

Chemical Coordination and Integration — CBSE Pattern Test 2

Class 11 Biology · 90 minutes · 40 marks · Sections A–D with answer key · Narayan Gurukul Academy

Test 2 — CBSE Pattern (90 minutes, 40 marks)

Class 11 Biology · Chemical Coordination and Integration · Narayan Gurukul Academy (ClassApna)

General Instructions: (1) This paper has four sections — Section A (1×10), Section B (2×4), Section C (3×4) and Section D (5×2) — total 40 marks. Time allowed: 90 minutes.

(2) All questions are compulsory. No overall choice is given; internal choice, where allowed, is clearly marked.

(3) For MCQ questions choose the single correct option; for VSA answers write a single line.

(4) Take $g = 10 \text{ m/s}^2$. All symbols carry their usual meaning. Use of a calculator is not permitted.

Section A — MCQ & VSA ($10 \times 1 = 10$ marks)

- Hormones are effective in
 - very small amounts
 - large amounts
 - equal amounts always
 - unlimited amounts
- Growth hormone is secreted by the
 - anterior pituitary
 - posterior pituitary
 - thyroid
 - adrenal cortex
- The hormone that raises blood glucose is
 - glucagon
 - insulin
 - thyroxine
 - aldosterone
- The parathyroid gland secretes
 - parathormone
 - thyroxine
 - insulin
 - adrenaline
- Steroid hormones act by
 - entering the cell and affecting gene expression
 - binding surface receptors only
 - blocking ion channels
 - diffusing out of cells
- A rise in blood glucose leads to increased secretion of
 - insulin
 - glucagon
 - thyroxine
 - adrenaline
- Excess growth hormone in adults causes
 - acromegaly

- (B) dwarfism
 - (C) cretinism
 - (D) goitre
8. The hormone secretin is secreted by the
- (A) gastrointestinal tract
 - (B) thyroid
 - (C) adrenal
 - (D) pineal
9. What is feedback control?
10. Name one endocrine disorder.

Section B — Short Answer I ($4 \times 2 = 8$ marks)

11. Where is the pituitary gland located?
12. Which hormone is called the growth hormone?
13. Name the hormone secreted by the pineal gland.
14. What is radioimmunoassay used for?

Section C — Short Answer II ($4 \times 3 = 12$ marks)

15. State two characteristics of hormones.
16. Name the hormones of the anterior pituitary.
17. State the function of parathormone.
18. Explain negative feedback with one example.

Section D — Long Answers ($2 \times 5 = 10$ marks)

19. (a) Describe the other endocrine glands and their hormones. (b) Explain the two types of hormone action with examples.
20. (a) Describe the feedback control of hormone secretion. (b) Explain cretinism, dwarfism and acromegaly.

Answer Key (Marking Scheme)

- Q1 — (A) very small amounts. Q2 — (A) anterior pituitary. Q3 — (A) glucagon. Q4 — (A) parathormone. Q5 — (A) entering the cell and affecting gene expression. Q6 — (A) insulin. Q7 — (A) acromegaly. Q8 — (A) gastrointestinal tract.
- Q9 — Feedback control is the regulation of hormone secretion by the level of a substance or the hormone itself.
- Q10 — Diabetes mellitus (or any valid disorder).
- Q11 — In the sella turcica, below the hypothalamus.
- Q12 — Growth hormone (somatotropin).
- Q13 — Melatonin.
- Q14 — To measure hormone levels in blood.
- Q15 — Secreted in trace amounts; transported by blood and act on target cells.
- Q16 — GH, TSH, ACTH, FSH, LH and prolactin.
- Q17 — It raises blood calcium by acting on bone, kidney and gut.

Q18 — A rise in blood glucose increases insulin, which lowers glucose, reducing further insulin release.

Q19 — (a) Thymus (thymosins), pineal (melatonin), GI tract (gastrin, secretin, CCK), gonads (sex hormones). (b) Protein hormones: surface receptor + cyclic AMP; steroid hormones: intracellular receptor + gene expression.

Q20 — (a) Negative feedback maintains homeostasis, e.g. thyroid hormones inhibit TRH/TSH and insulin responds to glucose. (b) Cretinism (thyroxine deficiency in children), dwarfism (GH deficiency), acromegaly (GH excess in adults).