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Biology Grade 12 — Chapter 6

Endocrine System of Man

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Independent practice MCQs from the supplied Class 12 Biology notes pack. Total: 50 questions.

A. Important / Main Topics

1. Hormones are:

(A) Organic chemicals secreted by a cell
(B) Inorganic chemicals
(C) Enzymes
(D) Structural proteins

Correct Answer: A

Explanation: Hormones are organic chemicals secreted by a cell that coordinate different functions in the body by carrying messages through blood.

2. The coordination carried out by hormones is called:

(A) Nervous coordination
(B) Chemical coordination
(C) Synaptic coordination
(D) Reflex coordination

Correct Answer: B

Explanation: The hormonal system is concerned with control of the different metabolic functions of the body; this coordination is called chemical coordination.

3. The pituitary gland is located just below the:

(A) Thalamus
(B) Cerebellum
(C) Hypothalamus
(D) Medulla

Correct Answer: C

Explanation: Pituitary gland is located just below the hypothalamus.

4. The pituitary gland is attached to the hypothalamus by a stalk called the:

(A) Peduncle
(B) Isthmus
(C) Hilum
(D) Infundibulum

Correct Answer: D

Explanation: The pituitary gland is attached to the hypothalamus by a stalk called infundibulum.

5. How many lobes does the pituitary gland have?

(A) Three
(B) One
(C) Two
(D) Four

Correct Answer: A

Explanation: Pituitary gland is divided into three lobes: anterior, posterior, and median.

6. The anterior pituitary is considered the master gland because it:

(A) Is the largest gland
(B) Secretes hormones that regulate other endocrine glands
(C) Is located in the brain

(D) Produces only one hormone

Correct Answer: B

Explanation: The anterior pituitary is considered the master gland because it secretes numerous hormones, many of which regulate the.

7. Growth hormone is secreted by the:

(A) Thyroid gland
(B) Posterior pituitary
(C) Anterior pituitary
(D) Adrenal cortex

Correct Answer: C

Explanation: Growth hormone (GH) or Somatotrophic hormone (STH) is secreted by the anterior pituitary.

8. Deficiency of growth hormone in childhood results in:

(A) Gigantism
(B) Acromegaly
(C) Cretinism
(D) Dwarfism

Correct Answer: D

Explanation: Deficiency of GH results in Dwarfism in which development is much slower and individual has short stature.

9. The thyroid gland produces:

(A) T□, T□, and calcitonin
(B) Insulin and glucagon
(C) Cortisol and aldosterone
(D) Estrogen and progesterone

Correct Answer: A

Explanation: The thyroid gland produces T□, T□, and calcitonin.

10. The parathyroid glands secrete:

(A) Calcitonin
(B) Parathyroid hormone (PTH)
(C) Thyroxine
(D) Insulin

Correct Answer: B

Explanation: The parathormone is the single most important hormone of parathyroid controlling the calcium balance of the blood.

11. Insulin is secreted by:

(A) Alpha cells of islets of Langerhans
(B) Delta cells of islets of Langerhans
(C) Beta cells of islets of Langerhans
(D) Acinar cells of pancreas

Correct Answer: C

Explanation: Insulin is secreted by the Beta (β) cells of the islets of Langerhans.

12. Glucagon is secreted by:

(A) Beta cells of islets of Langerhans
(B) Delta cells of islets of Langerhans
(C) Acinar cells of pancreas
(D) Alpha cells of islets of Langerhans

Correct Answer: D

Explanation: Glucagon is secreted by alpha (α) cells of the islets of Langerhans.

13. The adrenal medulla secretes:

(A) Epinephrine and norepinephrine
(B) Cortisol and aldosterone
(C) Androgens
(D) Insulin

Correct Answer: A

Explanation: Epinephrine (adrenaline) and norepinephrine are produced by the adrenal medulla.

14. The female gonads are the:

(A) Testes
(B) Ovaries
(C) Uterus
(D) Fallopian tubes

Correct Answer: B

Explanation: Female gonads are ovaries while male gonads are testes.

15. The male sex hormone is:

(A) Estrogen
(B) Progesterone
(C) Testosterone
(D) Oxytocin

Correct Answer: C

Explanation: Testes produce sperm and male sex hormones called testosterone.

16. What is the function of antidiuretic hormone (ADH)?

(A) Promotes sodium excretion
(B) Increases heart rate
(C) Promotes growth
(D) Promotes water retention

Correct Answer: D

Explanation: ADH is produced during the state of dehydration, decreased blood volume and low blood pressure; it promotes water retention.

17. What is the function of oxytocin?

(A) Stimulates uterine contractions and milk ejection
(B) Promotes water retention
(C) Promotes growth
(D) Regulates calcium

Correct Answer: A

Explanation: Oxytocin is released during childbirth and in nursing women; it stimulates uterine contractions and promotes milk ejection.

18. What is the function of thyroid stimulating hormone (TSH)?

(A) Stimulates adrenal cortex
(B) Stimulates thyroid gland
(C) Stimulates growth
(D) Stimulates milk production

Correct Answer: B

Explanation: Stimulates thyroid gland — this correctly answers the question.

19. What is the function of adrenocorticotropic hormone (ACTH)?

(A) Stimulates thyroid gland
(B) Stimulates growth
(C) Stimulates adrenal cortex
(D) Stimulates milk production

Correct Answer: C

Explanation: Stimulates adrenal cortex — this correctly answers the question.

20. What is the function of follicle stimulating hormone (FSH)?

(A) Regulates calcium
(B) Regulates metabolism
(C) Regulates water balance
(D) Regulates reproductive system

Correct Answer: D

Explanation: Regulates reproductive system — this correctly answers the question.

21. What is the function of luteinising hormone (LH)?

(A) Regulates reproductive system
(B) Regulates calcium
(C) Regulates metabolism
(D) Regulates water balance

Correct Answer: A

Explanation: Regulates reproductive system — this correctly answers the question.

22. What is the function of prolactin?

(A) Regulates calcium
(B) Regulates reproductive system
(C) Regulates metabolism
(D) Regulates water balance

Correct Answer: B

Explanation: Regulates reproductive system — this correctly answers the question.

23. What is the function of melanocyte stimulating hormone (MSH)?

(A) Stimulates thyroid
(B) Stimulates growth
(C) Stimulates melanin production
(D) Stimulates milk production

Correct Answer: C

Explanation: Stimulates melanin production — this correctly answers the question.

24. What is the function of calcitonin?

(A) Increases blood calcium
(B) Increases blood glucose
(C) Decreases blood glucose
(D) Decreases blood calcium

Correct Answer: D

Explanation: Decreases blood calcium — this correctly answers the question.

25. What is the function of parathyroid hormone (PTH)?

(A) Increases blood calcium
(B) Decreases blood calcium
(C) Increases blood glucose
(D) Decreases blood glucose

Correct Answer: A

Explanation: Increases blood calcium — this correctly answers the question.

B. Less Important / Secondary Topics

26. What is the function of insulin?

(A) Lowers blood glucose
(B) Raises blood glucose
(C) Increases blood calcium

(D) Decreases blood calcium

Correct Answer: A

Explanation: Lowers blood glucose — this correctly answers the question.

27. What is the function of glucagon?

(A) Lowers blood glucose
(B) Raises blood glucose
(C) Increases blood calcium
(D) Decreases blood calcium

Correct Answer: B

Explanation: Raises blood glucose — this correctly answers the question.

28. What is the function of cortisol?

(A) Regulates calcium
(B) Regulates water balance
(C) Regulates blood glucose
(D) Regulates growth

Correct Answer: C

Explanation: Regulates blood glucose — this correctly answers the question.

29. What is the function of aldosterone?

(A) Regulates blood glucose
(B) Regulates calcium
(C) Regulates growth
(D) Regulates salt and water balance

Correct Answer: D

Explanation: Regulates salt and water balance — this correctly answers the question.

30. What is the function of estrogen?

(A) Secondary sex characteristics in females
(B) Male sex characteristics
(C) Regulates calcium
(D) Regulates water balance

Correct Answer: A

Explanation: Estrogen is responsible for secondary sex characteristics in females.

31. What is the function of progesterone?

(A) Male sex characteristics
(B) Maintains pregnancy
(C) Regulates calcium
(D) Regulates water balance

Correct Answer: B

Explanation: Progesterone causes further thickening and vascularisation of the uterus wall for maintaining state of pregnancy.

32. What is the function of testosterone?

(A) Female sex characteristics
(B) Regulates calcium
(C) Male sex characteristics and sperm production
(D) Regulates water balance

Correct Answer: C

Explanation: Male sex characteristics and sperm production — this correctly answers the question.

33. What is the function of the hypothalamus in the endocrine system?

(A) It produces insulin
(B) It produces thyroid hormones

(C) It produces cortisol
(D) It controls the pituitary gland

Correct Answer: D

Explanation: The hypothalamus is the master control centre of the endocrine system; its endocrine signals directly control the pituitary gland.

34. What is a feedback mechanism?

(A) A controlling mechanism controlled by its product
(B) A mechanism that produces hormones
(C) A mechanism that destroys hormones
(D) A mechanism that stores hormones

Correct Answer: A

Explanation: A feedback mechanism is a type of interaction in which a controlling mechanism is itself controlled by the product of reactions it is controlling.

35. What is positive feedback?

(A) An end product slows down its production
(B) An end product speeds up its production
(C) An end product has no effect
(D) An end product destroys the gland

Correct Answer: B

Explanation: An end product speeds up its production — this correctly answers the question.

36. A patient has a tumor in the anterior pituitary that causes excessive GH secretion in adulthood. Which of the following is the most likely consequence?

(A) Gigantism
(B) Dwarfism
(C) Acromegaly
(D) Cretinism

Correct Answer: C

Explanation: Acromegaly — this correctly answers the question.

37. A patient has a deficiency of ADH. Which of the following is the most likely consequence?

(A) Diabetes mellitus
(B) Gigantism
(C) Acromegaly
(D) Diabetes insipidus

Correct Answer: D

Explanation: Diabetes insipidus — this correctly answers the question.

38. A patient has a deficiency of insulin. Which of the following is the most likely consequence?

(A) Diabetes mellitus
(B) Diabetes insipidus
(C) Gigantism
(D) Acromegaly

Correct Answer: A

Explanation: Diabetes mellitus — this correctly answers the question.

39. A patient has a deficiency of parathyroid hormone. Which of the following is the most likely consequence?

(A) Hypercalcemia
(B) Hypocalcemia and tetany
(C) Hyperglycemia
(D) Hypoglycemia

Correct Answer: B

Explanation: Under secretion of parathormone causes hypocalcemia, which increases the excitability of neurons and can lead to tetany.

40. A patient has an over secretion of parathyroid hormone. Which of the following is the most likely consequence?

(A) Hypocalcemia and tetany
(B) Hyperglycemia
(C) Hypercalcemia and kidney stones
(D) Hypoglycemia

Correct Answer: C

Explanation: Hypercalcemia and kidney stones — this correctly answers the question.

41. A patient has Graves' disease. Which of the following is the most likely cause?

(A) Under secretion of T□ and T□
(B) Over secretion of insulin
(C) Under secretion of insulin
(D) Over secretion of T□ and T□

Correct Answer: D

Explanation: Over secretion of T□ and T□ — this correctly answers the question.

42. A patient has myxedema. Which of the following is the most likely cause?

(A) Under secretion of thyroxin
(B) Over secretion of thyroxin
(C) Over secretion of insulin
(D) Under secretion of insulin

Correct Answer: A

Explanation: In adults, the full-blown hypothyroid syndrome is called myxedema, caused by under secretion of thyroxin.

43. A patient has Cushing's disease. Which of the following is the most likely cause?

(A) Under secretion of cortical hormones
(B) Over secretion of cortical hormones
(C) Over secretion of insulin
(D) Under secretion of insulin

Correct Answer: B

Explanation: Over secretion of cortical hormones — this correctly answers the question.

44. A patient has Addison's disease. Which of the following is the most likely cause?

(A) Over secretion of cortical hormones
(B) Over secretion of insulin
(C) Under secretion of cortical hormones
(D) Under secretion of insulin

Correct Answer: C

Explanation: Under secretion of cortical hormones — this correctly answers the question.

45. Which of the following correctly describes the negative feedback mechanism?

(A) End products amplify the change
(B) End products have no effect
(C) End products destroy the gland
(D) End products reverse the direction of change

Correct Answer: D

Explanation: End products reverse the direction of change — this correctly answers the question.

46. Which of the following correctly describes the positive feedback mechanism?

(A) End products amplify the change
(B) End products reverse the change

(C) End products have no effect
(D) End products destroy the gland

Correct Answer: A

Explanation: End products amplify the change — this correctly answers the question.

47. Which of the following correctly describes the role of oxytocin in positive feedback?

(A) It inhibits uterine contractions
(B) It stimulates uterine contractions
(C) It regulates blood glucose
(D) It regulates calcium

Correct Answer: B

Explanation: Oxytocin stimulates more and stronger uterine contractions, which is an example of positive feedback.

48. Which of the following correctly describes the role of insulin in negative feedback?

(A) It raises blood glucose
(B) It increases blood calcium
(C) It lowers blood glucose
(D) It decreases blood calcium

Correct Answer: C

Explanation: It lowers blood glucose — this correctly answers the question.

49. Which of the following correctly describes the role of glucagon in negative feedback?

(A) It lowers blood glucose
(B) It increases blood calcium
(C) It decreases blood calcium
(D) It raises blood glucose

Correct Answer: D

Explanation: It raises blood glucose — this correctly answers the question.

50. Which of the following correctly describes the role of the hypothalamus in thermoregulation?

(A) It acts as a thermostat
(B) It produces insulin
(C) It produces thyroid hormones
(D) It produces cortisol

Correct Answer: A

Explanation: The thermoregulatory center in the human body is located in the hypothalamus, which acts as a thermostat.