

Chemical Coordination and Integration test paper

1. Which of the following statements is correct?

- a) Endocrine glands regulate neural activity, but not vice versa
 b) Neurons regulate endocrine activity, but not vice versa
 c) Endocrine glands regulate neural activity, and nervous system regulates endocrine glands
 d) Neither hormones control neural activity nor the neurons control endocrine activity

2. Which one of the following is not a secondary messenger in hormone action?

- a) cAMP b) cGMP c) Calcium d) Sodium

3. A steroid hormone which regulates glucose metabolism is

- a) cortisone b) cortisol c) corticosterone d) 11-deosycorticosterone

4. Which of the following is an accumulation and release centre of neurohormones?

- a) Anterior pituitary lobe b) Posterior pituitary lobe c) Intermediate lobe of the pituitary d) Hypothalamus

5. Which hormone causes dilation of blood vessels, increased oxygen consumption and glycogenolysis?

- a) Glucagon b) ACTH c) Insulin d) Adrenaline

6. A person is having problems with calcium and phosphorus metabolism in his body. Which one of the following glands may not be functioning properly?

- a) Parotid b) Pancreas c) Thyroid d) Parathyroid

7. Feeling the tremors of an earthquake a scared resident of seventh floor of a multistoried building starts climbing down the stairs rapidly. Which hormone initiated this action?

- a) Adrenaline b) Glucagon c) Gastrin d) Thyroxine

8. Which one of the following pairs of organs includes only the endocrine glands?

- a) Thymus and testes b) Adrenal and ovary c) Parathyroid and adrenal d) Pancreas and parathyroid

9. The blood calcium level is lowered by the deficiency of

- a) both calcitonin and parathormone b) calcitonin c) parathormone d) thyroxine

10. A health disorder that results from the deficiency of thyroxine in adults and characterized by (i) a low metabolic rate, (ii) increase in body weight and (iii) tendency to retain water in tissues is

- a) simple goitre b) myxoedema c) cretinism d) hypothyroidism

11. Injury to adrenal cortex is not likely to affect the secretion which one the of following of?

- a) Aldosterone b) Both androstenedione and dehydroepiandrosterone c) Adrenaline d) Cortisol

12. Low Ca^{++} in the body fluid may be the cause of

- a) tetany b) anaemia c) angina pectoris d) gout

13. Which one of the following pairs is incorrectly matched?

- a) Glucagon – Beta cells (source) b) Somatostatin – Delta cells (source)
 c) Corpus luteum – Relaxin (secretion) d) Insulin – Diabetes mellitus (disease)

14. Select the correct matching of a hormone, its source and function.

	Hormone	Source	Function
(a)	Vasopressin	Posterior pituitary	Increases loss of water through urine
(b)	Norepinephrine	Adrenal medulla	Increases heart beat rate of respiration and alertness
(c)	Glucagon	Beta-cells of Islets of Langerhans	Stimulates glycogenolysis
(d)	Prolactin	Posterior pituitary	Regulates growth of mammary glands and milk formation in females

15. Match the source gland with its respective hormone and function and select the correct option.

	Source gland	Hormone	Function
(a)	Anterior pituitary	Oxytocin	Contraction of uterus muscles during child birth
(b)	Posterior pituitary	Vasopressin	Stimulates resorption of water in the distal tubules in the nephron
(c)	Corpus luteum	Oestrogen	Supports pregnancy
(d)	Thyroid	Thyroxin	Regulates blood calcium level

16. The 24 hour (diurnal) rhythm of our body such as the sleep wake cycle is regulated by the hormone

- a) Calcitonin b) prolactin c) adrenaline d) melatonin

17. A person entering an empty room suddenly finds a snake right in front on opening the door. Which one of the following is likely to happen in his neuro-hormonal control system?

- a) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal medulla
- b) Neurotransmitters diffuse rapidly across the cleft and transmit a nerve impulse
- c) Hypothalamus activates the parasympathetic division of brain
- d) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal cortex

18. Which one of the following pairs of hormones are the examples of those that can easily pass through the cell membrane of the target cell and bind to a receptor inside it (mostly in the nucleus)?

- a) Insulin, glucagon
- b) Thyroxine, insulin
- c) Somatostatin, oxytocin
- d) Cortisol, testosterone

19. What is correct to say about the hormone action in humans?

- a) Glucagon is secreted by β -cells of islets of Langerhans and stimulates glycogenolysis
- b) Secretion of thymosins is stimulated with aging
- c) In females, FSH first binds with specific receptors on ovarian cell membrane
- d) FSH stimulates the secretion of estrogen and progesterone

20. Which of the following statements is correct in relation to the endocrine system?

- a) Non-nutrient chemicals produced by the body in trace amounts that act as intercellular messenger are known as hormones
- b) Releasing and inhibitory hormones are produced by the pituitary gland
- c) Adenohypophysis is under direct neural regulation of the hypothalamus
- d) Organs in the body like gastrointestinal tract, heart, kidney and liver do not produce any hormones

21. A pregnant female delivers a baby who suffers from stunted growth, mental retardation, low intelligence quotient and abnormal skin.

- a) cancer of the thyroid gland
- b) over secretion of pars distalis
- c) deficiency of iodine in diet
- d) low secretion of growth hormone

22. Identify the hormone with its correct matching of source and function

- a) Oxytocin – posterior pituitary, growth and maintenance of mammary glands
- b) Melatonin – pineal gland, regulates the normal rhythm of sleepwake cycle
- c) Progesterone – corpus luteum, stimulation of growth and activities of female secondary sex organs
- d) Atrial natriuretic factor – ventricular wall, increases the blood pressure

23. Fight-or-flight reactions cause activation of

- a) the parathyroid glands, leading to increased metabolic rate
- b) the kidney, leading to suppression of rennin angiotensin-aldosterone pathway
- c) the adrenal medulla, leading to increased secretion of epinephrine and norepinephrine
- d) the pancreas leading to a reduction in the blood sugar levels

24. A chemical signal that has both endocrine and neural roles is

- a) epinephrine
- b) cortisol
- c) melatonin
- d) calcitonin

25. Which one of the following hormones is not involved in sugar metabolism?

- a) Insulin
- b) Glucagon
- c) Cortisone
- d) Aldosterone

26. Which of the following hormones though synthesized elsewhere, is stored and released by the master gland?

- a) Prolactin
- b) Melanocyte stimulating hormone
- c) Antidiuretic hormone
- d) Luteinizing hormone

27. The ‘amino acid derivative’ among the following hormone is

- a) insulin
- b) epinephrine
- c) oestradiol
- d) testosterone

28. Which of the following hormones of the human body regulate the blood calcium and phosphate?

- a) Glucagon
- b) Growth hormone
- c) Parathyroid hormone
- d) Thyroxine

29. The gland which performs both endocrine and exocrine function is

- a) adrenal
- b) thyroid
- c) pancreas
- d) pituitary

30. Which is not a symptom of exophthalmic goiter?

- a) Degenerating sex organs
- b) Protrusion of eyeball
- c) Frightened look to the patient
- d) none of these

31. Which gland secretes the most kinds of hormones?

- a) Adrenals
- b) Hypothalamus
- c) Pituitary
- d) Thyroid

32. Which hormone/gland acts in biological clocks?

- a) Thyroid b) Thymus c) Adrenal d) Pineal

33. The releasing hormones are produced by

- a) Testis b) Pancreas c) Pituitary d) Hypothalamus

34. Somatostatin

- a) stimulates glucagon release while inhibits insulin release b) stimulates the release of insulin and glucagon
c) inhibits the release of insulin and glucagon d) inhibits glucagon release while stimulates insulin release

35. Insufficient quantities of antidiuretic hormone in blood lead to

- a) diabetes mellitus b) glycosuria c) diabetes insipidus d) uremia

36. Thymosin hormone is secreted by

- a) thyroid gland b) parathyroid gland c) thymus gland d) hypothalamus

37. Melanocyte stimulating Hormone (MSH) is produced by

- a) anterior pituitary b) posterior pituitary c) pars intermedia of pituitary d) parathyroid

38. The cause of cretinism is

- a) hypothyroidism b) hypoparathyroidism c) hyperthyroidism d) hyperparathyroidism

39. Which of the following is a mineralocorticoid?

- a) Testosterone b) progesterone c) Adrenaline d) Aldosterone

40. Calcium level decreases in the blood due to the hyosecretion of

- a) parathyroid hormone b) calcitonin c) thyroxine d) adrenaline

41. Tetany is caused by

- a) hyperparathyroidism b) hypoparathyroidism c) hyperthyroidism d) hypothyroidism

42. Which of the following is a gastrointestinal hormone?

- a) Prolactin b) Enterogastrone c) GH d) FSH

43. Due to this, swelling around eyes, and large and popping eye balls are observed in an individual who has

- a) less secretion of thyroxine in adult b) excessive secretion of thyroxine
c) excessive secretion of calcitonin d) less secretion of thyroxine right from birth

44. Which regulates cell division, protein synthesis and growth of the bone?

- a) Prolactin b) Somatotropic hormone c) TSH d) MSH

45. Due to deficiency of which hormone, bones becomes weak in female?

- a) ACTH b) TSH c) Progesterone d) Oestrogen

46. Which one is not a placental hormone?

- a) hCG b) hCS c) Progesterone d) Melatonin

47. ADH deficiency show which of the following condition?

- a) Polydipsia b) Polyuria c) Both polydipsia and polyuria d) Glucosuria

48. Glucagon is secreted by

- a) beta cells of pancreas b) betas cells of islets of Langerhans
c) alpha cells of pancreas d) adrenal cortex

49. In human adult females, oxytocin

- a) is secreted by anterior pituitary b) stimulates growth of mammary glands
c) stimulates pituitary to secrete vasopressin d) causes string uterine contractions during parturition

50. Which one of the following pairs of organs includes only the endocrine glands?

- a) Parathyroid and adrenal b) Pancreas and parathyroid c) Thymus and testes d) Adrenal and ovary

51. LH and FSH are collectively called

- a) oxytocin b) somatotropins c) luteotrophic d) gonadotropins

52. During emergency, which of the following hormone is secreted?

- a) Aldosterone b) Thyroxine c) Adrenaline d) Calcitonin

53. The effect caused by non-functioning of islets of Langerhans is

- a) heart beat rate increase b) increased BMR c) hyperglycaemia d) tetany

54. Structure involved in Addison's disease is

- a) adrenal medulla b) adrenal cortex c) thyroid d) pituitary

55. Intercellular communication in multicellular organism occurs through

- a) digestive system only b) respiratory system only
c) nervous system only d) Both nervous and endocrine system

56. Thyroid deficiency in infant leads to

- a) hypothyroidism b) myxoedema c) cretinism d) thyrotoxicosis

57. Mammalian prolactin is secreted by

- a) adenohypophysis b) neurohypophysis c) adrenal cortex d) adrenal medulla

58. Chromophil cells are found in

- a) anterior pituitary b) adrenal cortex c) thymus d) testes

59. Acromegaly is due to hypersecretion of

- a) insulin b) thyroxine c) growth hormone d) none of these

60. Follicle stimulating hormone is secreted by

- a) anterior lobe of pituitary b) hypothalamus c) gonads d) posterior lobe of pituitary

Answer key: 20 Chemical Coordination and Integration

Q no.	Ans	Q no.	Ans	Q no.	Ans	Q no.	Ans	Q no.	Ans	Q no.	Ans
1	c	11	c	21	c	31	c	41	b	51	d
2	d	12	a	22	b	32	d	42	b	52	c
3	b	13	a	23	c	33	d	43	a	53	c
4	d	14	b	24	a	34	c	44	b	54	b
5	d	15	b	25	d	35	c	45	d	55	d
6	d	16	d	26	c	36	c	46	d	56	c
7	a	17	a	27	b	37	c	47	c	57	a
8	c	18	d	28	c	38	a	48	c	58	a
9	c	19	c	29	c	39	d	49	d	59	c
10	b	20	a	30	a	40	a	50	a	60	a