

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

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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.