BIOLOGY

BOOKS - S CHAND BIOLOGY (HINGLISH)

CONTROL AND COORDINATION

Solved Examples

1. Which of the following is a plant hormone?

A. Insulin

B. Thyroxine

C. Oestrogen

D. Cytokinin

Answer: D

Watch Video Solution

2. How do auxins promote the growth of a tendril around a support?

Watch Video Solution

3. How is the movement of leaves of the sensitive plant different from the movement of a shoot towards light?

Watch Video Solution

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

Watch Video Solution

5. The gap between two neurons is called a

A. dendrite

B. synapse

C. axon

D. impulse

Answer: B

Watch Video Solution

6. The brain is responsible for

A. thinking

B. regulating the heart beat

C. balancing the body

D. all of the above

Answer: D

Watch Video Solution

Exercise

1. What is the general name of chemical substances which bring about control and coordination in plants?

Watch Video Solution

2. Which plant hormone is responsible for the wilting and falling of leaves?

Watch Video Solution

3. Which plant hormone makes a stem (or shoot) bend towards light?

Watch Video Solution

4. Where is the auxin hormone made in a plant stem?

Watch Video Solution

5. What is the scientific name of sensitive plant?

Watch Video Solution

6. Name one plant hormone that promotes growth and another plant hormone which inhibits growth.

Watch Video Solution

7. Name one example of the movement of a plant part which is very quick and can be observed easily.

Watch Video Solution

8. Name the type of chemical substances that control the growth in plants.

Watch Video Solution

9. What is the stimulus in: (a) phototropism? (b) geotropism? (c) chemotropism? (d) hydrotropism? (e) thigmotropism?

Watch Video Solution

10. Give the scientific terms used to represent the following:

(a) Bending of a shoot towards light.

(b) Growing of roots towards the earth.

(c) Growth of a pollen tube towards ovule.

(d) Bending of roots towards water.

(e) Winding of tendril around a support.

Watch Video Solution

11. Give one example of the movement of a plant part which is caused by the loss of water (or migration of water).

Watch Video Solution

12. Give one example each of a plant part:

(a) which is positively hydrotropic as well as positively geotropic

(b) which is positively phototropic but negatively geotropic.

Watch Video Solution

Watch Video Solution

13. Which of the following is a growth movement and which is not?

(a) folding up of leaves of sensitive plant on touching with hand.

(b) folding up of petals of dandelion flower when light fades.

Watch Video Solution

14. Name the plant part:

(a) which bends in the direction of gravity but away from light

(b) which bends towards light but away from the force of gravity

Watch Video Solution

15. To which directional stimuli do:

(a) roots respond?

(b) shoots respons?

Watch Video Solution

16. Fill in the following blanks:

(a) A plant's response to light is called.....

(b) A plant's response to gravity is called..... .

(c) Plant shoot grows upward in response to.....

(d) Plant roots grow downward in response to .....

(e) Tendrils wind around a support in response to .....

(f) Plant roots grow towards.... and in the direction of force of .....

(g) A root of a plant grows downward. This is knows as.....

(h) .....is the hormone that causes phototropism in plants

(i) The response of leaves to the sunlight is called .....

Watch Video Solution

17. Plant parts show two types of movements, one dependent on growth and the other independent of growth. Give on example of the movement in plant parts:

(a) which depends on growth

(b) which does not depend on growth

Watch Video Solution

18. What is a plant hormone? Name four plant hormones. State one function of each.

Watch Video Solution

Watch Video Solution

19. (a) What does a root do in response to gravity? What is the phenomenon known as?

(b) What does a stem (or shoot) do in response to gravity? What is this phenomenon known as?

Watch Video Solution

20. (a) What does a stem (or shoot) do in response to gravity? What is this phenomenon known as?

(b) What does a root do in response to light? What is this phenomenon known as?

Watch Video Solution

21. (a) What does a Mimosa pudica plant do in response to touch? What is this phenomenon known as?

(b) What happens to the dandelion flower (i) during daytime, and (ii) at night? What is this phenomenon known as?

Watch Video Solution

22. (a) What does a plant root do in response to water? What is this phenomenon known as?

(b) What happens to the moonflower (i) during daytime, and (ii) at night? What is the phenomenon known as?

Watch Video Solution

23. What is a tendril? Name the two types of tendrils. What does a tendril do in response to the touch of a support? What

is this phenomenon known as?

Watch Video Solution

24. Name the five types of tropisms. How are tropic movements helpful to plants? Explain with an example.

Watch Video Solution

25. Define chemotropism. Give one example of chemotropism. State whether this example is of positive chemotropism or negative chemotropism.

Watch Video Solution

26. Distinguish between tropic movements and nastic movements in plants. Give examples to illustrate your answer.

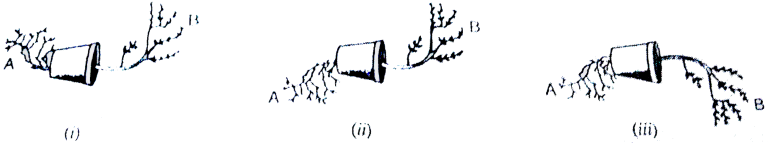
Watch Video Solution

27. (a) What is meant by nastic movement in plants? Give one example of nastic movements in plants.

(b) What is the difference between photonasty and thigmonasty?

Watch Video Solution

28. A potted plant is kept horizontally for a considerable time. The three positions of the parts A and B of the potted plant are shown in the following figures:



(a) Which figure shows the correct position taken by the parts A and B of the plant?

(b) What type of phenomenon is exhibited by the figure chosen in (a) above?

Watch Video Solution

29. Name of the plant hormones which are responsible for the following effects:

A. falling of leaves

B. opening of stomata

C. bending to stem towards light

D. closing of stomata

Answer: A::B::C::D

Watch Video Solution

30. Name the plant organs which are:

A. positively phototropic

B. positively geotropic

C. negatively geotropic

D. positively hydrotropic

Answer: A::B::C::D

Watch Video Solution

31. Why is the folding up of the leaves of a sensitive plant on touching with a finger not a tropism?

Watch Video Solution

32. Why is the closing of a Dandelion flower at dusk (when it gets dark) not a tropism?

Watch Video Solution

33. (a) What is meant by 'tropisms' (or tropic movements)? Explain with an example.

(b) What are the different types of tropisms? Define each type of tropism. Write the name of stimulus in each case.

(c) How do tropisms differ from nasties (or nastic movements)?

Watch Video Solution

34. (a) Define phototropism. Give one example of phototropism.

(b) How does phototropism occur in a plant stem (or shoot)? Explain with the help of labelled diagrams.

(c) What is meant by positive phototropism and negative phototropism? Give one example of each type.

Watch Video Solution

35. (a) Define geotropism. Give one example of geotropism.

(b) What is meant by 'positive geotropism' and negative

geotropism? Give one example of each type. Draw a labelled diagram to illustrate your answer indicating the plant part which shows positive geotropism and the plant part which shown negative geotropism.

(c) Name one plant part which exhibits positive thigmotropism.

Watch Video Solution

36. (a) How does control and coordination take place in plants? How does it differ from that in animals?

(b) Name five stimuli which act on plants. Name the type of tropism produced by each one of these stimuli.

(c) Define hydrotropism. Give one example of hydrotropism. State whether this example is of positive hydrotropism or

negative hydrotropism, illustrate your answer with the help of labelled diagram.

Watch Video Solution

37. (a) What is meant by positive tropism and negative tropism? Explain with examples.

(b) Define thigmotropism. Give one example of thigmotropism.

(c) What is the difference between thigmotropism and thigmonasty? Name one plant which exhibits thigmotropism and one plant which exhibits thigmonasty. What behaviour (or responses) of these plants make you think that they exhibit thigmotropism and thigmonasty respectively?

Watch Video Solution

38. Which of the following is not a plant hormone?

A. auxin

B. ascorbic acid

C. cytokinin

D. abscisic acid

Answer: B

Watch Video Solution

39. One of the following plant hormones is responsible for the phenomenon of photrotropism in plants. This is:

A. gibberellin

B. eltroxin

C. cytokinin

D. auxin

Answer: D

Watch Video Solution

40. The movement of a plant part in response to the force of attraction exerted by the earth is called:

A. hydrotropism

B. geotropism

C. chemotropism

D. phototropism

Answer: B

Watch Video Solution

41. The movement of sunflower in accordance with the path of the sun is due to :

A. photonasty

B. phototropism

C. hydrotropism

D. chemotropism

Answer: B

Watch Video Solution

42. The plant part which exhibits negative geotropism is:

A. root

B. stem

C. branch

D. leaves

Answer: B

Watch Video Solution

43. A big tree falls in a forest but its roots are still in contact with the soil. The branches of this fallen tree grow straight up

(vertically). This happens in response to

A. water and light

B. water and minerals

C. gravity and water

D. light and gravity

Answer: D

Watch Video Solution

44. Which of the following is not caused by a growth movement?

A. bending of the shoot of a plant in response to light

B. closing up of leaves of a sensitive plant on touching with an object

C. climbing up of a plant on an object by using tendrils

D. movement of the root of a plant towards a source of water

Answer: B

Watch Video Solution

45. The root of a plant is:

(i) positively phototropic but negatively geotropic

(ii) positively geotropic but negatively phototropic

(iii) negatively phototropic but positively hydrotropic

(iv) negatively hydrotropic but positively phototropic

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. (i) and (iv)

Answer: B

Watch Video Solution

46. The main function of the plant hormone called abscisic acid is to:

A. increase the length of cells

B. promote cell division

C. inhibit growth

D. promote growth of stem and roots

Answer: C

Watch Video Solution

47. The growth of tendrils in pea plants is due to the:

A. effect of sunlight on the tendril cells facing the sun

B. effect of gravity on the part of tendril hanging down towards the earth

C. rapid cell division and elongation in tendril cells that are away from the support

D. rapid cell division and elongation in tendril cells in contact with the support

Answer: C

Watch Video Solution

48. Which of the following phytohormone is not associated with the promotion of growth in plants?

A. auxin

B. abscisic acid

C. gibberellin

D. Cytokinin

Answer: B

Watch Video Solution

49. The plant hormone which triggers the fall of mature leaves and fruits from the plant body is:

A. auxin

B. gibberellin

C. abscisic acid

D. cytokinin

Answer: C

Watch Video Solution

50. Which of the following terms denotes the movement of the root of a plant towards moisture in the soil?

A. thigmotropism

B. chemotropism

C. gravitropism

D. phototropism

Answer: C

Watch Video Solution

51. The growth of a pollen tube towards the ovule caused by a sugary substance as stimulus is an example of:

A. phototropism

B. hydrotropism

C. gravitropism

D. chemotropism

Answer: D

Watch Video Solution

52. The bending of the shoot of a plant in response to light is called:

A. geotropism

B. phototropism

C. thigmotropism

D. photonasty

Answer: B

Watch Video Solution

53. The stimulus in the process of thigmotropism is:

A. touch

B. gravity

C. light

D. chemical

Answer: A

Watch Video Solution

54. A growing seedling is kept in a dark room. A burning candle is placed near it for a few days. The top part of seedling bends towards the burning candle. This is an example of:

A. chemotropism

B. hydrotropism

C. phototropism

D. geotropism

Answer: C

Watch Video Solution

55. Which of the following acts as a stimulus in the process of hydrotropism?

A. hydrocarbon

B. hydrogen oxide

C. hydrogen chloride

D. hydrogen peroxide

Answer: B

Watch Video Solution

56. The growth movement of a plant part in response to the touch of an object is called:

A. thigmonasty

B. hydrotropism

C. thigmotropism

D. geotropism

Answer: C

Watch Video Solution

57. The climbing organs of plants like tendrils grow towards any suppory which they happen to touch and wind around the support. This is an example of:

A. chemotropism

B. nastic movement

C. thigmotropism

D. geotropism

Answer: C

Watch Video Solution

58. The rate of growth in roots is decreased by one of the following plant hormones. This plant hormone is:

A. gibberellin

B. auxin

C. cytokinin

D. ethylene

Answer: B

Watch Video Solution

59. When the leaves of a Mimosa pudica plant are touched with a finger, they fold up quickly. This is an example of:

A. chemotropism

B. thigmonasty

C. photonasty

D. thigmotropism

Answer: B

Watch Video Solution

60. Dandelion flowers open the petals in bright light during the daytime but close the petals in dark at night. This response of dandelion flowers to light is called:

A. phototropism

B. thigmonasty

C. chemotropism

D. photonasty

Answer: D

Watch Video Solution

61. To which of the following directional stimulus roots of a plant do not respons?

A. moisture

B. candle light

C. touch

D. gravity

Answer: C

Watch Video Solution

62. One of the following is not caused by the growth related movement of the concerned plant part. This is:

A. phototropism

B. photonasty

C. thigmonasty

D. thigmotropism

Answer: C

Watch Video Solution

63. The bending of the root of a plant away from a source of light is caused by a plant hormone called:

A. cytokinin

B. gibberellin

C. abscisic acid

D. auxin

Answer: D

Watch Video Solution

64. Most of the plant hormones promote plant growth. A plant hormone which inhibits growth is:

A. abscisic acid

B. ethylene

C. ascorbic acid

D. cytokinin

Answer: A

Watch Video Solution

65. The movement of a shoot towards light is:

A. geotropism

B. hydrotropism

C. chemotropism

D. phototropism

Answer: D

Watch Video Solution

66. The bending of the root of a plant away from a source of light is caused by a plant hormone called:

A. abscisic acid

B. auxin

C. gibberellins

D. cytokinin

Answer: B

Watch Video Solution

67. The plant part which exhibits negative geotropism is:

A. root

B. branch

C. leaves

D. stem

Answer: A

Watch Video Solution

68. Which of the following are not tropisms?

(i) growing of pollen tube in response to a sugary substance

(ii) folding up of leaves of sensitive plant in response to touch

(iii) winding of tendril around a support in response to touch

(iv) opening up of the leaves of a daisy flower in response to light?

A. (i) and (ii)

B. (ii) and (iii)

C. (i) and (iv)

D. (ii) and (iv)

Answer: D

69. The chemical substance P is made and secreted by the meristematic tissue at the tip of stem (or shoot) of a plant. The chemical substance P is responsible for a phenomenon Q in plants in which the stem bends towards a source of light. The same chemical substance P has on opposite effect on the root of a plant. It causes the root of a plant to bend away from the source of light in a process called R.

(a) What is the chemical substance P?

(b) State whether P prefers to remains in the sunlit side of a stem or in shade.

(c) What is the effect of substance P on the rate of growth of (i) a root, and (ii) a stem?

(d) What is the name of process (i) Q, and (ii) R?

(e) What is the general name of chemical substances like P? Name another substance which belongs to this class of chemical substances.

Watch Video Solution

70. A potted plant is growing in a transparent glass jar. In this plant, X and Y are the two growing parts having a lot of meristematic tissue. It is observed that the part X of this plant exhibits positive geotropism but negative phototropism. On the other hand, part Y of this plant exhibits negative geotropism but positive phototropism.

(a) Name the part X of plant.

(b) Name the part Y of plant.

(c) Which part of the plant, X or Y, will exhibit positive hydrotropism?

(d) Which part of the plant, X or Y, can have tendrils on it?

(e) Which phytohormone causes the part X to exhibit negative phototropism?

Watch Video Solution

Watch Video Solution

71. There are three plants A,B and C. the flowers of plant A open their petals in bright light during the day but close them when it gets dark at night. On the other hand, the flowers of plant B open their petals at night but close them during the day when there is bright light. The leaves of plant C fold up and droop when touched with fingers or any other solid object.

(a) Name the phenomenon show by the flowers of (i) plant A, and (ii) plant B.

(b) Name one flower each which behaves like the flower of (i) plant A, and (ii) plant B.

(c) Name the phenomenon exhibited by the leaves of plant C.

(e) Which plant/plants exhibit the phenomenon based on growth movements?

Watch Video Solution

72. While conducting experiments to study the effect of various stimuli on the plants, it was observed that the roots of a plant X grow and bend towards two stimuli A and B but bend away from a third stimulus C. The stem of the plant X, however, bends away from stimuli A and B but bends towards the stimulus. C.The stimulus B is known to act on the roots due to too much weight of the earth. Keeping these points in mind, answer the following questions:

(a) What could stimulus A be?

(b) Name the stimulus B.

(c) What could stimulus C be?

(d) The branches of a fallen tree in a forest grow straight up in response to two stimuli. What could be these two stimuli out of A,B and C? Also name these two stimuli.

Watch Video Solution

73. P and Q are two types of plants having weak stems which cannot stand upright on their own. The plants P and Q have organs R and S respectively which can grow towards and support which they happen to touch and wind around that support. It is observed that organ R originated from the leaves of the plant whereas organ S originates directly from the stem of the plant.

(a) What is (i) R, and (ii) S?

(b) What is the name of growth movement exhibited by the organs R and S?

(c) Name the stimulus involved in this case.

(d) State whether the behaviour of organs R and S is a tropic

movement or a nastic movement.

(e) Name one plant like P and another plant like Q.

Watch Video Solution

74. The top part A of the flask-shaped reproductive organ X in the flower of a plant secretes a surgery substance into its lower part B which goes towards the bottom part C of the flask-shaped organ. When a tiny grain D coming from the top part E of another reproductive organ Y in the flower falls on part A, it grows a long tube F through the organ X in response to the sugary substance and reaches the bottom part C of flask-shaped organ to carry out fertilisation.

(a) What is (i) organ X, and (ii) organ, Y inside the flower?

(b) Name parts (i) A (ii) B, and (iii) C, of flask-shaped organ.

(c) Name (i) grain D, and (ii) part E of organ Y.

(d) Name the tube F.

(e) What is the phenomeon of growing a long tube in response to a sugary substance in the process of fertilisation in a flower known as?

Watch Video Solution

75. P,Q,R and S are four major types of phytohormones. P is a phytohormone which functions mainly as a growth inhibitor. It promotes the wilting and fallin, of leaves. Q, R and S are phytohormones which all promote growth on plants in various ways. Q is responsible for the phenomenon of phototropism in plants. R is involved mainly in shoot extensions. The phytohormone S helps in breaking the dormancy of seeds and buds. what are P,Q,R and S? Give one reason each for your choice.

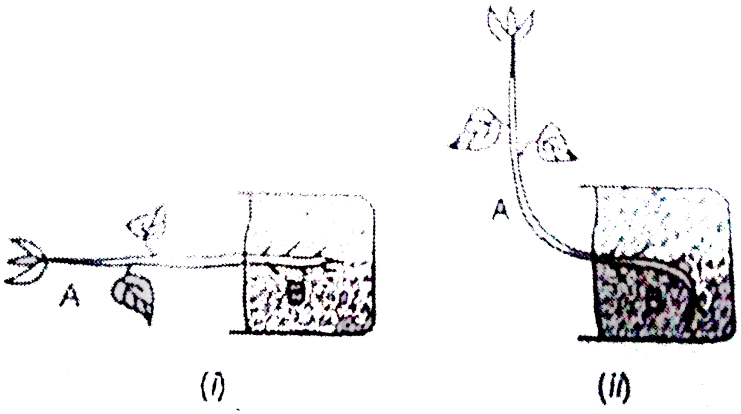
Watch Video Solution

76. A potted plant having straight parts A and B was placed horizontally on its side as shown in Figure (i). After a few days it was observed that the parts A and B of the plant acquire new positions as shown in figure (ii).

(a) Name the phenomenon exhibited by the position of plant parts A and B in Figure (ii)

(b) Name the stimulus (other than sunlight) which causes plant part A to grow and bend upwards, and plant part B to

bend downwards.



Watch Video Solution

77. When the leaves of a sensitive plant are touched with a finger, they fold up and when light fades at dusk, the petaks of a dandelion flower close.

(a) State one way in which the above two processes are similar.

(b) State two ways in which the above two processes differ.

Watch Video Solution

Watch Video Solution

78. Name the two systems of control and coordination in higher animals.

Watch Video Solution

79. What are the two parts of the vertebrate nervous system?

Watch Video Solution

80. If we happen to touch a hot object unknowingly, we immediately pull back our hand. What is this type action known as ?

Watch Video Solution

81. Name the three components of a neuron (or nerve cell).

Watch Video Solution

82. (a) What are the short fibres of a neuron known as?

(b) What is the long fibre of a neuron known as?

Watch Video Solution

83. Name the most important part of the human brain.

Watch Video Solution

84. Which part of the brain maintains posture and equilibrium of the body?

Watch Video Solution

85. State one function each of cerebellum and pons.

Watch Video Solution

86. Name one hormone secreted by the pituitary gland.

Watch Video Solution

87. Where are hormones made in the human body?

Watch Video Solution

88. What is the name of the system of glands which produces hormones?

Watch Video Solution

89. Which gland secretes the growth hormone?

Watch Video Solution

90. Name the hormones secreted by (a) testes, and (b) ovaries

Watch Video Solution

91. What are the scientific names for the following receptors in animals?

(a) receptors for light (b) receptors for heat (c) receptors for sound (e) receptors for smell (e) receptors for taste

Watch Video Solution

92. Name the disease caused by the deficiency of thyroxine hormone in the body.

Watch Video Solution

93. Which halogen element is necessary for the making of thyroxine hormone by the thyroid gland?

Watch Video Solution

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

Watch Video Solution

95. What is the name of in-built 'arrangement' in our body which controls the timing and amount of hormones released by various endocrine glands in the body?

Watch Video Solution

96. Which part of the eye contains cells which are sensitive of light?

Watch Video Solution

Watch Video Solution

97. What are the two main communications system in an animal's body?

Watch Video Solution

98. Which one term in each of the following includes the other three?

(a) thyroid, ductless gland, thymus, pituitary, ovary

(b) adrenalin, insulin, hormone, thyroxine, estrogen

Watch Video Solution

99. Which parts of the body form the central nervous system?

Watch Video Solution

100. Give three examples of reflex actions

Watch Video Solution

101. Why do you need iodine in your diet?

Watch Video Solution

102. State whether coughing is a voluntary action or reflex action.

Watch Video Solution

103. Fill in the following blanks with suitable words:

(a) The two examples of effectors are .....and.....

(b) our .....system allows us to react to our surroundings. Information from receptors passes along.....neurons to our brain. our brain send impulses along.....neurons to our muscles.

(c) A neuron which carries an impulse to the brain is called a.....neuron.

(d) The neuron which carries a message for action to a muscle or gland is known as a.....neuron.

Watch Video Solution

104. (a) What are the various sense organs in our body?

(b) What is meant by receptors and effectors? Give two

examples of each.

Watch Video Solution

105. (a) What is spinal cord? What is its main function?

(b) Give the functions of medulla.

Watch Video Solution

106. (a) Name the three types of nerves which constitute the peripheral nervous system.

(b)What is the difference between a reflex action and walking?

(c) How do we detect the smell of an incense stick (agarbatti)?

Watch Video Solution

107. (a) What substances are made by endocrine glands?

(b) What is the function of receptors and effectors in our body?

Watch Video Solution

108. (a) Name the hormones secreted by the following endocrine glands:

(i) Thyroid gland (ii) Parathyroid glands (iii) Pancreas (iv) Adrenal glands

(b) Write the functions of testosterone and oestrogen hormones.

Watch Video Solution

109. (a) Write the names of the regions in hinbrain. Give one function of each region.

(b) Name the functions of cerebrum.

Watch Video Solution

110. (a) The human brain can be broadly divided into three regions. Name these three regions.

(b) What is cranium? What is its function?

Watch Video Solution

111. (a) How does chemical coordination take place in human beings?

(b) Why is the use of iodised salt advisable?

Watch Video Solution

112. What is the function of insulin hormone? What type of patients are given insulin injections?

Watch Video Solution

113. Compare the nervous system and endocrine system (hormonal system) for control and coordination in humans.

Watch Video Solution

114. State the functions of the following hormones:

(a) Thyroxine (b) Adrenaline (c) Growth hormone

Watch Video Solution

Watch Video Solution

115. Write the names of all the major endocrine glands present in the human body. Which of these glands also function as exocrine glands?

Watch Video Solution

116. Match the hormones given in column I with their functions given in column II:

Hormones	Functions
(i) Thyroxine	(a) Causes breasts to develop in females
(ii) Adrenaline	(b) Causes the male to start producing sperms
(iii) Insulin	(c) Prepares the body for an emergency
(iv) Estrogen	(d) Controls the metabolic rate
(v) Tstosterone	(e) Regulates the amount of sugar in blood

Watch Video Solution

117. A person walks across a room in barefeet and puts his foot on a drawing pin lying on the floow. He lets out a cry. Explain what happens in his nervous system in bringing about this response.

Watch Video Solution

118. In what ways are pubert and adolescence result of the activity of some glands in the human body?

Watch Video Solution

119. List three ways in which neurons are similar to other cells.

Watch Video Solution

120. Explain the difference between each of the following pairs of terms:

(a) receptor and effector (b) cerebrum and cerebellum

Watch Video Solution

121. What is the difference between a voluntary and an involuntary action? Which kind of action is digestion? Explain your choice.

Watch Video Solution

122. What does CNS stand for ? Which part of CNS: (a) consists of two cerebral hemispheres, and (b) has spinal nerves attached to it?

Watch Video Solution

123. Which hormone:

(a) prepares the body for action?

(b) controls the amount of glucose in blood?

(c) gives boys a deep voice?

(d) give girls soft skin?

Watch Video Solution

124. When you smell a favourite food your month begins to water (that is, you secrete saliva). Write down that the following are examples of:

(a) the smell of the food

(b) the cells in your nasal passages which perceive the smell

(c) the gland which is stimulated to stimulated to secrete saliva.

Watch Video Solution

125. (a) Name the structural and functional unit of nervous system.

(b) Draw a flow chart to show the classification of nervous system into various parts.

(c) What is autonomic nervous system? What is its function?

Watch Video Solution

126. (a) What is a reflex action? Explain with the help of an example.

(b) Define reflex arc. Give the flow chart of a spinal reflex arc.

(c) How are involuntary actions and reflex actions different from each other?

Watch Video Solution

127. (a) What is the function of our nervous system ?

(b) What are the main organs of the human nervous system? Draw a labelled diagram to show the main organs of the human nervous system.

(c) How does the human nervous system work? Explain.

Watch Video Solution

128. (a) What is a neuron? Draw a labelled diagram of a neuron.

(b) What is a synapse? What happens at the synapse between

two neurons? How are the messages carried across a synapse? Explain with the help of a labelled diagram.

Watch Video Solution

129. (a) Name two systems which taken together perform the functions of control and coordination in human beings.

(b) What does the central nervous system in humans consist of? What is the job of the central nervous system?

(c) Give the various functions of brain.

Watch Video Solution

130. (a) Write the names of five endocrine glands found in the human body. Name the hormones secreted by each gland.

(b) How do hormones reach the organs they control?

(c) Name the gland which controls the secretion of hormones from the pituitary.

(d) How does our body respond when adrenaline is secreted in large amounts into the blood?

(e) Name the disease which occurs in adults due to the deficiency of iodine in the diet. what is the main symptom of this disease?

Watch Video Solution

131. A cell (or group of cells) in a sense organ which is sensitive to a particular type of stimulus is called:

A. interceptor

B. effector

C. receptor

D. acceptor

Answer: C

Watch Video Solution

132. Which of the following cannot be considered a receptor?

A. ear

B. nose

C. muscle

D. eye

Answer: C

Watch Video Solution

133. One of the following acts as an endocrine gland as well as an exocrine gland. This one is:

A. salivary gland

B. pancreas

C. pituitary

D. parathyroid

Answer: B

Watch Video Solution

134. Which of the following helps in maintaining posture and balance of the human body?

A. cerebellum

B. cerebrum

C. medulla

D. pons

Answer: A

Watch Video Solution

135. The number of pairs of nerves which arises from the spinal cord is:

A. 21

B. 31

C. 41

D. 51

Answer: B

Watch Video Solution

136. Cerebellum, medulla and pons are the parts of:

A. mid-brain

B. hind-brain

C. fore-brain

D. spinal cord

Answer: B

Watch Video Solution

137. Which of the following are cerebral reflexes?

(i) a person pulls away his hand on touching a hot object

(ii) a person spits out immediately when a fly enters his mouth while talking

(iii) A person walking bare foot lifts his foot at once on stepping on to a nail

(iv) A person's pupil contracts at once in the presence of bright light

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. (ii) and (iv)

Answer: D

Watch Video Solution

138. Iodine in necessary for the synthesis of which of the following hormone?

A. adrenaline

B. auxin

C. thyroxine

D. insulin

Answer: C

Watch Video Solution

139. Which of the following is a mis-matched pair?

A. Adrenaline: Pituitary gland

B. Estrogen: Ovary

C. Pancreas: Insulin

D. Progesterone: Ovary

Answer: A

Watch Video Solution

140. One of the following is an incorrect statement about insulin. This is:

A. it is produced in pancreas

B. it regulates growth and development of the body

C. it regulates blood glucose level in the blood

D. its deficiency in the body will cause diabetes

Answer: B

Watch Video Solution

141. The spinal cord orginates from:

A. cerebrum

B. cerebellum

C. medulla

D. pons

Answer: C

Watch Video Solution

142. The involuntary actions in the body are controlled by:

A. medulla in forebrain

B. medulla in hindbrain

C. medulla in spinal cord

D. medulla in midbrain

Answer: B

Watch Video Solution

143. Which of the following is not an involuntary action?

A. volmiting

B. chewing

C. heart beat

D. salivation

Answer: B

Watch Video Solution

144. Which of the following hormone prepares oyr body for action in emergecy situations?

A. testosterone

B. growth hormone

C. adrenaline

D. insulin

Answer: C

Watch Video Solution

145. One of the following controls the peristaltic movements of alimentary canal. This one is:

A. cerebrum

B. cerebellum

C. pons

D. medulla

Answer: D

Watch Video Solution

146. The hormone which is associated with male puberty is called:

A. oestrogen

B. adrenaline

C. testosterone

D. progesterone

Answer: C

Watch Video Solution

147. Which of the following endocrine gland does not occur as a pair in the human body?

A. adrenal

B. pituitary

C. testis

D. ovary

Answer: B

Watch Video Solution

148. The junction between two adjacent neurons is called:

A. nerve junction

B. sensory junction

C. synapse

D. neuro-muscular joint

Answer: C

Watch Video Solution

149. the life process in humans are controlled and regulated by:

A. reproductive and endocrine systems

B. respiratory and nervous systems

C. endocrine and digestive systems

D. nervous and endocrine systems

Answer: D

Watch Video Solution

150. A doctor advised a person to take injection of insulin because:

A. his blood pressure was high

B. his heart beat was high

C. his blood sugar was high

D. his thyroxine level in blood was high

Answer: C

Watch Video Solution

151. All the voluntary actions of our body are controlled by:

A. cerebrum

B. cerebellum

C. pons

D. medulla

Answer: a

Watch Video Solution

152. One of the following statements is not true about thyroxine. This is:

A. Thyroid gland requires iron to synthesise thyroxine

B. It regulates carbohydrate, protein and fat metabolism

C. Iodine is essential for the synthesis of thyroxine

D. Thyroid gland can enlarge due to lack of thyroxine

Answer: a

Watch Video Solution

153. Which of the following does not act as an endocrine gland as well as an exocrine gland?

A. testis

B. ovary

C. pituitary

D. pancreas

Answer: c

Watch Video Solution

154. The part of brain which controls the involuntary actions such a heart beat, breathing, blood pressure, etc. is

A. pons

B. medulla

C. cerebrum

D. cerebellum

Answer: b

Watch Video Solution

155. Dwarfism results due to:

A. excessive secretion of thyroxine hormone

B. excessive secretion of growth hormone

C. less secretion of adrenaline hormone

D. less secretion of growth hormone

Answer: d

Watch Video Solution

156. The dramatic changes in body features associated with puberty are mainly because of the secretions of:

A. estrogen from testes and testosterone from ovary

B. estrogen from adrenal gland and testosterone from pituitary gland

C. testosterone from testes and estrogen from ovary

D. testosterone from thyroid gland and estrogen from pituitary gland

Answer: c

Watch Video Solution

157. Which of the following statements is correct about receptors?

A. gustatory receptors detect taste while olfactory receptors detect smell

B. both gustatory and olfactory receptors detect smell

C. both gustatory and olfactory receptors detect smell

D. auditory receptors detect smell and olfactory receptors detect taste

Answer: a

Watch Video Solution

158. The part of brain which takes part in regulating respiration in the human body is:

A. medulla

B. pons

C. cerebellum

D. cerebellum

Answer: b

Watch Video Solution

159. Electrical impulse travels in a neuron from:

A. dendrite $\rightarrow$ axon $\rightarrow$ axon end $\rightarrow$ cell body

B. cell body $\rightarrow$ dendrite $\rightarrow$ axon $\rightarrow$ axon end

C. dendrite $\rightarrow$ cell body $\rightarrow$ axon $\rightarrow$ axon end

D. axon end $\rightarrow$ axon $\rightarrow$ cell body $\rightarrow$ dendrite

Answer: c

Watch Video Solution

160. In a synapse, chemical signal is transmitted from:

A. axon to cell body of the same neuron

B. cell body to axon end of the same neuron

C. dendrite end of one neuron to axon end of adjacent neuron

D. axon end of one neuron to dendrite end of adjacent neuron

Answer: d

Watch Video Solution

161. In a neuron, the conversion of electrical signal to a chemical signal occurs at/in:

A. dendrite end

B. cell body

C. axon end

D. myelin sheath

Answer: c

Watch Video Solution

162. One of the following gives the correct sequence of the components in a reflex arc. This is:

A. Receptors $\rightarrow$ Muscle $\rightarrow$ Sensory neuron $\rightarrow$ Motor neuron $\rightarrow$ Spinal cord

B. Receptors $\rightarrow$ Motor neuron $\rightarrow$ Spinal cord $\rightarrow$ Sensory neuron $\rightarrow$ Muscle

C. Receptors $\rightarrow$ Spinal cord $\rightarrow$ Sensory neuron $\rightarrow$ Motor neuron $\rightarrow$ Muscle

D. Receptors $\rightarrow$ Sensory neuron $\rightarrow$ Spinal cord $\rightarrow$ Motor neuron $\rightarrow$ Muscle

Answer: d

Watch Video Solution

163. Which of the following statements are true?

(i) sudden action in respons to something in the environment is called reflex action

(ii) sensory neurons carry electrical signals from spinal cord to muscles in a reflex action

(iii) motor neurons carry signals from receptors to spinal cord

in a reflex action

(iv) the pathway of transmittin signals from a receptor to a muscle is a reflex action

A. (i) and (ii)

B. (i) and (iii)

C. (i) and (iv)

D. (i),(ii) and (iii)

Answer: c

Watch Video Solution

164. The gustatory receptors of our body are in one of the following organs. This organ is:

A. ear

B. nose

C. tongue

D. skin

Answer: C

Watch Video Solution

165. The olfactory receptors in humans are located in:

A. eyes

B. tongue

C. ears

D. nose

Answer: d

Watch Video Solution

166. The contraction of pupil of the eye in the presence of bright light is an example of:

A. Voluntary reflex

B. Spinal reflex

C. cerebral reflex

D. Adernal reflex

Answer: c

Watch Video Solution

167. The faulty functioning of an endocrine gland can make a person very short or very tall. This gland is:

A. thyroid

B. pineal

C. adrenal

D. pituitary

Answer: d

Watch Video Solution

168. The underactive endocrine gland which causes goitre is:

A. pancreas

B. thyroid

C. adrenal

D. pituirary

Answer: b

Watch Video Solution

169. The endocrine gland whose malfunctioning causes diabetes disease is:

A. pituiary

B. pineal

C. parathyroid

D. pancreas

Answer: D

Watch Video Solution

170. The use of iodised salt is recommended to prevent:

A. diabetes

B. gonorrhoea

C. dysentery

D. goitre

Answer: d

Watch Video Solution

171. Which of the following are often called glands of emergency?

A. thyroid

B. pituitary

C. adrenal

D. pancreas

Answer: c

Watch Video Solution

172. P is a cell (or group of cells) in the human body which is sensitive to a particular type of stimulus and conveys the messages to CNS through nerves Q. On the other hand, R is a part of the human body which can respond to a stimulus according to the instructions sent from the CNS through nerve S.

(a) What is P? Name five organs which contain cells (or group of cells) like P.

(b) Name the nerves Q.

(c) What is R? Give two examples of R.

(d) Name nerves S.

(e) How do massages travel through the nerves Q and S?

Watch Video Solution

173. The human body contains a large number of cells A which are very long and branched, and look like electric wires. The longest branch of this cell is B whereas there are many small branches C. Any two A cells do not join to one another completely in the human body. There is a microscopic gap D between every pair of adjacent A cells through which electric impulse can pass by the release of a chemical substance.

(a) What are cells A?

(b) What is the name of (i) branch B, and (ii) branches C?

(c) What is the microscopic gap D known as?

(d) What is the function of cells like A in the human body?

(e) The cells A are of three types. Name the three types.

Watch Video Solution

174. When we touch a hot plane unknowingly then this heat is sensed by a receptor P present in oyr fingers. The receptor triggers an impulse in neuron Q which transmits the message to an organ R which is a part of the central nervous system. Here the impulse is passed on to a neuron S which in turn passes it to a yet another neuron T. The neuron T passes the impulse to a tissue U in our arm. The tissue U then contracts and pulls or hand away from the hot plate.

(a) What is the name of (i) receptor P (ii) neuron Q, and (iii) organ R?

(b) What is (i) neuron S, and (ii) neuron T?

(c) Name the tissue U.

(d) What name is given to the phenomeon in which hand is pulled quickly from the hot plate?

(e) Name the effector in this whole process.

Watch Video Solution

175. The gland X which is located just below the brain in the human head secretes a chemical substance Y which controls the development of bones and muscles in the body of a person. Secretion of too little of substance Y as well as the secretion of too much of substance Y by the gland X lead to abnormal development of the body of a person.

(a) Name the gland X.

(b) What is the chemical substance Y?

(c) What happens if too little of substance Y is secreted?

(d) What happens if too much of substance Y is secreted?

(e) Name the system of glands in the human body of which gland X is a part.

Watch Video Solution

176. A and B are the two systems of control and coordination in the human body. The messages in system A are trasmitted in the form of chemical substances C which travel comparatively slowly through the blood stream. The substances C are made in tissues D present in the head and trunk of human body. The messages in system B are transmitted by system B usually lasts for a much shorter time

as compared to those transmitted by system A.

(a) Name the system A. What does system A consist of?

(b) Name the chemical substance C.

(c) What is tissue D? Name any five such tissues in the human body.

(d) Name the system B. What does system B consist of?

(E) Name the fibres E.

(f) State whether system A controls the working of system B or system B controls the working of system A.

Watch Video Solution

177. A cylindrical structure P in our body begins in continuation with medulla and extends downwards. It is enclosed in a bony cage Q and surrounded by membranes R. As many as x pairs of nerve arise from the structure P. The

structure P is involved in the reflex actions of our body and conduction of nerve impulse to and from another organs S of our body with which it forms CNS.

(a) Name the structure P.

(b) Name (i) bony cage Q, and (ii) membranes R.

(c) How much is x?

(d) Name the organ S.

(e) What are the reflexes involving structure P only known as?

Watch Video Solution

178. The pancreas is made up of two parts A and B. The part A secretes insulin whereas part B secretes pancreatic juice.

(a) Which part is functioning as an endocrine gland? Why?

(b) What is insulin and what effect does it have in the body?

(c) Name the disease which can be treated by giving insulin

injections.

(d) what does pancreatic juice contain? Where does pancreatic juice go?

(e) Name the life process in which pancreatic juice is made us of.

Watch Video Solution

179. The gland A is attached to the wind pipe in the human body. The gland A makes and secretes a hormone B which controls the metabolism of carbohydrates, fats and proteins in the body. The non-metal element C is necessary for the formation of hormone B. The deficiency of C in the diet can cause a deficiency of hormone B in the body leading to a disease D in which the neck of a person appears to be swollen. People are advised to use salt e in cooking food so as to avoid

disease D.

(a) Name (i) gland A, and (ii) hormone B.

(b) What is the element C?

(c) Name one type of food which can provide sufficient C in the diet of a person.

(d) Name (i) disease D, and (ii) salt E.

Watch Video Solution

180. A piece of thread was tied tightly around an animal's pancreatic duct. The animal subsequently had difficulty in digesting food but did not get diabetes. Explain.

Watch Video Solution

181. Which is the target organ of both adrenaline and insulin?

(a) heart (b) kidney (c) liver (d) pancreas

Watch Video Solution

182. A gland W is located just below the stomach in the human body. The gland W secretes a hormone X. The deficiency of hormone X in the body causes a disease Y in which the blood sugar level of a person rises too much. The person having high blood sugar is called Z.

(a) Name (i) gland W, and (ii) hormone X.

(b) What is the function of hormone X?

(c) Name (i) disease Y, and (ii) person Z.

(d) What advice would you like to give to a person who is suffering from disease Y due to faulty life-style?

Watch Video Solution

183. There are two similar glands P which are located on the top of two similar organs Q in the human body. The glands P are often called glands of emergency and they secrete a hormone R into the blood stream. The hormone R is secreted in large amounts when a person is frightened. It brings about temporary changes in the body which allow a lot of substance S from the liver to go into blood so as to provide a lot of energy in a very short time. This helps the person concerned to flight back or run away from the frightening situation. what are P,Q,R and S?

Watch Video Solution

184. The two glands A and B which occur in pairs, are present in the endocrine system of humans. The pair of glands A is found onlyin females whereas the pair of glands B occurs only in males. The glands A make and secrete two hormones C and D whereas glands B make and secrete only one hormone E. In addition to hormones, glands A make gametes F whereas glands B make gametes G.

What are glands A?

What are hormones C and D?

(c) What are glands B? Name the hormone E.

(d) What are gametes (i) F, and (ii) G?

(e) Which event in the life of males and females is associated with the secretion of hormones, C,D and E?

Watch Video Solution

185. The organ A which is located inside the skull of our body is protected by a bony box B and it is surrounded by three membranes C. the space between the membranes is filled with a liquid D which protects the organ A from mechanical shocks. The organ A in combination with another organ E makes up the central nervous system.

(a) What is organ A?

(b) What are (i) B (ii) C, and (iii) D ?

(C) Name the organ E.

(d) While walking barefooted, it we happen to step on a sharp piece of stone, we immediately lift our foot up. which of the two organs, A or E, is directly involves in this action?

(e) If we step out from a darkened room into bright sunshine, we close our eyes for a moment. Which of the two organs, A or E, is directly involves in this action?

Watch Video Solution

186. Write down the following in the correct order for a simple reflex are:

(i) impulse travels in motor fibre

(b) impulse travels in sensory fibre

(c) effector organ stimulated

(d) impulse crosses synapse

Watch Video Solution

187. Explain why, the tongue may be considered to be both a receptor and an effector organ.

Watch Video Solution

Very Short Answer Type Questions

1. Name the disease caused by the deficiency of insulin hormone in the body.

Watch Video Solution

2. Name on gland each:

(a) Which acts only as an endocrine gland.

(b) Which acts only as an exocrine gland.

(c) which acts both as an endocrine gland as well as an exocrine gland.

Watch Video Solution

3. What part does the diet play in helping us to have a healthy thyroid gland?

Watch Video Solution

4. If sugar is detected in the urine of a person, name the disease he is suffering from.

Watch Video Solution

5. Name two parts of the body which contain receptors of chemical stimuli.

Watch Video Solution