

Assignment – 7
Control and Coordination
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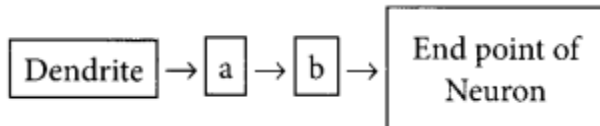
Question 1.

Which is the largest and most prominent part of the brain? (Board Term I, 2013)

Question 2.

(a) Name one gustatory receptor and one olfactory receptor in human beings.

(b) Write a and b in the given flow chart of neuron through which information travels as an electrical impulse.



Question 3.

Write the main functions of the following :

- (a) sensory neuron
- (b) cranium
- (c) vertebral column
- (d) motor neuron. (Board Term I, 2017)



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Question 4.

Why does the flow of signals in a synapse from axonal end of one neuron to dendritic end of another neuron take place but not in the reverse direction? Explain. (AI 2019)

Question 5.

“Reflex arcs continue to be more efficient for quick responses”. Justify this statement giving reason. (Board Term I, 2017)

Question 6.

- (a) Define reflex arc.
- (b) Trace the sequence of events which occur in our body when a bright light is focussed on your eyes. (Board Term I, 2016)

Question 7.

- (a) Draw a neat diagram of a neuron and label (i) dendrite and (ii) axon.
- (b) Which part of the human brain is:
 - (i) the main thinking part of the brain?
 - (ii) responsible for maintaining the posture and balance of the body? (Board Term I, 2015)

Question 8.

Mention three major regions of brain. Write one function of each. (Board Term I, 2014)

Question 9.

State one example of chemotropism. (Board Term I, 2015)

Question 10.

What is meant by tropic movements? (Board Term I, 2013)

Question 11.

State the two types of movements seen in plants. Give one example of each type. (Board Term I, 2016)

Question 12.

Define geotropism. Draw a labelled diagram of a plant showing geotropic movement of its parts. (2020)

Question 13.

What are plant hormones? Name the plant hormones responsible for the following :

- (i) Growth of stem
- (ii) Promotion of cell division
- (iii) Inhibition of growth
- (iv) Elongation of cells (Delhi 2019)

Question 14.

Define phototropism. Name the plant hormone which is responsible for phototropism. (Board Term I, 2016)

Question 15.

- (a) What are phytohormones? List four types of phytohormones. Where are these hormones synthesised?
- (b) What happens when a growing plant detects light? Explain in brief. (Board Term I, 2017)

Question 16.

List the sequences of events that occur when a plant is exposed to unidirectional light, leading to bending of a growing shoot. Also name the hormone synthesised and the type of movement that takes place. (Board Term I, 2016)

Question 17.

- (a) Define reflex arc. Draw a flow chart showing the sequence of events which occur during sneezing.
- (b) List four plant hormones. Write one function of each. (Board Term I, 2014)

Answer Question numbers 18 to 21 on the basis of your understanding of the following information and related studied concepts :

Thyroid gland is a bilobed structure situated in our neck region. It secretes a hormone called thyroxine. Iodine is necessary for the thyroid gland to make thyroxine. Thyroxine regulates carbohydrates, protein and fat metabolism in the body. It promotes growth of body tissues also. When there is an excess of thyroxine in the body, a person suffers from hyperthyroidism and if this gland is underactive it results in hypothyroidism. Hyperthyroidism is diagnosed by blood tests that measure the levels of thyroxine and Thyroid Stimulating Hormone (TSH). Hypothyroidism is caused due to the deficiency of iodine in our diet resulting in a disease called goitre. Iodised salt can be included in our diet to control it.

Question 18.

Where is thyroid gland situated?

Question 19.

State the function of thyroxine in human body.

Question 20.

What is hyperthyroidism?

Question 21.

How can we control hypothyroidism? (2020)

Question numbers 22 to 25 are based on table given below. Study the table in which the levels of Thyroid Stimulating Hormone (TSH) in women are given and answer the **Questions** that follow on the basis of understanding of the following paragraph and the related studied concepts :

Age Range	Normal (mU/L)	Low (mU/L)
18-29 years	0.4-2.34 mU/L	< 0.4 mU/L
30-49 years	0.4-4.0 mU/L	< 0.4 mU/L
50-79 years	0.46-4.68 mU/L	< 0.46 mU/L

Women are at greater risk for developing abnormal TSH levels during menstruation, while giving birth and after going through menopause. Around 5% of women in the United States have some kind of thyroid problem compared to 3% of men. Despite claims that high TSH increases your risk for heart disease, a 2013 study found no link between high TSH and heart diseases. But a 2017 study showed that older women are especially at risk for developing thyroid cancer if they have high TSH levels along with thyroid nodules.

Question 22.

A 35 years old woman has TSH level 6.03 mU/L. What change should she bring in her diet to control this level?

Question 23.

When do women face a greater risk of abnormal TSH level?



Question 24.

State the consequence of low TSH level.

Question 25.

Name the mineral that is responsible for synthesis of hormone secreted by thyroid gland. (2020)

Question numbers 26 to 29 are based on the table and related information in the passage given below:

Thyroid Stimulating Hormone (TSH) stimulates thyroid gland to produce thyroxine. Study the table given below.

Table : TSH levels during pregnancy

Stage of pregnancy	Normal (mU/L)	Low (mU/L)	High (mU/L)
First trimester	0.2-2.5	<0.2	2.5 – 10
Second trimester	0.3-3.0	<0.3	3.01
Third trimester	0.8-5.2	<0.8	> 5.3

It is important to monitor TSH levels during pregnancy. High TSH levels and hypothyroidism can especially affect chances of miscarriage. Therefore, proper medication in consultation with a doctor is required to regulate/control the proper functioning of the thyroid gland.

Question 26.

Give the full form of TSH.

Question 27.

State the main function of TSH.

Question 28.

Why do TSH levels in pregnant women need to be monitored?

Question 29.

A pregnant woman has TSH level of 8.95 mU/L. What care is needed for her? (2020)

Question 30.

A squirrel is in a scary situation. Its body has to prepare for either fighting or running away. State the immediate changes that take place in its body so that the squirrel is able to either fight or run. (2020)

Question 31.

Why is chemical communication better than electrical impulses as a means of communication between cells in a multicellular organisms? (2020)

Question 32.

A cheetah, on seeing a prey moves towards him at a very high speed. What causes the movement of his muscles? How does the chemistry of cellular components of muscles change during this event? (2020)

Question 33.

Name the hormones secreted by the following endocrine glands and specify one function of each: (a) Thyroid (b) Pituitary (c) Pancreas. (2018)

Question 34.

(a) How does chemical coordination take place in animals?

(b) It is advised to use iodised salt. Give reason. (Board Term 1, 2017)

Question 35.

(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? (Board Term I, 2016)

Question 36.

Name the hormone required for the following. Also mention the name of endocrine gland from which that hormone is secreted:



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- (a) Lowering of blood glucose.
- (b) Development of moustache and beard in human males.
- (c) Metabolism of carbohydrates, fats and proteins. (Board Term I, 2015)

Question 37.

- (a) Complete the following table:

Name of the hormone	Gland which secretes the hormone	Functions of the hormone
(i) Thyroxine	Thyroid	_____
(ii) Growth Hormone	_____	Regulates growth and development of the body
(iii) Insulin	Pancreas	_____

- (b) List three characteristics of animal hormones. (Board Term I, 2015)

Question 38.

List in tabular form three differences between nervous control and chemical control. (Board Term I, 2013)

Question 39.

A gland secretes a particular hormone. The deficiency of this hormone in the body causes a particular disease in which the blood sugar level rises.

- (i) Name the gland and the hormone secreted by it.
- (ii) Mention the role played by this hormone.
- (iii) Name the disease caused due to deficiency of this hormone. (Board Term I, 2013)

Question 40.

- (a) Name one organ each where growth hormone is synthesised in man and plant.
- (b) 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. (Board Term I, 2014)

Very Short Answer Type [Question](#) [1 Mark] -Year 2015

41. Why is it advised to use iodised salt in our diet ?

Short Answer Type [Questions](#)[1] [3 Marks] -Year 2015

42. State how concentration of auxin stimulates the cells to grow longer on the side of the shoot which is away from light?

43. What is synapse? In a neuron cell how is an electrical impulse created and what is the role of synapse in this context?

Very Short Answer Type [Question](#) [1 Mark]- Year 2014

44. Give an example of a plant hormone that promotes its growth. Where it is synthesized ?

Short Answer Type [Question](#) [1] [2 Marks] – Year 2014

- 45.(i) Name the hormones that are released in human males and females when they reach puberty.
(ii) Name a gland associated with brain. Which problem is caused due to the deficiency of the hormone released by this gland ?

Short Answer Type Questions[II] [3 Marks] – Year 2014

46. Write one example each of the following tropic movements :

- (i) Positive phototropism (ii) Negative phototropism
(iii) Positive geotropism (iv) Negative geotropism
(v) Hydrotropism (vi) Chemotropism



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Long Answer Type Questions [5 Marks] – Year 2014

- 47.(a) Name the hormone which is released into the blood when its sugar level rises. Explain the need of Chemical communication in multicellular organisms the organ which produces this hormone and its effect on blood sugar level. Also mention the digestive enzymes secreted by this organ with one function of each.
(b) Explain the need of Chemical communication in multicellular organisms.

Very Short Answer Type Question [1 Mark] -Year 2013

48. State the function of:

- (i) gustatory receptors, and
(ii) olfactory receptors.

Short Answer Type Questions[II] [3 Marks] -Year 2013

- 49.(a) Explain any three directional movements in plants.
(b) How brain and spinal cord are protected in human ?
(c) Name the master gland present in the brain.

Very Short Answer Type Questions [1 Mark] -Year 2012

50. Name the part of the brain which controls posture and balance of the body.
51. Mention the part of the body where gustatory and olfactory receptors are located.
52. Smita's father has been advised by a doctor to reduce his sugar intake.
1. Name the disease he is suffering from and name the hormone whose deficiency is?
2. Identify the gland that secretes it and mention the function of this hormone.
3. Explain how the time and amount of secretion of this hormone is regulated in human system.

53. State the functions of plant hormones. Name four different types of plant hormones.

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

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

55.(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 inhibitor.

Short Answer Type Questions[II] [3 Marks] -Year 2011

56. Which organ secretes a hormone when blood sugar rises in our body? Name the hormone and name one enzyme released by this organ.

57.(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.

58. What causes a tendril to encircle or coil around the object in contact with it? Explain the process involved.

59. Name any three endocrine glands in human body and briefly write the function of each of them.

60. Which part of the brain controls involuntary actions? Write the function of any two regions of it.

61. What is chemotropism? Give one example. Name any two plant hormones and mention their functions.

62. State the functions of any three of the structural and functional unit of nervous system.

63. What are 'hormones'? State one function of each of the following hormones:

(i) Thyroxine (ii) Insulin

64. What is the function of receptors in our body? Think of situation where receptors do not work properly.

What problems are likely to arise?

Very Short Answer Type Questions [1 Mark] -Year 2010

65. How is the spinal cord protected in the human body?

66. A potted plant is made to lie horizontally on the ground. Which part of the plant will show

(i) positive geotropism?

(ii) negative geotropism?

67. Mention the function of the hind-brain in humans.

68. Mention the function of adrenaline hormone.

Short Answer Type Questions[I] [2 Marks] -Year 2010

69. 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.

70. Name the hormone secreted by human testes. State its functions.

71. Name and explain the function of the hormone secreted by the pituitary gland in humans.

Short Answer Type Questions[II] [3 Marks] -Year 2010

72. What is a reflex action? Describe the steps involved in a reflex action.

Very Short Answer Type Questions [1 Mark] -Year 2009

73. A young green plant receives sunlight from one direction only. What will happen to its shoots ?

74. Name the plant hormones which help/promote (i) cell division (ii) growth of the stem and roots?

75. What is the function of thyroxine hormone in our body ?

76. Name two tissues that provide control and coordination in multicellular animals.

77. 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.

Short Answer Type Questions[I] [2 Marks] -Year 2009

78. What are 'nastic' and 'curvature' movements? Give one example of each.

79. Write the name and functions of any two parts of the human hind-brain.

80. What are plant hormones? Write two important functions of auxin.

Short Answer Type Question[11] [3 Marks] -Year 2009

81.(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?



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