CHAPTER 9

Chemical Coordination and Integration

Hypothalamus, Pituitary Gland, Pineal Gland

1. Hormones stored and released from neurohypophysis are: *(2020-Covid)*

a. Oxytocin and Vasopressin
b. Follicle stimulating hormone and Leutinizing hormone
c. Prolactin and Vasopressin
d. Thyroid stimulating hormone and oxytocin

2. Hypersecretion of growth hormone in adults does not cause further increase in height, because **[OS]** *(2017-Delhi)*

a. Growth hormone becomes inactive in adults
b. Epiphyseal plates close after adolescence
c. Bones loose their sensitivity to growth hormone in adults
d. Muscle fibres do not grow in size after birth

3. GnRH, a hypothalamic hormone, needed in reproduction, acts on *(2017-Delhi)*

a. Anterior pituitary gland and stimulates secretion of LH and oxytocin
b. Anterior pituitary gland and stimulates secretion of LH and FSH
c. Posterior pituitary gland and stimulates secretion of oxytocin and FSH
d. Posterior pituitary gland and stimulates secretion of LH and relaxin

4. The posterior pituitary gland is not a 'true' endocrine gland because: *(2016 - II)*

a. It is under the regulation of hypothalamus
b. It secretes enzymes
c. It is provided with a duct
d. It only stores and releases hormones

5. Which one of the following hormones though synthesised elsewhere is stored and released by the master gland? *(2015 Re)*

a. Luteinising hormone
b. Prolactin
c. Melanocyte stimulating hormone
d. Antidiuretic hormone

Thyroid, Parathyroid, Thymus

6. Which of the following are not the effects of Parathyroid hormone? *(2022)*

A. Stimulates the process of bone resorption
B. Decrease Ca^{2+} level in blood
C. Reabsorption of Ca^{2+} by renal tubules
D. Decrease the absorption of Ca^{2+} from digested food
E. Increases metabolism of carbohydrates

Choose the most appropriate answer from the options given below:

a. B and C only
b. A and C only
c. B, D and E only
d. A and E only

7. Which of the following hormones can play a significant role in osteoporesis? *(2018)*

a. Aldosterone and Prolactin
b. Progesterone and Aldosterone
c. Estrogen and Parathyroid hormone
d. Parathyroid hormone and Prolactin

8. Thymosin is responsible for: *(2017-Delhi)*

a. Decreased production of T-lymphocytes
b. Inhibiting the production of antibodies
c. Decreasing the blood calcium level in old individuals
d. Increased production of T-lymphocytes

9. Identify the hormone with its correct matching of source and function: *(2014)*

a. Atrial natriuretic factor: Ventricular wall, increases the blood pressure
b. Oxytocin: Posterior pituitary, growth and maintenance of mammary glands
c. Melatonin: Pineal gland, regulates the normal rhythm of sleep wake cycle
d. Progesterone: Corpus-luteum, stimulation of growth and activities of female secondary sex organs

10. A pregnant female delivers a baby who suffers from stunted growth, mental retardation, low intelligence quotient and abnormal skin. This is the result of: *(2013)*

a. Over-secretion of pars distalis
b. Deficiency of iodine in diet
c. Low secretion of growth hormone
d. Cancer of the thyroid gland

Adrenal gland, Pancreas

11. Presence of which of the following conditions in urine are indicative of Diabetes Mellitus? *(2020)*

a. Uremia and Renal Calculi
b. Ketonuria and Glycosuria
c. Renal calculi and Hyperglycaemia
d. Uremia and Ketonuria

12. Match the following columns and select the correct option. *(2020)*

Column-I		Column-II	
1.	Pituitary gland	(i)	Grave's disease
2.	Thyroid gland	(ii)	Diabetes mellitus
3.	Adrenal gland	(iii)	Diabetes insipidus
4.	Pancreas	(iv)	Addision's disease

	(1)	(2)	(3)	(4)
a.	(iii)	(ii)	(i)	(iv)
b.	(iii)	(i)	(iv)	(ii)
c.	(ii)	(i)	(iv)	(iii)
d.	(iv)	(iii)	(i)	(ii)

13. Which of the following would help in prevention of diuresis? *(2020)*

a. Reabsorption of Na^+ and water from renal tubules due to aldosterone
b. Atrial natriuretic factor causes vasoconstriction
c. Decrease in secretion of renin by JG cells
d. More water reabsorption due to undersecrtion of ADH

14. Select the correct statement *(2020)*

a. Glucagon is associated with hypoglycemia.
b. Insulin acts on pancreatic cells and adipocytes.
c. Insulin is associated with hyperglycemia.
d. Glucocorticoids stimulate gluconeogenesis.

15. Match the following hormones with the respective disease *(2019)*

A. Insulin	i. Addison's disease
B. Thyroxin	ii. Diabetes insipidus
C. Corticoids	iii. Acromegaly
D. Growth Hormone	iv. Goitre
	v. Diabetes mellitus

Select the correct option.

	(A)	(B)	(C)	(D)
a.	(v)	(i)	(ii)	(iii)
b.	(ii)	(iv)	(iii)	(i)
c.	(v)	(iv)	(i)	(iii)
d.	(ii)	(iv)	(i)	(iii)

16. Graves' disease is caused due to: **[OS]** *(2016 - II)*

a. Hyposecretion of adrenal gland
b. Hypersecretion of adrenal gland
c. Hyposecretion of thyroid gland
d. Hypersecretion of thyroid gland

17. A chemical signal that has both endocrine and neural roles is: *(2015)*

a. Epinephrine
b. Cortisol
c. Melatonin
d. Calcitonin

18. Which one of the following hormones is not involved in sugar metabolism? *(2015 Re)*

a. Aldosterone
b. Insulin
c. Glucagon
d. Cortisone

19. Fight-or-flight reactions cause activation of: *(2014)*

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

Testis, Ovary, Hormones of Heart, Kidney and GI Tract

20. Erythropoietin hormone which stimulates R.B.C. formation is produced by: *(2021)*

a. The cells of rostral adenohypophysis
b. The cells of bone marrow
c. Juxtaglomerular cells of the kidney
d. Alpha cells of pancreas.

21. Match the following columns and select the correct option: *(2020-Covid)*

Column-I		Column-II	
1.	Ovary	(i)	Human chorionic Gonadotropin
2.	Placenta	(ii)	Estrogen & Progesterone
3.	Corpus luteum	(iii)	Androgens
4.	Leydig cells	(iv)	Progesterone only

Select the correct option from following:

	(1)	(2)	(3)	(4)
a.	(i)	(ii)	(iii)	(iv)
b.	(i)	(iii)	(ii)	(iv)
c.	(ii)	(i)	(iv)	(iii)
d.	(iv)	(iii)	(ii)	(i)

22. Which of the following pairs of hormones are not antagonistic (having opposite effects) to each other? *(2016 - I)*

a.	Parathormone	-	Calcitonin
b.	Insulin	-	Glucagon
c.	Aldosterone	-	Atrial Natriuretic Factor
d.	Relaxin	-	Inhibin

23. Which hormones do stimulate the production of pancreatic juice and bicarbonate? *(2016 - II)*

a. Cholecystokinin and secretin
b. Insulin and glucagon
c. Angiotensin and epinephrine
d. Gastrin and insulin

24. Which of the following statement is correct in relation to the endocrine system? *(2013)*

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

25. Which one of the following is not the function of placenta? *(2013)*

a. Secretes oxytocin during parturition
b. Facilitates supply of oxygen and nutrients to embryo
c. Secretes estrogen
d. Facilitates removal of carbon dioxide and waste material from embryo

Mechanism of Hormone Action

26. Match the following columns and select the correct option: *(2020-Covid)*

Column-I		Column-II	
1.	Pituitary hormone	(i)	Steroid
2.	Epinephrine	(ii)	Neuropeptides
3.	Endorphins	(iii)	Peptides, proteins
4.	Cortisol	(iv)	Biogenic amines

	(1)	(2)	(3)	(4)
a.	(iii)	(iv)	(ii)	(i)
b.	(iv)	(iii)	(i)	(ii)
c.	(iii)	(iv)	(i)	(ii)
d.	(iv)	(i)	(ii)	(iii)

27. How does steroid hormone influence the cellular activities? *(2019)*

a. Changing the permeability of the cell membrane
b. Binding to DNA and forming a gene-hormone complex
c. Activating cyclic AMP located on the cell membrane
d. Using aquaporin channels as second messenger

28. Which of the following is an amino acid derived hormone? *(2018)*

a. Epinephrine
b. Ecdysone
c. Estradiol
d. Estriol

29. Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilisation. *(2016 - II)*

a. Secretin
b. Gastrin
c. Insulin
d. Glucagon

30. The amino acid Tryptophan is the precursor for the synthesis of: *(2016 - I)*

a. Melatonin and Serotonin
b. Thyroxine and Triiodothyronine
c. Estrogen and Progesterone
d. Cortisol and Cortisone

Answer Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
a	b	b	d	d	c	c	d	c	b	b	b	a	d	c	d	a

18	19	20	21	22	23	24	25	26	27	28	29	30
a	d	c	c	d	a	d	a	a	b	a	c	a