



Attempt questions first; check the separate key afterward. Show all working. Draw accurate figures where required.

A. Very short answers - 1 mark each

1. Name the structural and functional unit of the nervous system.
2. Draw and label a neuron, indicating impulse direction.
3. Which brain region chiefly maintains posture and balance?
4. State functions of cerebrum and medulla.
5. What is a reflex action?
6. Trace a reflex arc for touching a hot object.
7. Name the gap between two neurons.
8. Explain how a signal crosses a chemical synapse.

B. Short answers / practice - 2 marks each

9. Which plant hormone promotes shoot elongation?
10. Explain shoot bending toward light.
11. Are roots normally positively geotropic?
12. Distinguish phototropism, geotropism and hydrotropism.
13. Name the hormone released in a fight-or-flight response.
14. Describe its effects on heartbeat, breathing and blood supply.
15. Name the pancreatic hormone that lowers blood glucose.
16. Explain the idea of hormonal feedback using blood glucose.
17. Which gland produces thyroxine?
18. Explain why iodine is needed in the diet.
19. Name the hormone chiefly associated with male secondary sexual characters.
20. Name a major hormone associated with female secondary sexual characters.

C. Application / reasoning - 3 marks each

21. Does every plant movement involve growth?
22. Compare touch-induced leaf folding with a shoot growing toward light.
23. Which part of the brain is continuous with the spinal cord?
24. Distinguish voluntary and involuntary actions with examples.
25. Are hormones normally transported in the blood?
26. Compare nervous and hormonal coordination in speed and duration.
27. Name the hormone that promotes cell division in plants.
28. Explain why a reflex response can begin before conscious awareness of pain.
29. Does an electrical impulse travel across most synapses without chemical involvement?
30. Explain how negative feedback prevents excessive secretion of a hormone, using one example.
31. Compare the roles of receptors, sensory neurons and motor neurons in a response.

D. Extended practice - 5 marks per pair

32. Name a plant hormone that inhibits growth and can promote dormancy.
33. Explain a plant's response to a climbing support.
34. Which gland secretes growth hormone?
35. Draw a labelled outline showing major endocrine glands and state functions of any four.

ANSWER KEY - Numerical / closed questions

- 1) Neuron. 3) Cerebellum. 7) Synapse. 9) Auxin.
11) Yes. 13) Adrenaline. 15) Insulin. 17) Thyroid. 19) Testosterone. 20) Oestrogen. 21) No. 23) Medulla oblongata. 25) Yes. 27) Cytokinin. 29) No; most use neurotransmitters. 32) Absciscic acid. 34) Pituitary.