

Control and Coordination

Assertion & Reason Type Questions

Directions: Each of the following questions consists of two statements, one is Assertion (A) and the other is Reason (R). Give answer:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true but Reason (R) is false.
- d. Assertion (A) is false but Reason (R) is true.

Q1. Assertion (A): A neuron transmits message in both directions.

Reason (R): Neuron is specialised for conducting information via electrical impulses from one part of body to another.

Answer : (d) Assertion is false because neurons are unidirectional, i.e., electrical impulses enter from one end and leave through the other.

Q2. Assertion (A): Cerebellum controls the coordination of body movement and posture.

Reason (R): Medulla oblongata controls and regulates the centre for coughing, sneezing and vomiting.

Answer : (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

Q3. Assertion (A): Movement of leaves of sensitive plant is different from movement of a shoot towards light.

Reason (R): Sensitive plant shows seismonastic movements which are due to turgidity of cells whereas the movement of shoot is a tropic movement.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).



Q4. Assertion (A): Adrenaline makes the heartbeat faster, resulting in supply of more oxygen to our muscles.

Reason (R): Adrenaline is secreted directly into the blood and carried to different parts of the body.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

Q5. Assertion (A): Amount and timing of hormones released are regulated by feedback mechanisms.

Reason (R): Hypersecretion or hyposecretion of any hormone can lead to different disorders.

Answer : (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

Q6. Assertion(A) : Insulin regulates blood sugar level.

Reason (R) : Insufficient secretion of insulin will cause diabetes.

Answer : (a)

Q7. Assertion(A) : Animals can react to stimuli in different ways.

Reason (R) : All animals have a nervous system and an endocrine system involving hormones.

Answer : (a)

Q8. Assertion(A) : The effect of auxin hormone on the growth of root is exactly opposite to that on a stem.

Reason (R) : Auxin hormone increases the rate of growth in root and decreases the rate of growth in stem.

Answer : (c)

Q9. Assertion(A) : A receptor is a specialized group of cells in a sense organ that perceive a particular type of stimulus.

Reason (R) : Different sense organs have different receptors for detecting stimuli.

Answer : (b)

Q10. Assertion(A) : Cyton region of nerve fibre collects information for the brain.

Reason (R) : Nerve fibres can either have or lack myelin sheath.

Answer : (d)

Q11. Assertion(A) : A nerve impulse is an electrochemical event.

Reason (R) : In a nerve impulse there are changes in the resting potential which spreads down the nerve fibre.

Answer : (a)

Q12. Assertion(A) : The brain is also known as the central nervous system.

Reason (R) : Central nervous system controls and regulates the voluntary actions.

Answer : (d)

Q13. Assertion(A) : The spinal nerves are 31 in number.

Reason (R) : Spinal nerves only have sensory neurons in them

Answer : (c)

