which regulates carbohydrate, protein and fat metabolism in the body. Mention the site where it is synthesized.



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5. Name the two components of peripheral nervous system.



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6. Mention the part of the brain which controls the involuntary actions like blood pressure, salivation etc.



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7. Name the two components of peripheral nervous system.



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**8.** Which are the two tissues that provide control and co-ordination in animals.



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**9.** Name the sensory receptors found in the nose and on the tongue.



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**10.** Name the part of the brain which controls posture and balance of the body.



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**11.** Name the two components of central nervous systems in humans.



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**12.** Mention the part of the body where gustatory and olfactory receptors are located.



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**13.** Name the part of the neuron where information is acquired.



**Watch Video Solution**

**14.** Name the part of neuron through which the information travels as an electric impulse.



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**15.** Name the mechanism by which amount of hormone in the blood is regulated.



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**16.** Name the diseases by which a person is likely to suffer due to the deficiency of :  
  
Iodine



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17. Name the diseases by which a person is likely to suffer due to the deficiency of :

Insulin



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## Topic 2 Control And Co Ordination In Animals

### Short Answer Type Question 1

1. Define neuron. Name the parts of neuron where :

Information is acquired.



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2. Define neuron. Name the parts of neuron where :

Impulse must be converted into chemical signal for onward transmission.



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3. What are receptors ? Name the receptors that are located in tongue, nose.





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4. What are receptors ? Name the receptors that are located in nose.



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5. What is a reflex action ?



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6. Give example of involuntary action.



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7. Name the parts of the brain that perform the following functions : Maintaining the posture and balance of the body.



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**8.** Name the parts of the brain that perform the following functions : Regulating blood pressure.



**Watch Video Solution**

**9.** Name the parts of the brain that perform the following functions : Sensation of hunger or feeling full.



**Watch Video Solution**

**10.** Name the parts of the brain that perform the following functions : seeing



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**11.** 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.



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**12.** Write the main functions of the following :

Sensory neuron



**Watch Video Solution**

**13.** Write the main functions of the following :

Cranium



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**14.** Write the main functions of the following :

Vertebral column



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**15.** Write the main functions of the following :

Motor neuron.



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**16.** Write the name and functions of any two

parts of the hind -0 brain.



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**17.** Name the hormone responsible for the regulation of metabolism of carbohydrates, fats and proteins.



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**18.** Name the hormone responsible for the regulation of balance of calcium and phosphate.



**Watch Video Solution**

19. Name the hormone responsible for the regulation of blood pressure.



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20. Name the hormone responsible for the regulation of water and electrolyte balance.



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21. Name the hormones responsible for :  
development of moustache and beard in



males.



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**22.** Name the hormones responsible for :  
controlling the uterus changes in menstrual  
cycle.



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**23.** Name the hormones responsible for :  
increasing blood glucose level.



**Watch Video Solution**

**24.** Name the hormone responsible for the regulation of water and electrolyte balance.



**Watch Video Solution**

**25.** What is the role of brain in reflex action ?



**Watch Video Solution**

**26.** How does our body maintain blood sugar level ?



**Watch Video Solution**

**27.** What happens at the synapse between two neurons ?



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**28.** Taking the example of heart beat, justify the antagonistic action of the sympathetic and the parasympathetic nerves.



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**29.** During exercise, the breathing rate is automatically enhanced. What is the reason behind it ?



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



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**31.** Name two hormones secreted by pancreas.  
Write one function of each hormone.



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# Topic 2 Control And Co Ordination In Animals

## Short Answer Type Question Ii

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

(a) Draw a well - labelled diagram of human brain.



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2. (i) Draw a well-labelled diagram of human brain.

(ii) Which is the main thinking part of brain ?



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



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



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



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6. Identify the glands that produce insulin .



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7. Identify the glands that produce thyroxin.



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8. Explain with an example how the timing and amount of hormone secreted are regulated in

the human body.



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**9.** State any three function of the structural and functional unit of nervous system.



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**10.** Mention three characteristics features of hormonal secretions in human beings.



**Watch Video Solution**

**11.** Name a hormone secreted by Pancreas.



**Watch Video Solution**

**12.** Name a hormone secreted by Pituitary.



**Watch Video Solution**

**13.** Name a hormone secreted by Thyroid.



**Watch Video Solution**

**14.** Name the hormone secreted by thyroid gland and state its function.



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**15.** Why is it important for us to have iodised salt in our diet ?



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**16.** Name the disease caused due to deficiency of iodine and mention its main symptom.



**Watch Video Solution**

**17.** 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 ?



**Watch Video Solution**

**18.** State three sommon features of respiratory organs of animals.



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**19.** 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 ?



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**20.** Name the endocrine gland which secretes growth hormone. What will be effect of the following on a person, (i) Deficiency of growth hormone. (ii) Excess secretion of growth hormone.



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**21.** Name the endocrine gland which secretes growth hormone. What will be effect of the following on a person, (i) Deficiency of growth hormone. (ii) Excess secretion of growth hormone.



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**22.** Name the endocrine gland which secretes growth hormone. What will be effect of the following on a person, (i) Deficiency of growth



hormone. (ii) Excess secretion of growth hormone.



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**23.** Explain how muscles change their shape ?



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**24.** How brain is protected inside a human body?



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**25.** Name the three different parts of hind brain and give one function of each.



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**26.** Write the role of motor areas in brain.



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**27.** 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 ?



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**28.** 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 ?





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**29.** Draw the structure of neuron and label cell body and axon.



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**30.** Define neuron. Name the parts of neuron where :

Information is acquired.



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**31.** Name the part of neuron through which the information travels as an electric impulse.



**Watch Video Solution**

**32.** Name the part of brain which controls :

Voluntary action



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**33.** Mention the part of the brain which controls the involuntary actions like blood pressure, salivation etc.



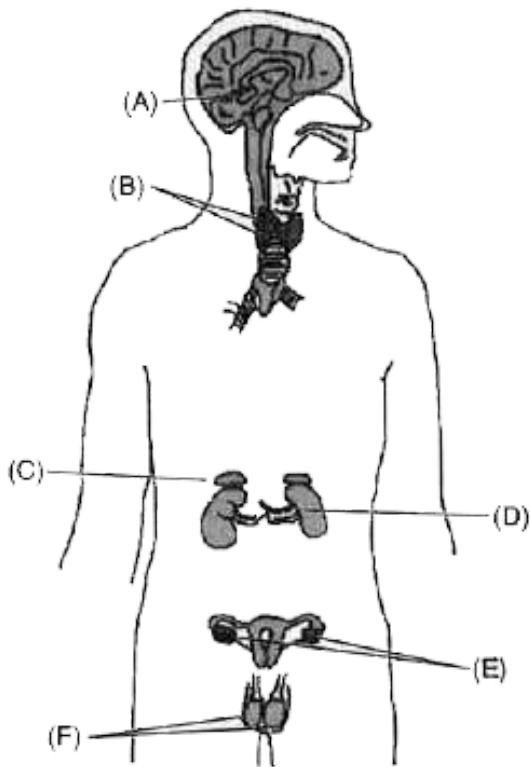
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**34.** What is the significance of the peripheral nervous system ? Name the components of this nervous system and distinguish between the origin of the two.



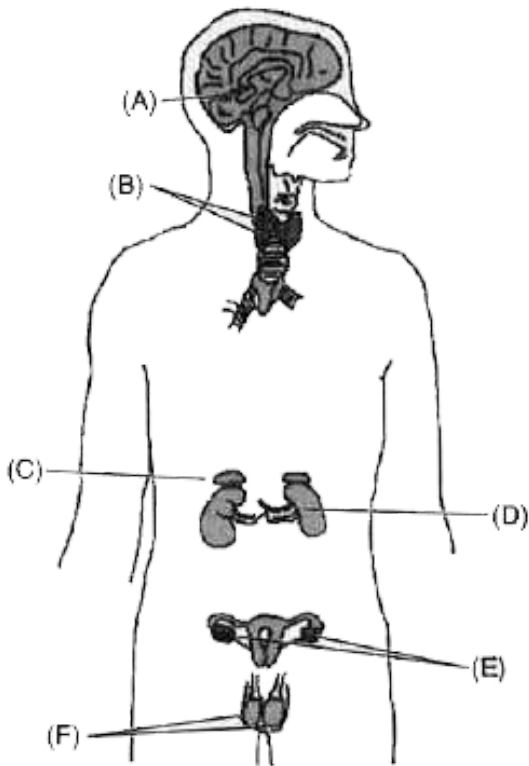
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**35.** Identify the endocrine glands A, B, C, D, E, and F in the given diagram.



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36. List the functions of parts D and F.

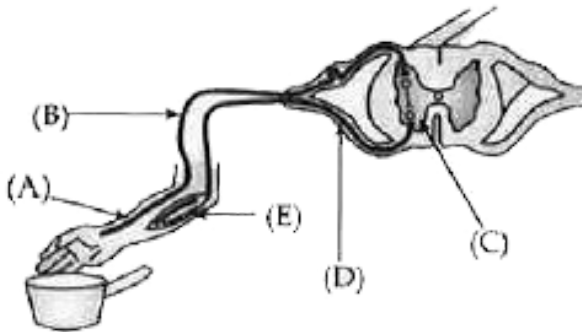


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**37.** In the given diagram of reflex arc :

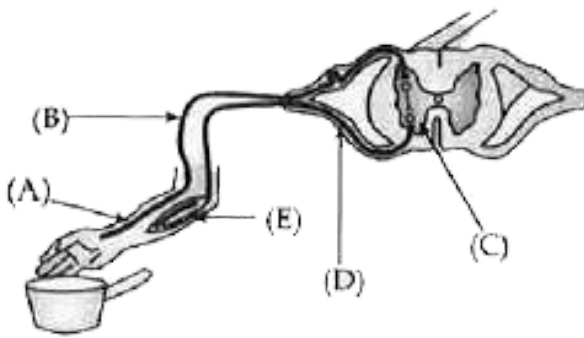
Name the parts labelled A, B, C, D and E.



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**38.** In the given diagram of reflex arc :

Write the functions of B and E.



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**39.** Mention one role or each of the following :

Carabellum

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**40.** Mention one role or each of the following :

Fore - brain



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**41.** Mention one role or each of the following :

Medulla.



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



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**43.** 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.



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**44.** For a receiving tennis player, what is the path from the stimulus to the response ?



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**45.** Explain with an example how the timing and amount of hormone secreted are regulated in the human body.



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**46.** How does our body respond when adrenaline is secreted into the blood ?



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**47.** List in tabular form three differences between nervous control and chemical control.



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**48.** Brain and Spinal cord are two vital organs of our body'. How is our body designed to protect them ?



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## **Topic 2 Control And Co Ordination In Animals Long Answer Type Questions**

**1.** Define receptor and state their location in our body. Mention any two receptors present in our forbrain and their functions



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**2. How do nerve impulses travel in our body ?**



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**3. Draw the structure of a neuron and label and following parts.**



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4. 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.



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5. Define neuromuscular junction.





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6. Define reflex arc. Draw a flowchart showing the sequence of events which occur during sneezing.



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7. List four plant hormones. Write one function of each.



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8. Define hormone. Write any four characteristics of hormones in humans.



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9. 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.





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**10.** Define reflex action. State its significance.



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**11.** How do plants respond to external stimuli ?



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**12.** Write names of hormones secreted by pituitary gland and adrenal gland. State their functions in the body.



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**13.** Explain feedback mechanism for regulation of hormonal secretion with the help of one example.



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14. (i) Draw a well-labelled diagram of human brain.

(ii) Which is the main thinking part of brain ?



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15. Name the glands that secretes insulin. Why are some patients of diabetes treated by giving injections of insulin ?



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**16.** What is the function of mid brain ?



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**17.** Name the three different parts of hind brain and give one function of each.



**Watch Video Solution**

**18.** Name two hormones secreted by pancreas.  
Write one function of each hormone.



**Watch Video Solution**

**19.** How does our body respond when adrenaline is secreted into the blood ?



**Watch Video Solution**

**20.** Explain feedback mechanism for regulation of hormonal secretion with the help of one example.



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21. What constitutes the central and peripheral nervous system ? How are the components of central nervous system protected ?



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## Ncert Corner Intext Questions

1. What is the difference between reflex action and walking ?





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2. What happens at the synapse between two neurons ?



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3. Which part of the brain maintains posture and equilibriaum of the body ?



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4. How does we detect the smell of agarbatti ( incense stick )



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5. What is the role of brain in reflex action ?



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6. What are plant hormones' ?



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7. How is the movement of leaves of the sensitive plant different from the movement of a shoot toward light ?



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8. Give an example of plant hormone that promotes growth



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**9.** How do auxins promotes the growth of tendril around a support ?



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**10.** Design an experiment to demonstrate hydrotropism.



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**11.** How does chemical coordination takes place in animals ?



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**12.** Why is use of iodized salt advisable ?



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**13.** How does our body respond when adrenaline is secreted into the blood ?



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**14.** Why are some patients of diabetes treated by giving injections of insulin ?



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## Ncert Corner Textbook Exercises

**1.** Which of the following is a plant hormone ?

A. Insulin

B. Thyroxin

C. Oestrogen

D. Cytokinin

**Answer: D**



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2. The gap between two neurons is called a

A. dendrite

B. synapse



C. axon

D. impulse

**Answer: B**



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**3. The brain is responsible for**

A. thinking

B. regulating the heart beat

C. regulating the breathing

D. all of the above

**Answer: D**



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4. What is the function of receptors in our body? Think of situations where receptors do not work properly. What problems are likely to arise?



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5. Draw the structure of neuron and explain its function.



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6. Define Phototropism.



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7. Which signals will get disrupted in case of spinal cord injury ?





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8. How does chemical coordination occur in plants?



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9. What is the need for a system of control and coordination in an organism?



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**10.** How are involuntary actions and reflex actions different from each other?



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**11.** Compare and contrast nervous and hormonal mechanisms for control and coordination in animals



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**12.** What is the difference between the manner in which the movement takes place in a sensitive plant and the movement in our legs-?



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