



Attempt questions first; check the separate key afterward. Use labelled diagrams where asked. Give scientific reasons; answer key covers closed questions.

A. Very short answers - 1 mark each

1. Name the pineal hormone.
2. Name the thyroid hormone requiring iodine.
3. Which pancreatic hormone lowers blood glucose?
4. Which pancreatic hormone raises blood glucose?
5. Name the main mineralocorticoid.
6. Name the principal glucocorticoid in humans.
7. Which gland produces parathyroid hormone?
8. Name the anterior-pituitary hormone stimulating thyroid secretion.

B. Short answers / practice - 2 marks each

9. Differentiate endocrine and exocrine glands.
10. Explain hormones as chemical messengers.
11. Describe hypothalamic releasing and inhibiting hormones.
12. Compare anterior and posterior pituitary functions.
13. Why are ADH and oxytocin called hypothalamic hormones despite posterior-pituitary release?
14. Explain growth-hormone deficiency and excess at different ages.
15. Describe thyroid hormones' metabolic roles.
16. Distinguish iodine-deficiency goitre and Graves' disease.
17. Compare calcitonin and parathyroid hormone in calcium regulation.
18. Describe adrenal cortex and medulla hormones.
19. Explain adrenaline's role in an emergency response.
20. Compare insulin and glucagon as an antagonistic pair.

C. Application / reasoning - 3 marks each

21. Name the pancreatic cells producing insulin and glucagon.
22. Explain why insulin deficiency can cause hyperglycaemia.
23. Describe the endocrine roles of testes and ovaries.
24. State functions of FSH and LH in males.
25. State functions of FSH and LH in females.
26. Explain prolactin and oxytocin in lactation.
27. Describe thymosin's role in immune development.
28. Name one hormone released by the heart and one by the kidney.
29. Explain negative feedback using the thyroid axis.
30. Compare membrane-receptor and intracellular-receptor hormone action.
31. Do steroid hormones generally act through intracellular receptors?

D. Extended practice - 5 marks each

32. Draw an endocrine-gland map and summarise hormones from six glands.
33. Explain peptide and steroid hormone mechanisms with suitable examples.
34. Discuss hypo- and hypersecretion disorders of pituitary, thyroid, adrenal and pancreas.
35. Explain integrated regulation of blood glucose, calcium and water balance by hormones.

ANSWER KEY - Numerical / closed questions

- 1) Melatonin. 2) Thyroxine/T₄; also T₃. 3) Insulin. 4) Glucagon. 5) Aldosterone. 6) Cortisol. 7) Parathyroid glands. 8) TSH. 21) Beta cells and alpha cells, respectively. 28) ANF/ANP; erythropoietin or renin as a hormonal regulator. 31) Yes.