

## Unit-V

## Chapter 25. Chemical Coordination and Control

## IMPORTANT POINTS

Animals maintain dynamic equilibrium amongst different physiological processes. Endocrine glands play an important role in regulating various physiological processes, in constantly changing environment. ADH secretion either stops or decreases, when water amount in body increases. Hence concentration of urine decrease and surplus water of body is **removed**. When sugar in blood increases, immediately insulin will convert this surplus glucose into glycogen and minimum required glucose level of the blood is maintained. Endocrine glands are ductless gland, its secretion is poured in the blood. Endocrine glands are very specific vary greatly in their location, embryonic origin and functions.

Pituitary gland and pineal gland are found in head region. Thyroid gland is present in neck, Thymus gland is present in thoracic region, Adrenal gland and ovary are present in abdominal region. Testes are present outside body in scrotum (As development of sperm require comparatively less temperature, than normal body temperature).

The secretions of endocrine glands are different from each other in their chemical nature. Hormones of Pituitary, Pineal and cells of islet of Langerhans are chemically peptide or polypeptide and protein. Hormones of adrenal cortex are steroids. Epinephrine (Hormone of adrenal) is derivative of amino acid.

Hypothalamus regulate secretion of anterior pituitary gland through various releasing hormones (RH). Posterior pituitary lobes hormone are secreted by hypothalamus neurons directly Other than GH, every hormone of anterior pituitary stimulates some other gland of body to release its hormone, Hence these hormones are called tropic hormone. GH directly act on the cells and tissues and regulates their growth. Pineal glands secretion mainly regulates 24 hours rhythm of body

Hormones of thyroid gland [Thyroxine, T<sub>4</sub>] controls processes like carbohydrate metabolism. ATP synthesis and osteoblast. Hormones of parathyroid gland regulate Ca<sup>2+</sup> level in blood. Thymus gland atrophies in adult, its hormone provide immunity to the body. they stimulate development and differentiation of T-lymphocytes. It also gives humoral immunity and stimulates antibody production.

The adrenal gland is present in abdominal region and it is divided into two distinct regions; cortex and medulla. Hormones of cortex regulates carbohydrate metabolism and osmoregulation, Glucocorticoids of cortex region regulates carbohydrate metabolism, mineralocorticoids of cortex region regulates level of water and mineral ions. Sex corticoids of adrenal cortex enhances secondary sexual characters. Adrenal medulla secretion epinephrine and non-epinephrine, which are called catecholamine. All physiological changes, which arise in stress conditions are under the effect of these hormones. Cells of islet of Langerhans make endocrine part of pancreas. Insulin and glucagon are secreted by endocrine part of pancreas and they regulate sugar level in blood.

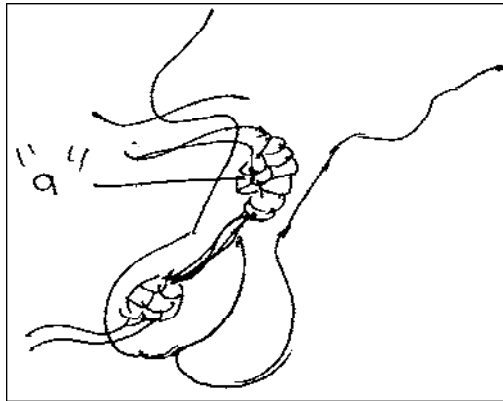
Ovary and testes are endocrine glands. Ovary secretes Estrogen, progesterone and relaxin. Testes secretes androgens. Testosterone is the most potent hormone. These hormone regulates expression of secondary sexual characteristics.

Other endocrine gland, there are several non-endocrine cells/ tissues known to secrete certain secretions, which are known as growth factors. these growth factors have role in general growth and the process like regeneration. ANF (secreted by atrial wall of heart). Erythropoietin (secreted by JGA), CCK, GIP (secreted by gastro-intestinal wall) are examples of growth factors. Precisely hormones are chemical messengers, which regulates growth and development by accelerating or inhibiting enzyme activity.

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**For the given questions select the correct option (a, b, c, d) each carries one mark.**

- By which structure, hypothalamus is connected with anteriore lobe of pituitary gland?  
 (a) Dendrites of neurohypophysis (b) Axons of neurohypophysis  
 (c) Bands of white fibres from cerebellar region (d) Hypophysial portal system
- What does "a" indicate in the given diagram?



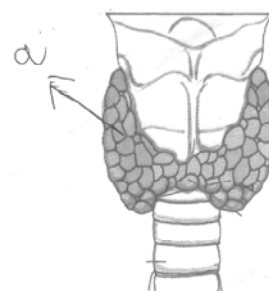
- Arterial circulation (b) Portal circulation  
 (c) Hypothalamus glomerulus (d) None of the given
- If secretory cells of GHRH are damaged then .....  
 (a) The process of cell division will be adversely affected  
 (b) Urine amount will increase  
 (c) Sugar level in blood increases  
 (d) ADH secretion will increase
  - Pituitary gland is located in a, which is b of c bone?  
 (A) a = Sella turcica  
     b = Raised surface  
     c = Ethmoid  
 (B) a = Reket's pouch  
     b = Depression  
     c = Nasal  
 (C) a = Sella turcica  
     b = Depression  
     c = Sphenoid  
 (D) a = Reket's pouch  
     b = Depression  
     c = Sphenoid
  - Which of the following hormone is directly acting on tissue cells?  
 (a) STH (b) TSH (c) LTH (d) ACTH

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6. Which of the following is not effect of GH?  
 (a) Dwarfism (b) Cretinism (c) Development of all tissue (d) Giantism
7. Which of the following is correct for somatotrophic hormone?  
 (a) Less secretions of it causes Giantism  
 (b) More secretion of it causes Dwarfism  
 (c) Optimal secretion of it can retards protein synthesis  
 (d) In adult, its more secretion causes enlargement of lower jaw
8. Write full form of ACTH?  
 (a) Adrenal Cortical Tropic hormone (b) Adrenocortico Target hormone  
 (c) Adrenocortex Tropic hormone (d) Adrenocortico Tropic hormone
9. Which of the following option indicates correctly matched pairs for the column I and column II
- | Column I     | Column II                                 |           |          |
|--------------|---|-----------|----------|
| (p) PH       | (i) Contraction of smooth muscles of body |           |          |
| (q) LH       | (ii) Secretion of Glucocorticoids         |           |          |
| (r) ACTH     | (iii) Secretion of milk after delivery    |           |          |
| (s) Oxytocin | (iv) Secretion of male sex hormone        |           |          |
| (a)(p - i)   | (q - ii)                                  | (r - iii) | (s - iv) |
| (b)(p - iii) | (q - iv)                                  | (r - ii)  | (s - i)  |
| (c)(p - ii)  | (q - iii)                                 | (r - iv)  | (s - i)  |
| (d)(p - iii) | (q - iv)                                  | (r - i)   | (s - ii) |
10. Which of the following are effects of Vasopressin?  
 (a) Incresed glucose level  
 (b) High BMR  
 (c) Accumulation of fat under skin  
 (d) Reabsorption of water and electrolytes
11. Which of the following option is correct for the location of pineal gland?  
 (a) Under corpus callosum and between cerebral hemisphere  
 (b) Above corpus callosum and between cerebral hemisphere  
 (c) Under corpus collosum and between cerebellar hemisphere  
 (d) Lateral to cerebellar hemisphere
12. Which hormone regulate 24-hr rhythm of our body?  
 (a) Somatotrophic (b) LTH (c) Melatonin (d) T4 and T3
13. It is correct for the function of pineal gland?  
 (a) To maintain ovarian follicle  
 (b) Self defense capability  
 (c) To maintain mineral ions in body  
 (d) Loss of water from body

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14. It stimulates reabsorption of water from distal tubule of kidney  
 (a) ADH (b) Oxytocin  
 (c) Glucagon (d) None of the given
15. Which cells are present on the wall of thyroid follicle?  
 (a) Squamous (b) Cuboidal  
 (c) Columnar (d) Ciliated squamous
16. Which of the following shows abnormality in skin, stunted growth and deaf-mutism?  
 (a) Exophthalmic goiter  
 (b) Hypothroidism, myxoedema  
 (c) Hypothroidism, cretinism  
 (d) Hyperthyroidism, cretinism
17. Which of the following causes formation of osteoblast?  
 (a) Thyroxine (b) PTH (c) Thyrocalcitonin (d) T3
18. What is cause of exophthalmic goiter?  
 (a) Less secretion of thyroid (b) Under secretion of parathyroid  
 (c) Oversecretion of parathyroid (d) Oversecretion of thyroid
19. a and b hormones together maintain  $\text{Ca}^{+2}$  level of body?  
 (a) PTH and TCT  
 (b) PTH and aldosterone  
 (c) TCT and ADH  
 (d) T3 and T4
20. Which of the following is correct?  
 (a) Glucose  $\xrightarrow[\alpha\text{-cells}]{\text{Insulin}}$  Glycogen  
 (b) Glycogen  $\xrightarrow[\alpha\text{-cells}]{\text{Glucagon}}$  Glucose  
 (c) Glucose  $\xrightarrow[\alpha\text{-cells}]{\text{Glucagon}}$  Glycogen  
 (d) Glucose  $\xrightarrow[\beta\text{-cells}]{\text{Glucagon}}$  Glycogen
21. Which of the following disorder occurs due to deficiency of ADH?  
 (a) Diabetes insipidus (b) Diabetes mellitus (c) Highly concentrated urine formation  
 (d) Rapid reabsorption of nutrient
22. It is required for differentiation of T-cells?  
 (a) T3 (b) Thymosin (c) T4 (d) Melatonin
23. What does "a" indicate in the given diagram, and what is the function of the labelled region?  
 (a) Thyroid; More Secretion decreases BMR  
 (b) Parathyroid; regulate  $\text{Ca}^{+}$  level in blood  
 (c) Thyroid; regulate BMR  
 (d) Parathyroid; regulate BMR

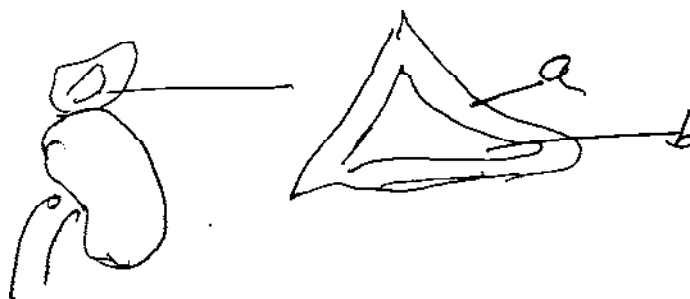


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24. Which hormone is secreted by Zona fasciculata?  
 (a) ADH (b) Mineralocorticoids (c) Glucocorticoids (d) Hydrocorticoids
25. Which of the following option is correct for the correctly matched groups of column I, column II and column III ?

Column I (Name of glands)	Column II (Name of hormones)	Column III Functions
(a) Posterior pituitary	(i) Relaxin	(f) Regulate carbohydrate metabolism.
(b) Adrenal medulla	Catecholamines	(g) Milk secretion from mammary gland
(c) parathyroid	Glucocorticoids	(h) Decrease $Ca^{+2}$ absorption from food
(d) Ovary	Oxytocin	(i) Increase $Ca^{+2}$ absorption from digested food
(e) Adrenal cortex	PTH	(j) Relax cervix of the uterus
		(k) Pupillary dilation
(a) (a - iv - j), (b - ii - j), (c - iii - k), (d - u - f), (e - i - h)		
(b) (a - iv - i), (b - ii - f), (c - iii - j), (d - u - k), (e - i - h)		
(c) (a - iv - j), (b - ii - i), (c - iii - j), (d - u - k), (e - iii - h)		
(d) (a - iv - g), (b - ii - k), (c - v - i), (d - i - j), (e - iii - f)		

26. Which hormone's secretion increases in emergency?  
 (a) Thyroxine (b) Parathormone (c) Adrenaline (d) Aldosterone
27. which of the following option is correct for secretion of region labelled as "a" and "b" in the given diagram?



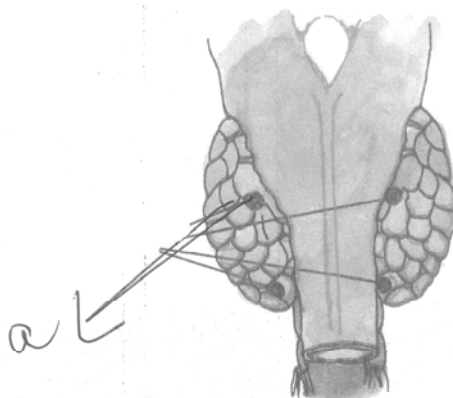
- (A) a = Aldosterone  
 b = Cortisol
- (B) a = Adrenaline  
 b = Cortisol
- (C) a = Glucocorticoids  
 b = Adrenaline
- (D) a = nor - epinephrine  
 b = Adrenaline

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28. Which of the following secretes mineralocorticoids?  
 (a) Zona glomerulosa (b) Zona Reticularis (c) Zona Fasciculata (d) Adrenal medulla
29. Which of the following stimulates adrenal gland in an emergency?  
 (a) Adrenal medulla (b) CNS (c) PNS (d) Mid-brain
30. Under secretion of which hormone can cause diabetes mellitus?  
 (a) Vasopressin (b) ADH (c) Aldosterone (d) Insulin
31. Which disease occurs due to less secretion of mineralocorticoids?  
 (a) Addison's disease (b) Cretinism  
 (c) Myxedema (d) Cushing diseases
32. Which hormone increases blood calcium level?  
 (a) Thyroxine (b) Thyrocalcitonin  
 (c) PTH (d) All of the above
33. Which gland atrophies after puberty?  
 (a) Thymus (b) Thyroid (c) Parathyroid (d) adrenal
34. Secretion of which of the following is necessary for increase in uptake of glucose by liver and adipose cells ?  
 (a) Alpha cell of islet of Langerhans  
 (b) Beta cell of islet of Langerhans  
 (c) delta cells  
 (d) B cells of pancreatic acini
35. Which of the following hormones are concerned with osmoregulation?  
 (a) ADH and thyroxine (b) Aldosterone and Oxytocin  
 (c) Oxytocin and Glucocorticoids (d) All cortisols
36. Which hormone regulates colour of skin?  
 (a) MSH (b) LH (c) PTH (d) LTH
37. Which of the following hormone is not secreted under influence of pituitary gland?  
 (a) Thyroxine (b) Aldosterone  
 (c) Oestrogen (d) Glucocorticoids
38. What is full form of FSH.  
 (a) Follicular Stimulating Hormone.  
 (b) Follicle Stimular Hormone.  
 (c) Follicle Stimulating Hormone.  
 (d) Follicular Stimular Hormone.
39. It causes glycogenesis?  
 (a) Glucogen (b) Insulin  
 (c) Melatonin (d) Somatostatin

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40. What is related to region labelled as "a" in the diagram?



- (a) TCT                      (b) TSH                      (c) PTH                      (d) LH
41. Which option shows correct path of Libido expression?  
 (a) Leydig's cells → Androgen → sympathetic nervous system → Libido  
 (b) Androgen → Leydig's cell → PNS → Libido  
 (c) Leydig's cell → Androgen → CNS → Libido  
 (d) Epithelial cells and seminiferous tubule → Androgen → CNS → Libido
42. Which hormone regulates production of sperms?  
 (a) LH                      (b) LTH                      (c) FSH                      (d) All of the given
43. Which of the following is not primary endocrine gland?  
 (a) Adrenal medulla      (b) Parathyroid gland      (c) Thymus                      (d) Corpus luteum
44. Which hormone stimulates formation of alveoli in mammary gland?  
 (a) Oestrogen              (b) Progesterone              (c) Relaxin                      (d) Oxytocin
45. Who secrete ANF?  
 (a) Juxta glomerular apparatus                      (b) Atrial wall of heart  
 (c) Outer wall of stomach                      (d) Ventricular wall of heart
46. What is full form of ANF?  
 (a) Atrial Natriuretic factor                      (b) Atrial Natural Factor  
 (c) Anti Natriuretic Factor                      (d) Anti Nutrient Factor
47. Find the odd (In terms of source )  
 (a) ANF                      (b) Vasopressin                      (c) Adrenaline                      (d) Aldosterone
48. Which of the following option indicates correctly matched group?  
 (a) CCK- Wall of duodenum-Relaxation of gall bladder  
 (b) JGA- Erythropoietin-Formation of R.B.C.  
 (c) JGA- Erythropoietin-Degradation of R.B.C.  
 (d) GIP- Gastro- Intestinal- Stimulates gastric secretion
49. Which of the following is not effect of catecholamine?  
 (a) Sweating                      (b) Warm red face  
 (c) Increase in blood sugar level                      (d) Decreased heart beat

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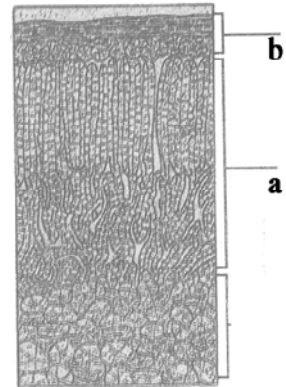
50. What are hormone receptors chemically?  
 (a) Protein (b) Steroid (c) Polysaccharide (d) Phospholipid
51. Which of the following is not secondary messenger?  
 (a) AMP (b) IP3 (c)  $\text{Ca}^{+2}$  (d) T4
52. Which of the following glands hormone effects functioning of menstrual cycle?  
 (a) Pineal (b) Thyroid (c) Ovary (d) All of the given
53. Which part of following secretes LH.RH?  
 (a) Pars nervosa (b) Hypothalamus (c) Pars intermedia (d) Pars distalis
54. Which of the following is called hypercalcemic hormone  
 (a) PTH (b) Thyroxine (c) TCT (d) All of the given
55. It is steroid hormone of thyroid  
 (a) T3 (b) TCT (c) T4 (d) None of the given
56. Which hormones are directly involve in cardio-vascular activity  
 (a) Adrenaline and insulin (b) Cortisol and progesterone  
 (c) Cortisol and catecholamine (d) Catecholamine and oestrogen
57. Which of the following is not peptide protein hormone?  
 (a) Glucogon (b) Insulin (c) FSH (d) Estradiol
58. Which of the following hormones need secondary messenger for their expression?  
 (a) Glucogon and insulin (b) Cortisol and glucogon  
 (c) Insulin and hypothalamic, Cortisol (d) Cortisol and thyroxine
59. They are symptoms of diabetes mellitus  
 (a) Excess of thirst and decrease in apitite  
 (b) Excess urination, excessive thirst  
 (c) Decrease in urination; excessive thirst  
 (d) Increase in apitite; Excessive thirst
60. Which of the given statement is correct for delta cells secretion and function?  
 (a) Somatostatin; stimulates GH  
 (b) Somatostatin; Inhibitis GH  
 (c) Melatonin; stimulate Insulin  
 (d) Insulin; stimulates glucose conversion in to glycogon
61. Which hormone is secreted by two layers of the cortex?  
 (a) Sexocorticoids (b) Glucocorticoids (c) Mineralocorticoids (d) Epinephrine
62. Which hormone is secreted by delta cells?  
 (a) Insulin (b) Glucogon (c) Somatostatin (d) All of the given
63. Which of the following hormones are secreted by ovary  
 (a) Progesterone and testesterone (b) Estrogen and oxytocin  
 (c) Progesterone and testesterone (d) Estrogen and relaxin



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64. What does “a” and “b” indicates in the given diagram

- (a) a=Thyroid  
b=parathyroid
- (b) a=Parathyroid  
b=Thyroid
- (c) a=Zona glomerulosa  
b=Zona reticularis
- (d) a=Zona Fasciculata  
b=Zona glomerulosa



65. Which of the following option is correct for the correctly matched pairs for column I and column II

**Column I****Column II**

- |                         |                                     |
|-------------------------|-------------------------------------|
| (p) Thymosin            | (i) Suppresses immune response      |
| (q) Glucocorticoids     | (ii) High pitch voice               |
| (r) Deficiency of $I_2$ | (iii) Differentiation of lymphocyte |
| (s) estrogen            | (iv) Less BMR                       |
- (A) (p-iii) (q-i) (r-iv) (s-ii)
  - (B) (p-i) (q-ii) (r-iii) (s-iv)
  - (C) (p-iv) (q-iii) (r-ii) (s-i)
  - (D) (p-ii) (q-iii) (r-iv) (s-i)

66. Secretion of which hormone; if decreases can cause Addison's disease?

- (a) PTH
- (b) TCT
- (c) ACTH
- (d) oxytocin

67. Several statements are given in reference with thyroid gland; which of the given option shows all wrong statements for thyroid gland

**Statements**

- (i) It inhibits process of R.B.C. formation
- (ii) It helps in maintenance of water and electrolytes
- (iii) Its more secretion can reduce blood pressure
- (iv) It Stimulates osteoblast

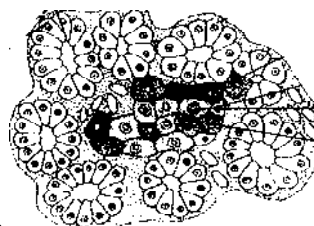
- (A) (i) and (ii)
- (B) (iii) and (iv)
- (C) (i) and (iv)
- (D) (i) and (iii)

68. Which of the following option is not correct for the state of body in stress ?

- (a) Increased heart-beat
- (b) Increased alertness
- (c) Increased glucose level of blood
- (d) Rate of protein synthesis increases

69. Which option is correct for the name and secretion of the gland labelled as “a”?

- (a) Pancreas-insulin
- (b) Pancreas-oxytocin
- (c) Liver-bile
- (d) Thymus-Thymosine



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70. Identify the gland label as "a" ?

- (a) Pancreas
- (b) Thyroid gland
- (c) Thymus gland
- (d) None of the given

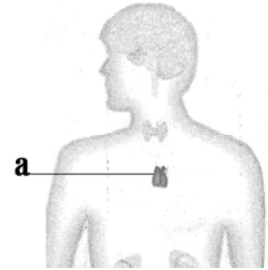
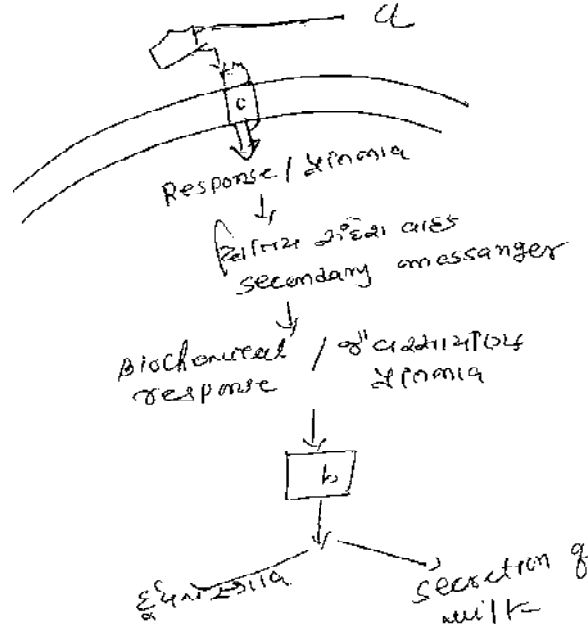


Diagram for question number 71 & 72



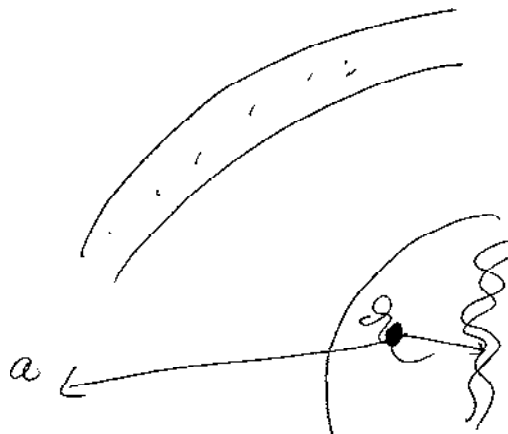
71. Which option is correct for the region labelled as "a" and "b" ?

- (a) a=oxytocin b=c-AMP
- (b) a=FSH b= AMD
- (c) a- LH b= c-AMD
- (d) a=peptide hormone FSH b=cyclic AMP


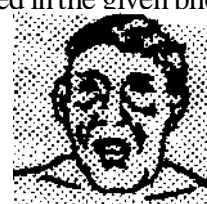

72. What does "c" represent in the diagram ? Which option is correct for its significance

- (a) c=Hormone receptor, protein hormone can not express itself without it
- (b) c= FSH, it is primary messenger
- (c) c- AMP, secondary messenger
- (d) c-AMP, Work in place of  $\text{Ca}^{+2}$

Diagram for 73 to 74



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73. Which of the following hormone follows mechanism shown in the diagram  
 (a) Progesterone (b) Insulin (c) Glycogen (d) Adrenaline
74. Which of the following option is correct for the region labelled as “a” in the given diagram  
 (a) It acts as primary messenger  
 (a) It acts as secondary messenger  
 (a) It increases negative feedback  
 (a) It stimulate gene expression
75. Which disorder is isolated in the given diagram, and which of the following option is correct for its effects.  
 (a) Myxoedema  
 (b) Addison's disease  
 (c) Cushing's syndrome  
 (d) Exophthalmic goiter
- 
76. Which of the following option is correct for the disease observed in the given photograph?  
 (a) Hyposecretion of adrenal- Addison disease  
 (b) Over secretion of GH after puberty Acromegaly  
 (c) Alpha cells over secretion- Hyperglycemia  
 (d) None of the given
- 
77. Which option is correct in reference to the given picture?  
 (a) Normal goiter-  $I_2$  deficiency  
 (b) Exophthalmic goiter- Over secretion of TSH  
 (c) Normal goiter- over secretion of  $I_2$   
 (d) Exophthalmic goiter- Islets secretion of goiter
- 
78. Spot the mis-matched  
 (A) Intestine - Secretin (B) Insulin - CSK  
 (C) Atrial wall - ANF (D) Adrenal medulla - Adrenallin
79. Which of the option shows hormones involve in carbohydrate metabolism ?  
 (A) Insulin, glucagon, Progesterone, estrogen  
 (B) Progesterone, estrogen  
 (C) Glucocorticoids, Oxytocin, epinephrine  
 (D) Insulin, glucagon, Glucocorticoids, epinephrine
80. Which hormone is control by nerve axon of hypothalamus  
 (A) Oxytocin (B) ACTH (C) TSH (D) ACTH and TSH
81. Which option shows self regulating hormone ?  
 (A) Insulin, glucagon oxytocin  
 (B) Insulin LH Mineralocorticoids  
 (C) Insulin, glucagon, Mineralocorticoids oxytocin  
 (D) None of the given

## Questionbank Biology

**In question number 82 to 101 statements are given. For the given statements which of the following option is correct**

**Option (for 82 to 101)**

**(A) x and y are correct and y is correct explanation of x**

**(B) x and y are correct and y is not correct explanation of x**

**(C) x is correct and y is wrong**

**(D) y is correct and x is wrong**

82. Statement x: Irregularities in thyroid gland can alter BMR  
Statement y: As it regulates oxidation and ATP production  
(A) (B) (C) (D)
83. Statement x: Under stress condition body hairs are raised  
Statement y: Under stressed condition secretion from adrenal medulla stops.  
(A) (B) (C) (D)
84. Statement x: Growth factors are the hormones secreted by several non-endocrine tissue  
Statement y: Growth factors do not have any role in repair and growth  
(A) (B) (C) (D)
85. Statement x: Pituitary hormones can not express, themselves in absence of secondary messenger  
Statement y: As they interact with intracellular receptor  
(A) (B) (C) (D)
86. Statement x: There is one hormone receptor for insulin and glucagon  
Statement y: Hormone receptors are specific  
(A) (B) (C) (D)
87. Statement x: Sugar level of blood increases in stress  
Statement y: Under stress condition gluconeogenesis occurs  
(A) (B) (C) (D)
88. Statement x: Corpus luteum disintegrates in middle of pregnancy, abortion of foetus takes place  
Statement y: As progesterone secretion stops  
(A) (B) (C) (D)
89. Statement x: Prolonged hyperglycemia leads to diabetes mellitus  
Statement y: It leads to formation of harmful ketone bodies  
(A) (B) (C) (D)
90. Statement x: Relaxin is secreted during birth of the child  
Statement y: As it relaxes cervix of the uterus for easy birth of child  
(A) (B) (C) (D)
91. Statement x: Aldosterone stimulates reabsorption of water, and  $\text{Na}^+$  ions  
Statement y: Deficiency of aldosterone causes diabetes mellitus  
(A) (B) (C) (D)

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92. Statement x: Thymosin promotes production of antibodies  
Statement y: Thymosin provides cell mediated immunity  
(A) (B) (C) (D)
93. Statement x: Sometimes surgery of thyroid gland can causes  $\text{Ca}^{+}$  level irregularities in blood  
Statement y: As it may damage parathyroid gland  
(A) (B) (C) (D)
94. Statement x: In cancer of thyroid gland; hyperthroidism is observed  
Statement y: The rate of synthesis and secretion of thyroid hormone increases in cancerous condition  
(A) (B) (C) (D)
95. Statement x: Over secretion of pituitary results in giantism  
Statement y: As growth-hormone stimulates cell division and protein synthesis  
(A) (B) (C) (D)
96. Statement x: If LH secretion is inhibited in female then embryonic development is not possible in female  
Statement y: Due to inhibition of LH secretion ovulation does not occur  
(A) (B) (C) (D)
97. Statement x: Over secretion of adrenal cortex result in development of facial hair.  
Statement y: As it increases secretion of androgenic steroid along with other cortical hormone  
(A) (B) (C) (D)
98. Statement x: An increase in blood pressure; ANF secretion stops  
Statement y: ANF dilates blood vessel  
(A) (B) (C) (D)
99. Statement x: Insulin get bind with membrane bound receptor  
Statement y: It does enter nucleus for it expression and it activates secondary messengers  
(A) (B) (C) (D)
100. Statement x: Many physiological reactions and developemental processes are affected by steroid hormone  
Statement y: As they regulate gene expression by interaction of membrane bound receptors complex  
(A) (B) (C) (D)
101. Statement x: On secretion of insulin glucose level in blood decreases  
Statement y: As it causes rapid movement of glucose from blood to hepatocyte  
(A) (B) (C) (D)
102. If receptor molecule is removed from target organ for hormone action, the target organ will.  
(A) Continue to respond but in opposite  
(B) not respond to hormone  
(C) Continue to respond but require higher concentration of hormone  
(D) continue to respond with out any difference

(Manipur 2005)

## Questionbank Biology

103. Match the list-I with list-II

list-I	list-II
p. adenohypophysis	i. epinephrine
q. adrenal medulla	ii. somatotropin
r. Parathyroidgland	iii. thymosin
s. thymus gland	iv. calcitonin

(A) (p : iv), (q : iii), (r : ii), (s : i)

(B) (p: iii), (q : i), (r : iv), (s : ii)

(C) (p : i), (q : ii), (r : iii), (s : iv)

(D) (p : ii), (q : i), (r : iv), (s : iii)

104. Which one of the following is not a second messenger in hormone action ? (AIPMT 2006)

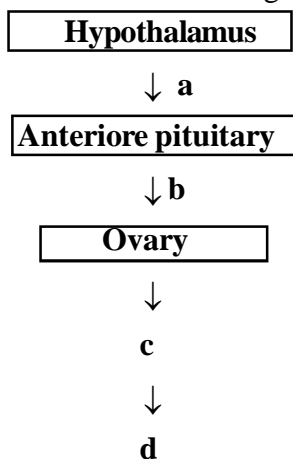
(A) cGMP

(B) Calcium

(C) Sodium

(D) cAMP

105. Choose the correct combination of labelling in the hormonal control of female reproductive system.



(A) a = GnRH, b = STH, c = LH, d = uterus

(B) a = GnRH, b = FSH/LH, c = estrogen or progesterone, d = uterus

(C) a = GnRH, b = TSH, c = LTH, d = uterus

(D) a = GnRH, b = ACTH, c = LH, d = uterus

(Kerala 2005)

106. match item in column-I with those given in column-II

column-I	column-II
p. ADH	a. Pituitary
q. ACTH	b. mineralocorticoid
r. aldosterone	c. diabetes mellitus
s. insulin	d. diabetes inspidus
t. adrenaline	e. vasodilator

(A) (p - d) (q - a) (r - c) (s - b) (t - e)

(B) (p - a) (q - d) (r - b) (s - c) (t - e)

(C) (p - d) (q - a) (r - b) (s - c) (t - e)

(D) (p - d) (q - b) (r - a) (s - c) (t - e)

(kerala 2005)

## Questionbank Biology

107. Which of the following indicates correctly matched pairs for column-I and column-II
- | column-I          | column-II         |
|-------------------|-------------------|
| p Leydig cells    | (i) Tetany        |
| q Hyperthyroidism | (ii) GH           |
| r Adenohypophysis | (iii) ACTH        |
| s Dwarfism        | (iv) Testosterone |
- (A) (p - iv) (q - i) (r - iii) (s - ii)  
 (B) (p - i) (q - iv) (r - ii) (s - iii)  
 (C) (p - i) (q - ii) (r - iii) (s - iv)  
 (D) (p - iii) (q - i) (r - iv) (s - ii)
108. mainly which of the following hormones control menstrual cycle in human being **(CET, 1997)**
- (A) FSH, LH, Estrogen (B) oxytocin (C) PTH (D) ACTH
109. On seeing a Tiger, the heart beat and blood pressure increase due to release of hormone:  
**(A.I.I.M.S 2000)**
- (A) Corticoids (B) Thyroxine (C) Adrenaline (D) parathormone
110. Match the endocrine gland, given under column-I with their respective position in the body given under column-II choose the answer which gives the correct combination of alphabets of two columns:  
**(K.C.E.T.1998)**
- | column-I                | column-II               |
|-------------------------|-------------------------|
| (Endocrine glands)      | (Position in body)      |
| a. pituitary gland      | p. Above kidney         |
| b. Thyroid gland        | q. Inside pancreas      |
| c. Adrenal gland        | r. On larynx            |
| d. Islets of langerhans | t. At the base of brain |
- (A) (a - t) (b - r) (c - p) (d - q)  
 (B) (a - s) (b - t) (c - p) (d - q)  
 (C) (a - p) (b - q) (c - r) (d - t)  
 (D) (a - q) (b - s) (c - t) (d - p)
111. If Adenohypophysectomy is done in adult, then which of the followings is the correct statement :  
**(CPMT 1996)**
- (A) Gigantism  
 (B) Acromegaly  
 (C) B.M.R will be affected  
 (D) It will affect growth of testis and ovary
112. The immediate cause of induction of ovulation in the human female is the large plasma surge of :  
 (A) LH (B) Estradiol (C) FSH (D) Progesterone

## Questionbank Biology

113. Glucagon and insulin are : **(CMEET 1995)**  
 (A) Secreted from same cell and are same in function  
 (B) Secreted from same cells but are opposite in function  
 (C) Antagonistic secretion action and similar function  
 (D) Secreted from different cells but are opposite in function
114. What is the function of enterogastrone ? **(C.B.S.E1994)**  
 (A) It stimulates the secretion of digestive juices in the stomach  
 (B) It stimulates the flow of pancreatic juice  
 (C) It regulates the flow of bile  
 (D) It inhibits the secretion of gastric juice
115.  $\text{Ca}^{+}$  metabolism is regulated by : **(C.P.M.T 1997)**  
 (A) ACTH (B) Thyroxine (C) Parathormone (D) Epinephrine
116. Heavy jaws, long face, long extremities are caused by :  
 (A) undersecretion of hormone of posterior lobe of pituitary  
 (B) oversecretion of hormone of anterior lobe of pituitary after puberty  
 (C) undersecretion of hormone of anterior lobe of pituitary  
 (D) oversecretion of hormone of posterior lobe of pituitary
117. FSH and LH hormones together are called : **(MPPMT 1997)**  
 (A) GTH (B) Stress removing hormones  
 (C) Emergency hormones (D) Neurohormones
118. Deficiency of calciferol causes : **(MPPMT 1996)**  
 (A) Scurvy (B) Leucopenia (C) Rickets (D) Leukaemia
119. Vasopressin is found in : **(S J MC Banaglore 1996)**  
 (A) Posterior lobe of pituitary (B) Intestine  
 (C) Kidney (D) Liver
120. Which hormone stimulates stomach to secrete gastric juice?  
 (A) Enterokinase (B) enterogastrone (C) Renin (D) Gastrin
121. What is Precursor of adrenaline, thyroxine and melanin pigment ?  
 (A) Proline (B) Tryptophan (C) Glycine (D) Tyrosine
122. Which one of the following pairs correctly matches a hormone with disease resulting from its deficiency ? **(C.B.S.E.P.M.T 2003)**  
 (A) Relaxin - Gigantism (B) Parathyroid hormone - Tetany  
 (C) Insulin - Diabetes insipidus (D) Prolactin - Cretinism
123. Which one of the following pairs correctly matches a hormone with a disease resulting from its deficiency ? **(C.B.S.E 2004)**  
 (A) Luteinizing hormone - failure of ovulation (B) Thyroxine - Tetany  
 (C) Insulin - Diabetes insipidus (D) Parathyroid hormone - Diabetes mellitus



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124. Chemically the hormones are : **(C.B.S.E 2004)**  
 (A) Steroids only  
 (B) Proteins, steroids and biogenic amines.  
 (C) Proteins only  
 (D) Biogenic amines only
125. Which of the following hormones is not a secretion product of human placenta ? **(C.B.S.E 2004)**  
 (A) Progesterone (B) HCG (C) Prolactin (D) Estrogens
126. Feeling the tremors of an earthquake a scared resident of seventh floor of a multistoreyed building starts climbing down the stairs rapidly. which hormone initiated this action ? **(C.B.S.E 2007)**  
 (A) Gastrin (B) Thyroxine (C) Adrenaline (D) Glucagon
127. Match list-I with list-II and select the correct option. **(Kerala 2008)**
- | list-I                 | list-II                  |
|------------------------|--------------------------|
| a) Adrenaline          | 1 Myxoedema              |
| b) Hyperparathyroidism | 2 Accelerates heart beat |
| c) Oxytocin            | 3 Salt - water balance   |
| d) Hypothyroidism      | 4 Child birth            |
| e) Aldosterone         | 5 Demineralisation       |
- (A) (a - 5) (b - 3) (c - 2) (d - 4) (e - 1)  
 (B) (a - 2) (b - 5) (c - 4) (d - 1) (e - 3)  
 (C) (a - 5) (b - 3) (c - 4) (d - 2) (e - 1)  
 (D) (a - 2) (b - 3) (c - 4) (d - 5) (e - 1)
128. Column-I lists the endocrine structure and column-II lists the corresponding hormones match the two column. Identify the correct option those given. **(K.C.E.T 2006)**
- | column-I              | column-II                          |
|-----------------------|------------------------------------|
| a. Hypothalamus       | p. relaxin                         |
| b. anterior pituitary | q. estrogen                        |
| c. testis             | r. FSH and LH                      |
| d. ovary              | s. androgens                       |
|                       | t. gonadotropin releasing hormones |
- (A) (a - r) (b - t) (c - s) (d - q)  
 (B) (a - t) (b - r) (c - s) (d - q)  
 (C) (a - p) (b - q) (c - s) (d - r)  
 (D) (a - t) (b - r) (c - q) (d - s)
129. It is the parathyroid gland.... **(A.M.U 2006)**  
 (A) decreases blood  $Ca^{+2}$  level  
 (B) Increases blood  $Ca^{+2}$  level  
 (C) promotes collagen synthesis by osteoblasts  
 (D) All of the given

## Questionbank Biology

130. Removal of which of the following causes an immediate menstruation ?  
 (A) Estrogen (B) FSH (C) FSH - RH (D) Progesterone
131. Which of the following is not a effect of hypothyrodism ? (C.B.S.E 2006)  
 (A) Mental stress (B) edema  
 (C) Increases  $\text{Ca}^{+2}$  level in blood (D) to be lethargic

## Answer – Key

1 D	31 A	61 A	91 C	121 D
2 C	32 C	62 C	92 A	122 B
3 A	33 A	63 D	93 A	123 A
4 C	34 B	64 D	94 A	124 B
5 A	35 A	65 A	95 A	125 C
6 B	36 A	66 C	96 A	126 C
7 D	37 B	67 D	97 A	127 B
8 D	38 C	68 D	98 D	128 A
9 B	39 B	69 A	99 A	129 B
10 D	40 C	70 C	100 D	130 D
11 A	41 C	71 A	101 A	131 A
12 C	42 C	72 A	102 B	
13 B	43 D	73 A	103 D	
14 A	44 B	74 D	104 C	
15 B	45 B	75 D	105 B	
16 B	46 A	76 B	106 C	
17 C	47 A	77 A	107 A	
18 D	48 B	78 B	108 A	
19 A	49 D	79 D	109 B	
20 B	50 A	80 A	110 A	
21 A	51 D	81 D	111 C	
22 B	52 D	82 A	112 A	
23 C	53 B	83 C	113 D	
24 C	54 A	84 C	114 D	
25 D	55 D	85 C	115 A	
26 C	56 C	86 D	116 B	
27 C	57 D	87 A	117 A	
28 A	58 A	88 A	118 C	
29 B	59 D	89 A	119 A	
30 D	60 B	90 A	120 D	

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