

15. Control and coordination

Starter Quiz · 课前小测

A-Level Biology

Name: _____ Score: _____

1. A neurone that carries impulses from a receptor to the CNS is a:
☐ sensory neurone
☐ motor neurone
☐ relay neurone
☐ effector
2. The brief reversal of charge across a neurone membrane is an action _____.

3. Neurotransmitters carry the signal across the synaptic gap from one neurone to the next.
☐ True ☐ False
4. A sarcomere is:
☐ the repeating unit of a muscle fibre, containing thick myosin and thin actin filaments
☐ a type of neurone
☐ a hormone
☐ the gap between two neurones
5. A directional plant growth response to a stimulus (such as light) is called a _____.

6. Compared with the endocrine system, the nervous system is:
☐ faster, using electrical impulses that last a short time
☐ slower, using hormones
☐ carried only in the blood
☐ longer-lasting
7. At the resting potential, the inside of the neurone is:
☐ negative compared with the outside
☐ positive compared with the outside
☐ the same as the outside
☐ full of sodium ions

8. The tiny gap between two neurones at a synapse is the synaptic _____.

9. The calcium ions for contraction are stored in, and released from, the _____ reticulum.

10. Plants can use fast electrical signals as well as slower hormones to coordinate responses.
☐ True ☐ False

A-Level Biology

1. **sensory neurone**

Sensory neurones carry signals into the CNS.

2. **potential**

It travels along the axon as the nerve impulse.

3. **True**

They diffuse across the cleft because the electrical impulse cannot jump the gap directly.

4. **the repeating unit of a muscle fibre, containing thick myosin and thin actin filaments**

Muscle fibres are divided into sarcomeres, each holding thick (myosin) and thin (actin) filaments.

5. **tropism**

e.g. phototropism is growth towards light; gravitropism is growth in response to gravity.

6. **faster, using electrical impulses that last a short time**

Nervous signals are fast electrical impulses with short-lived effects; hormones are slower and longer-lasting.

7. **negative compared with the outside**

The resting potential keeps the inside negative, maintained by the Na^+/K^+ pump and K^+ permeability.

8. **cleft**

The neurotransmitter diffuses across the synaptic cleft to the next neurone.

9. **sarcoplasmic**

When the impulse arrives, the sarcoplasmic reticulum releases Ca^{2+} to trigger contraction.

10. **True**

The Venus fly trap shows plants use fast electrical signals; hormones like auxin and gibberellin act more slowly.