



BIOLOGY

BOOKS - NCERT BIOLOGY (ENGLISH)

CONTROL AND COORDINATION

Mcq

1. 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. Auditory receptors detect smell and olfactory receptor detect taste
- D. Olfactory receptor detect taste and gustatory receptor smell

Answer: A



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2. Electrical impulse travels in a neuron from

A. Dendrite → Axon → Axonal end → Cell
body

B. Cell body → dendrite → Axon →
Axonal end

C. Dendrite → Cell body → Axon →
Axonal end

D. Axonal end → Axon → Cell body →

Dendrite

Answer: C



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3. In a synapse, chemical signal is transmitted from

A. dendritic end of one neuron to axonal end of another neuron

B. axon to cell body of the same neuron

C. cell body to axonal end of the same
neuron

D. axonal end of one neuron to dendritic
end of another neuron

Answer: D



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4. In neuron, conversion

A. cell body

B. axonal end

C. dendritic end

D. axon

Answer: B



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5. Which is the correct sequence of the compounds of a reflex arc

A. Receptors → Muscles → Sensory

neuron → Motor neuron → Spinal
cord

B. Receptors → Motor neuron → Spinal

cord → Sensory neuron → Muscle

C. Receptors → Spinal cord → Sensory

neuron → Motor neuron → Muscle

D. Receptors → Sensory neuron → Spinal

cord → Motor neuron → Muscle

Answer: D



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6. Which of the following statements are true?

(i) Sudden action in response to something in the environment is called reflex action

(ii) Sensory neurons carry signals from spinal cord to muscles.

(iii) Motor neurons carry signals from spinal cord to muscles.

(iv) The path through which signals are transmitted from a receptor to a muscle or a gland is called reflex arc.

- A. Sudden action in response to something in the environment is called reflex action
- B. Sensory neurons carry signals from spinal cord to muscles.
- C. Motor neurons carry signals from receptors to spinal cord
- D. The path through which signals are transmitted from a receptor to a muscle or a gland is called reflex arc.

Answer: C



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7. Which of the following statements are true about the brain?

(i) The main thinking part of brain is hind brain.

(ii) Centres of hearing, smell, memory, sight, etc., are located in fore brain

(iii) Involuntary actions like salivation, vomiting, blood pressure are controlled by the medulla in the hind brain.

(iv) Cerebellum does not control posture and balance of the body.

A. The main thinking part of brain is hind brain

B. Centres of hearing, smell, memory, sight, etc., are located in fore brain.

C. Involuntary actions like salivation, vomiting, blood pressure controlled by the medulla in the hind brain.

D. Cerebellum does not control posture and balance of the body.

Answer: C



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8. Posture and balance of the body is controlled by

A. cerebrum

B. cerebellum

C. medulla

D. pons

Answer: B



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9. Spinal cord originates from

A. cerebrum

B. medulla

C. pons

D. cerebellum

Answer: B



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10. The movement of shoot towards light is

A. geotropism

B. hydrotropism

C. chemotropism

D. phototropism

Answer: D



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11. The main function of abscisic acid in plants is to

- A. increase the length of cells
- B. promote cell division
- C. inhibit growth
- D. promote growth of stem

Answer: C



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12. Which of the following is not associated with growth of plant?

A. Auxin

B. Gibberellins

C. Cytokinins

D. Abscisic acid

Answer: D



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13. Iodine is necessary for the synthesis of which hormone?

A. Adrenaline

B. Thyroxin

C. Auxin

D. Insulin

Answer: B



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14. Choose the incorrect statement about insulin

A. It is produced from pancreas

B. It regulates growth and development of the body

C. It regulates blood sugar level

D. Insufficient secretion of insulin will cause diabetes

Answer: B



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15. Select the mis-matched pair

A. Adrenaline-Pituitary gland

B. Testosterone-Testes

C. Estrogen-Ovary

D. Thyroxin-Thyroid gland

Answer: A



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16. The shape of guard cells changes due to change in the

A. protein composition of cells

B. temperature of cells

C. amount of water in cells

D. position of nucleus in the cells

Answer: C



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17. The growth of tendril in pea plants is due to

A. effect of light

B. effect of gravity

C. rapid cell divisions in tendrillar cells that are away from the support

D. rapid cell divisions in tendrillar cells in contact with the support

Answer: C



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18. The growth of pollen tubes towards ovules is due to

A. hydrotropism

B. chemotropism

C. geotropism

D. phototropism

Answer: B



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

A. phototropism

B. geotropism

C. chemotropism

D. hydrotropism

Answer: A



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20. The substance that triggers the fall of mature leaves and fruits from plants is due to

A. Auxin

B. gibberellin

C. abscisic acid

D. cytokinin

Answer: C



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21. Which of the following statements about transmission of nerve impulse is incorrect ?

A. Nerve impulse travels from dendritic end towards axonal end

B. At the dendritic end electrical impulses bring about the release of some chemicals which generate an electrical impulse at the axonal end of another neuron.

C. The chemicals released from the axonal end of one neuron cross the synapse

and generate a similar electrical impulse
in a dendrite of another neuron

D. A neuron transmits electrical impulses
not only to another neuron but also to
muscle and gland cells

Answer: B



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22. Involuntary actions in the the body are controlled by

- A. medulla in fore brain
- B. medulla in mid brain
- C. medulla in hind brain
- D. medulla in spinal cord

Answer: C



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

A. Vomiting

B. Salivation

C. Heart beat

D. Chewing

Answer: D



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24. When a person is suffering from severe cold, he or she cannot

A. differentiate the taste of an apple from that of an ice cream

B. differentiate the smell of a perfume from that of an agarbatti

C. differentiate red light from green light

D. differentiate a hot object from a cold object.

Answer: B



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25. What is the correct direction of flow of electrical impulses?



Answer: C



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26. Which statement is not true about thyroxine?

A. Iron is essential for the synthesis of thyroxine

B. It regulates carbohydrates, protein and fat metabolism in the body

C. Thyroid gland requires iodine to synthesise thyroxine

D. Thyroxine is also called thyroid hormone

Answer: A



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27. Dwarfism results due to

A. Excess secretion of thyroxine

B. Less secretion of growth hormone

C. Less secretion of adrenaline

D. Excess secretion of growth hormone

Answer: B



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28. Dramatic changes of body features associated with puberty are mainly because of secretion of

A. oestrogen 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



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29. A doctor advised a person to take an injection of insulin because

A. his blood pressure was low

B. his heart was beating slowly

C. he was suffering from goitre

D. his sugar level in blood was high

Answer: D



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30. The hormone which increase the fertility in males is called

A. oestrogen

B. testosterone

C. insulin

D. growth hormone

Answer: B



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31. Which of the following endocrine glands is unpaired?

A. Adrenal

B. Testes

C. Pituitary

D. Ovary

Answer: C



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32. Junction between two neurons is called

- A. cell junction
- B. neuro muscular junction
- C. neural joint
- D. synapse

Answer: D



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33. In humans, the life processes 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

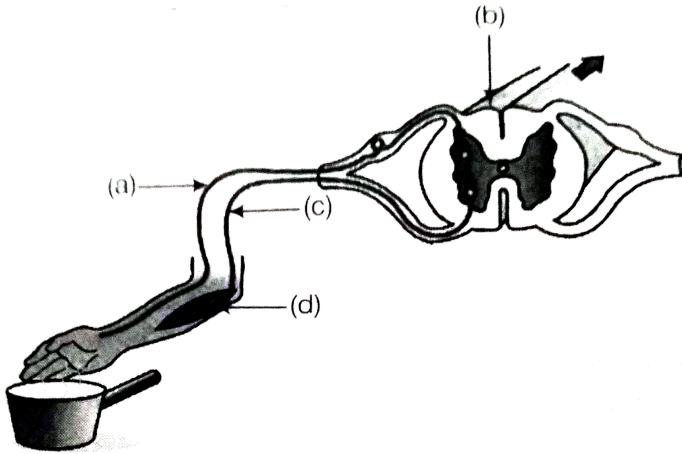
Answer: D



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Short Type Question

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



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2. Name the plant hormones responsible for the following

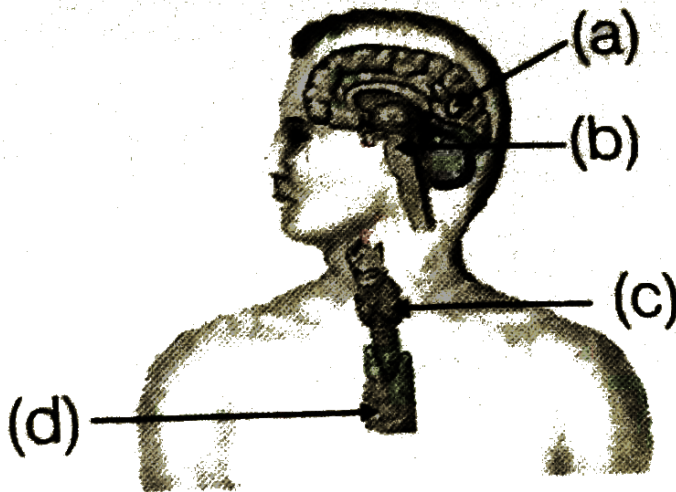
(a) elongation of cells (b) growth of stem

(c) promotion of cell division (d) falling of senescent leaves



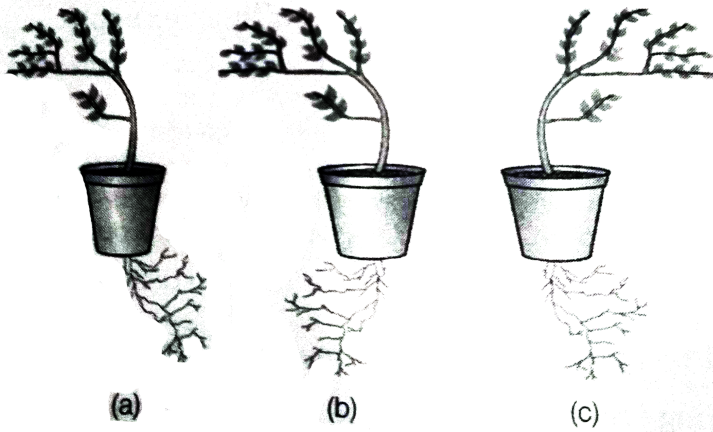
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3. Label the endocrine gland in figure



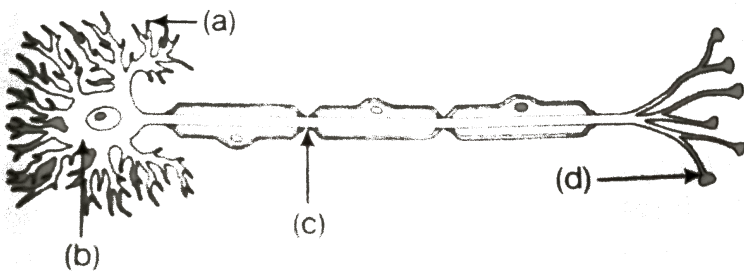
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4. In figure (a), (b) and (c), which appears more accurate and why?



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5. Label the part of a neuron in Figure below



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6. Match the terms of column I with those of column II.

Column I	Column II
A. Olfactory receptors	1. Tongue
B. Thermo receptors (temperature receptors)	2. Eye
C. Gustatoreceptors	3. Nose
D. Photoreceptors	4. Skin



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7. What is a tropic movement? Explain with an example.



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8. What will happen if intake of iodine in our diet is low?



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9. What happens at the synapse between two neurons?



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10. Answer the following

(a) which hormone is responsible for the changes noticed in females at puberty?

(b) Dwarfism results due to deficiency of which hormone?

(c) Blood sugar level rises due to deficiency of which hormone?

(d) Iodine is necessary for the synthesis of which hormone?



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11. Answer the following

(a) Name the endocrine gland associated with brain?

(b) Which gland secretes digestive enzymes as well as hormones?

(c) Name the endocrine gland associated with kidneys?

(d) Which endocrine gland is present in males but not in females?



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



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2. What are the major parts of the brain?
Mention the functions of different parts.



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



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4. Mention one function for each of these hormones

(a) Thyroxin (b) Insulin (c) Adrenaline (d)

Growth hormone

(e) Testosterone





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5. Name various plant hormones. Also give their physiological effects on plant growth and development.



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6. What are reflex actions? Give two examples.
Explain a reflex arc



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7. Nervous and hormonal systems together perform the function of control and coordination in human beings.' Justify the statement.



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8. How does chemical coordination take place in animals?



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9. Why is the flow of signals in a synapse from axonal end of one neuron to dendritic end of another neuron but not the reverse?



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