1. A neurone that carries impulses from a receptor to the CNS is a:

   ☐ motor neurone

   ☐ sensory neurone

   ☐ relay neurone

   ☐ effector

2. The brief reversal of charge across a neurone membrane is an action _____.

   _____

3. The electrical impulse jumps directly across the synaptic gap to the next neurone.

   ☐ True ☐ False

4. A sarcomere is:

   ☐ the gap between a motor neurone and a muscle fibre

   ☐ a type of neurone that carries impulses to a muscle

   ☐ the repeating unit of a muscle fibre, made of actin and myosin

   ☐ a hormone released by muscle cells during exercise

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:

   ☐ slower, using hormones carried in the blood

   ☐ longer-lasting, with effects over days

   ☐ carried only in the blood to target organs

   ☐ faster, using electrical impulses that last a short time

7. At the resting potential, the inside of the neurone is:

   ☐ the same as the outside

   ☐ positive compared with the outside

   ☐ full of sodium ions

   ☐ negative compared with the outside

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_____

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

1. **sensory neurone**

   Sensory neurones carry signals into the CNS.

2. **potential**

   It travels along the axon as the nerve impulse.

3. **False**

   False. The impulse cannot cross the gap directly; neurotransmitters released from the presynaptic neurone diffuse across the cleft and bind to receptors on the next neurone.

4. **the repeating unit of a muscle fibre, made of actin and myosin**

   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.

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