BIOLOGY

BOOKS - PRADEEP BIOLOGY (HINGLISH)

CHEMICAL COORDINATION AND INTEGRATION

Curiosity Questions

1. Why did Starling call the secretions of the endocrine glands hormones ?

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2. How does a target cell recognize its appropriate hormone circulating in the blood ?

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3. Why are the homones produced by hypothalamus called releaser and inhibitory hormones ?

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4. Adrenal medulla is not essential for life though its hormones enable us to face stress and danger ?

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5. Why are heart and liver also called endocrine glands ?

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Notables Questions

1. What is a natural analgesic ?

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2. Which hormone is secreted by the heart ? Give its role.

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Ncert Exercises With Answers

1. Define the following :

(a) Exocrine gland (b) Endocrine gland (c) Hormone.

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2. Diagrammatically indicate the location of the various endocrine glands in our body .

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3. List the hormones secreted by the following :

(a) Hypothalamus , (b) Pituitary , (c) Throid, (d) Parathyroid

(e) Adrenal, (f) Pancreas, (g) Testis , (h) Ovary

(i) Thymus, (j) Actrium , (k) Kidney, (I) G-I Tract

(M) Transmission of a nerve impulse across a chemical synapse

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4. Fill in the blanks :

Hormone	Target gland
Hypthalamic hormones	____
Thyrotrophin(TSH)	____
Corticotrophin(ACTH)	____
Gonadotrophins(LH,FSH)	____
Melanotrophin(MSH)	____

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5. What short notes on the functions of the following hormones :

(a) Parathyroid hormone (PTH) , (b) Thyroid hormones, (c) Thymosins

(d) Androgens, (e) Estrogens , (f) Insulingand Glucagon

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6. Give example(s) of :

(a) Hyperglycemic hormone and hypoglycemic hormone.

(b) Hypercalcemic hormones.

(c) Gonadotrophic hormones.

(d) Progestational hormone.

(e)Blood pressure lowering hormone.

(f) Androgens and estrogens.

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7. Which hormonal deficiency is responsible for the following :

(a) Diabetes mellitus (b) Goitre (c) Cretinism

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8. Briefly mention the mechanism of action of FSH.

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9. Match the following :

Column I	Column II
T_4	(i)Hypthalamus
PTH	(ii) Thyroid
$GnRH$	(iii)Pituitary
LH	(iv)Parathyroid

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Ncert Exercises Additional Question Very Short Answer Questions

1. The posterior pituitary :

A. produces oxytocin

B. is under the control of hypthalamic releasing neurohormone

C. secretes trophic hormones

D. secretes neurohormone.

Answer: A, D

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2. Parathyroid hormone :

A. is produced by the thyroid gland

B. is released when blood calcium levels fall

C. stimulates osteoblasts to lay down new bone

D. stimulates calcitonin release.

Answer: B

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3. Steroid hormones :

A. have only cell surface receptors

B. are lipophobic

C. act through altering the activity of proteins in the target cell

D. are produced by the adrenal cortex

Answer: C

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4. Both adrenaline and cortisol are secreted in response to stress. Which of the following statements is also true for both of these hormones ?

A. They act to increase blood glucose

B. They are secreted by the adrenal cortex

C. Their secretion is stimulated by adrenocorticotrophin.

D. They are secreted into the blood within seconds of the onset of strees.

Answer: A

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5. Which endocrine glands are controlled by the secretion of other endocrine glands ?

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6. Which blood vessel, a vein or an artery, carries a hormone from an endocrine gland.

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7. Name the male and female sex hormones.

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8. Name two hormones of pancreatic islets.

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9. Why is oxytocin called "birth hormone" ?

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10. What causes gigantism ?

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11. Name any hormone secreted by adrenal gland and give its function.

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12. What are chemical messengers ?

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13. Name the neurohormone which inhibits the secretion of growth hormone from the anterior pituitary.

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14. What are releaser hormones ?

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15. Name the hormones whose deficiency causes diabetes mellitus and diabetes insipidus.

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16. What is the study of hormones called ? Give the complete forms of ADH and FSH.

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17. Name the disease caused by deficiency of vasopressin.

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18. Which hormone controls Na^+ and K^+ metabolism in the body ?

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19. Give the full form of ACTH and ICSH.

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20. If, for any reason, the release of ADH is inhibited, how will this affect the volume of urine produced ?

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21. There are many endocrine glands in human body. Name the glands which are absent in male and the ones absent in female.

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22. which of the two adrenalcortical layers, zona glomerulosa and zona reticularis lies outside enveloping the other ?

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Ncert Exercises Additional Question Short Answer Questions

1. What two hormones are produced by the adrenal medulla ? What non-hormonal functions do they serve ?

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2. From what chemical compounds are all steroid hormones derived ? Mention at least two examples of steroid hormones.

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3. In general, how do steroid hormones effect changes in their target cells ?

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4. Give the name of the first hormone discovered and also the names of its discoveres. Suggest an alternative term for hormones.

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5. Give the location and role of parafollicular cells (C cells).

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6. One endocrine gland stores its own hormones. Name the gland, hormones and place of storage.

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7. Name the smallest endocrine gland. Give its origin and location.

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8. Mention one example each of the hormones that are amino acid derivatives, steroids and proteins.

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9. List the hormones produced by placenta.

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10. What are the causes of diabetes mellitus and diabetes insipidus ?

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11. What causes myxoedema ? Mention two symptoms of this disease.

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12. Name the hormones produced by kidney and pineal.

Watch Video Solution

13. What are releaser or inhibiting hormones ?

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14. What forms the corpus luteum ? Name the hormones secreted by it.

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15. Name two hormones secreted by the thyroid. Mention one symptom of hypothyroidism in children and name this disorder.

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16. Name the watery fluid secreted by Brunner's gland in the duodenum. Mention its any two characteristics. What role does it play inside the duodenum ?

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17. Explain the hormonal basis of (i) diabetes mellitus (ii) diabetes insipidus.

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18. Match the definitions of column I with appropriate terms from column II

Column I	Column II
(i) product of an endocrine gland	(a) aldosterone
(ii) lipid-soluble hormones	(b) pineal gland
(iii) effect is to conserve sodium ion and water	(c) insulin
(iv) lowers blood glucose levels	(d) hormone
(v) source of melatonin	(e) adrenaline
(vi) secreted by adrenal cortex	(f) steroid
(vii) secreted by adrenal medulla	(g) parathyroid hormone
(viii) maintains Ca^{2+} level in the plasma	(h) oxytocin
(ix) stimulates secretion of milk	(i) prolactin

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19. Answer true or false to the following :

a. Endocrine control is integrated with neural control at the level of the hypthalamus.

b. Thyroid hormone is required for normal perinatal brain development.

c. Glucocorticoids are anabolic steroids.

d. Adrenal medulla releases adrenaline and noradrenaline in a ratio of approximately 10 : 1.

e. Testosterone is water soluble and acts via receptors on the plasma membrane of the target cells.

f. Hypoglycemia occurs most commonly in diabetic patients.

g. Oxytocin is released in response to mechanical stimulation of the breast nipple.

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20. Name the diseases that occur due to hyposecretion of following hormones :

(i) Thyroid hormones (ii) Parathormone (iii) Mineralocorticoids (iv) Growth hormone.

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21. Name the diseases that occur due to excess secretion of following hormones :

(i) Growth hormone (ii) Cortisol (iii) Aldosterone (iv) Sex corticoids (v) Thyroid hormones

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22. What is erythropoisis ? Which hormone stimulates it ?

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23. Correct the following statements by replacing the underlined term :

(a) Insulin is a steroid hormone.

(b) TSH is seceted from the corpus luteum.

(c)Tetraiodothyronine is an emergency hormone.

(d) The pineal gland is located on the anterior part of the kidney.

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24. What are the examples of pairs of antagonistic hormones associated with basal metabolism ? How does each pair function ?

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25. What hormones are produced when the body's blood glucose levels drop below normal ? How do these hormones act to return the level to normal ? What hormone is produced when the body's blood glucose levels become elevated ? How does this hormone act to return the level to normal ?

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26. Why do you suppose the brain does the trouble of synthesising releasing hormones, rather than simply directing the production of the pituitary hormones immediately ?

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27. How is communication among the parts of an organism accomplished ?

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28. Define a gland. What are the three kinds of glands ? Give one example of each kind.

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29. What are hormones ? Classify hormones regarding their chemical nature. Cite at least one example of each group.

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30. How does hormonal information differ from nervous information?

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31. How do hormones maintain sugar level in the blood ?

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32. Name the hormones that regulate the following-

(i) Control of skin colour. (ii) Release of sugar from liver.

(iii) Widening of pelvis at birth. (iv) Leydig's cells of testis.

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33. How do the following differ ?

(a) Exophthalmic goitre and iodine-deficiency goitre.

(b) Somatotrophin and somatostatin.

(c) How do the exocrine and endocrine glands differ ? What are heterocrine glands ?

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34. Give the role of testosterone. Mention its source also.

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35. What is the role of estrogens in the female's body ? Where are they produced ?

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36. Describe the hormones produced by hypothalamus.

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37. Write the names and sources of the hormones regulating the following :

(a) Uterine changes in pregnancy.
(b) Urinary elimination of water.
(c) Metamorphosis of tadpoles.
(d) Plasma Ca^{2+} level.
(e) Na^+ and K^+ metabolisms.
(f) Blood sugar level.
(g) Secretion of growth hormone.
(h) Leydig's cells of testis
(i) Milk secretion.
(j) Uterine contractions at childbirth.
(k) Basal metabolic rate.
(l) Descent of testes into scrotum.
(m) Heart beat and blood pressure.
(n) Maturation of Graafian follicle.

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38. Name the T_3 and T_4 components of the thyroid hormone. Explain their specific action.

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39. What hormones are produced when the body's blood glucose levels drop below normal ? How do these hormones act to return the level to normal ? What hormone is produced when the body's blood glucose levels become elevated ? How does this hormone act to return the level to normal ?

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40. Fill in the blanks :

(i) ___ are the secretions of ductless endocrine glands and the study of endocrine glands and role of their secretions is called___.

(ii) Steroid hormones are secreted by___, testes, ovaries and ___ .

(iii) ___ and ___ from posterior lobe of pituitary are short peptide hormones.

(iv) ___ and ___ are aminoacid derivative hormones commonly called catecholamines.

(v) Steroid hormones have their receptors in the ___ of the target cells while protein hormones have their receptors on the ___ of the target cells.

(vi) Hyposecretion of thyroid hormones causes ___ in infants and ___ in adults.

(vii) Anterior lobe of pituitary is also called ___ while posterior lobe or pars nervosa is also termed ___ .

(viii) Excess of growth hormone since childhood leads to disease called ___ and its excess after adolescence causes disease___ .

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41. Match the items given in column I with appropriate items (one or more) in column II.

Column I	Column II
(i)Pineal gland	(a) Stimulates sevretion of milk
(ii)Oxytocin	(b)Source of melatonin
(iii)Vasopressin	(c)Diabetes mellitus
(iv)Insulin	(d)Diabetes insipidus
(v)Luteinizing hormone	(e)Ovulation
	(f)Glycogenesis

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42. What is the role of second messenger in hormone action ?

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43. What is the role-played by luteinising hormones in males and females respectively?

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44. Old people have weak immune system. What could be the reasons?

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Ncert Exercises Additional Question Long Answer Questions

1. What is diabetes? What is ultimate hormonal deficiency in this disease? How does this affect an individual's ability to use glucose? What are some possible treatments for diabetes mellitus?

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2. Discuss the role of hypothalamus and pituitary as a coordinated unit in maintaining physiological processes.

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3. Why is the endocrine system considered a chemical extension of the nervous system ?

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4. What are the seven principal hormones produced by the anterior pituitary ? What function does each serve ?

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5. What hormones are secreted by the posterior pituitary gland ? What function does each serve ? When are these hormones actually produced ? How are these hormones transported to the region from which they are released ?

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6. Tabulate differences between hormones and enzymes.

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7. How is water and salt balance maintained in the body ?

Watch Video Solution

8. Give an account of adrenal hormones.

Watch Video Solution

9. Describe the role of hypothalamus as an endocrine gland.

Watch Video Solution

10. Name the pituitary hormones. Mention the function of each.

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11. Gonads are the endocrine organs also. Comment on this statement.

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12. How are the following disorder caused ? Cretinism, Addison's Disease, Acromegaly, Diabetes Mellitus, Eunuchoidism.

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13. Give any 5 - the name, source and function of the hormones in a tabular form.

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14. Write short notes on- Leydig's cells, Islets of Langerhans.

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15. Explain the following : Hypothalamus and pituitary function as an integrated and coordinated system.

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16. Describe the physiological functions and disorders of thyroid hormones.

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17. Write briefly about the endocrine gland which helps to combat strees.

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18. Distinguish between :

(a) Diabetes mellitus and diabetes insipidus. (b) exophthalmic goitre and iodine-deficiency goitre. (c) Folliclestimulating hormone and luteinizing

hormone. (d) Glucocorticoids and mineralocorticoids. (e) Vasopressin and oxytocin. (f) Somatotrophin and somatostatin. (g) Estrogen and progesterone. (h) Cretinism and dwarfism

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19. Describe the structure and function of thyroid gland.

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20. List the properties of hormones.

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21. List the different groups of hormones secreted by adrenal cortex. Give specific region of secretion and one major function of each. Name the disorder that may occur in a human if the adrenal cortex is destroyed.

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22. Explain the role of the following hormones/proteins with reference to control of human male reproductive systems.

(i) GnRH (ii) LH (iii) Testosterone (iv) FSH.

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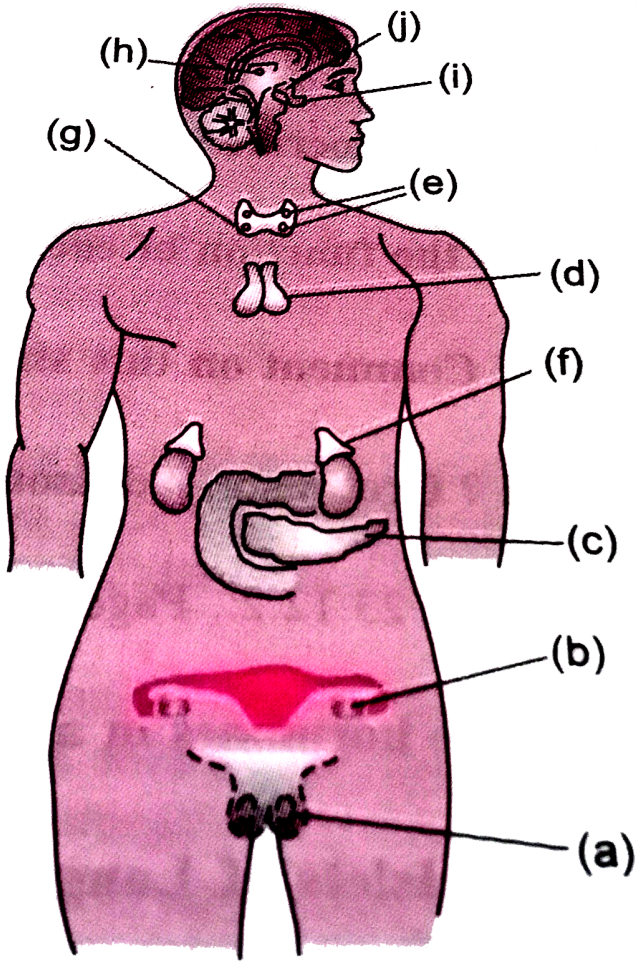
23. Study the given figure carefully and answer the following questions :



(i) Label the various endocrine glands marked as (a), (b), (c), (d), (e), (f), (g),(h),(i) and (j).

(ii) Given hormone secretions of each of these glands.

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24. Hypothalamus is a super master endocrine gland. Elaborate.

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Ncert Exercises Analytical Questions With Answers

1. Why do steroid hormones act within the cells ?

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2. Why is parathormone also called Collip's hormone ?

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3. Why are the hormones, released by the posterior lobe of pituitary, not its own products ? Explain.

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4. Why do endocrine glands directly release their products into the blood ?

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5. Which endocrine cells form the islets of Langerhans ? Name the hormone secreted by them also.

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6. Why is oxytocin also commonly termed as 'birth hormone' ?

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7. Is it appropriate to call pituitary as master endocrine gland ?

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8. Where is Pineal gland located ? What is its function ?

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9. Which endocrine gland is a prominent gland at birth but gradually atrophies in the adult ? Name its secretion.

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10. Which hormone is termed as 'salt-retaining hormone' ? From where is it secreted and also describe its functions.

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11. (a) Which hormones contain iodine and which endocrine gland secretes them ?

(b) Name the endocrine gland which hormones are stored in large quantity enough to supply a person for upto 10 months.

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12. How does exophthalmic goitre differs from iodine-deficiency goitre ?

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13. (a) Which endocrine gland is a prominent gland at birth and gradually atrophies in the adult ?

(b) Where is it located ? Name the hormonal secretion of this gland and also its function.

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14. Why is adrenal medulla termed as gland of emergency ?

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15. Which hormone is secreted by the heart ? Give its role.

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16. (a) Name the secretions of the following structures :

(i) Lobules of pancreas (ii) Islets of Langerhans

(b) What is the role of insulin and glucagon hormones ? Name the cells which secrete them.

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17. Where are Leydig's cells located ? Name their hormonal secretions. Which hormone stimulates their secretion ?

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18. Why is liver also considered endocrine gland ?

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19. (a) Who is termed as first messenger and second messenger in the target cells ?

(b) How do protein hormones act on target cells ?

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20. How do hormones maintain homeostasis by their integrated action and feedback control ?

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Practice Questions I Multiple Chocie Questions

1. Adrenal gland in mammals is located on

A. Near pituitary

B. Near liver

C. Near heart

D. Above kidney

Answer: D

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2. Which of the following hormones is modified amino acid ?

A. Prostaglandin

B. Estrogen

C. Epinephrine

D. Progesterone

Answer: C

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3. Which of the following pairs correctly matches a hormone with the disease resulting from its deficiency ?

A. Thyroxine- Tetany

B. Parathyroid hormone - Diabetes mellitus

C. Luteinizing hormone - Failure of ovulation

D. Insulin - Diabetes insipidus

Answer: C

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4. Chemically hormones are

A. proteins only

B. steroids only

C. biogenic amines only

D. proteins, steroids and biogenic amines

Answer: D

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5. Damage to thymus in a child may lead to

A. a reduction in haemoglobin content of blood

B. a reduction in stem cell production

C. loss of antibody mediated immunity

D. loss of cell mediated immunity

Answer: D

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6. FSH is secreted by

A. anterior lobe of pituitary

B. hypothalamus

C. gonads

D. posterior lobe of pituitary

Answer: A

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7. Which one of the following four glands is correctly matched with the accompanying description

A. Thyroid- hyperactivity in young children causes cretinism

B. Thymus- starts undergoing atrophy after puberty

C. Parathyroid - secretes parahormone which promotes movement of calcium ions from blood into bones during calcification

D. Pancreas- Delta cells of the islets of Langerhans secrete a hormone which stimulates glycolysis in liver.

Answer: B

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8. Which one of the following statements is correct ?

A. endocrine glands regulate neutral 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.

Answer: C

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9. Which one of the following is not a second messenger in hormone action

A. cAMP

B. cGMP

C. calcium

D. sodium

Answer: D

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10. A steriod hormone which regulates glucose metabolism is

Or

Excess of which of the following hormones causes Cushing's syndrome

A. cortisone

B. cortisol

C. corticosterone

D. 11- deoxycorticosterone

Answer: B

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11. 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

Answer: B

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12. Which hormone causes dilation of blood vessels, increased oxygen consumption and glucogensis?

A. glucogen

B. ACTH

C. insulin

D. adrenaline

Answer: D

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13. LH and FSH are collectively called

A. oxytocin

B. somatotrophins

C. luteotrophic

D. gonadotrophins

Answer: D

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14. Who is known as father of endocrinology ?

A. R.H. Whittaker

B. Pasteur

C. Einthoven

D. Thomas Addison

Answer: D

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15. Mammalian thymus' is mainly concerned with

A. regulation of body temperature

B. regulation of body growth

C. immunological functions

D. secretion of thyrotropin

Answer: C

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16. Which of the following is the largest endocrine gland ?

A. thymus

B. liver

C. thyroid

D. pancreas

Answer: B

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

A. aldosterone

B. thyroxine

C. adrenaline

D. calcitonin

Answer: C

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18. Vitamin D is synthesized in skin,by the action of sunlight on

A. cholesterol

B. 7-hydroxy cholesterol

C. cephalin cholesterol

D. all of these

Answer: B

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19. The islets of Langerhans are found in

A. pancreas

B. stomach

C. liver

D. alimentary canal

Answer: A

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20. Which of the following hormones are produced in the hypothalamus and stored in the posterior pituitary

A. FSH and LH

B. ADH and Oxytocin

C. TSH and STH

D. ACTH and MSH

Answer: B

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21. Column I lists the endocrine structure and column II lists the corresponding hormones. Match the two columns. Identify the correct

option from those given

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 hormone

A. A=t, B=r, C=s, D=q

B. A=t, B=r, C=q, D=s

C. A=p, B=q, C=s, D=r

D. A=r, B=t, C=s, D=q

Answer: A

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22. Which part of ovary in mammals acts as an endocrine gland after ovulation ?

A. stroma

B. germinal epithelium

C. vitelline membrane

D. Graafian follicle

Answer: D

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23. 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

Answer: D

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24. In the human female , menstruation can be referred by the administration of :-

A. Combination of FSH and LH

B. Combination of estrogen and progesterone

C. FSH only

D. LH only

Answer: B

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25. Feeling of 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

Answer: A

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26. Progesterone is secreted by

A. Corpora allata

B. Corpus albicans

C. Corpus luteum

D. Corpus callosum

Answer: C

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27. Which of the following hormones helps in the contraction of uterus during child birth ?

A. ADH

B. androgen

C. oxytcoin

D. glucocorticoid

Answer: C

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28. Which of the following hormones stimulates the secretion of milk from female ?

A. LH

B. prolactin

C. oxytcoin

D. Progesterone

Answer: B

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29. Pineal gland of human brain secrets melatonin concerned with

A. anger

B. body temperature

C. colouration of skin

D. sleep

Answer: C

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30. Fight and flight hormone is

A. adrenaline

B. thyroxine

C. ADH

D. oxytocin

Answer: A

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31. Entrogasterone is

A. hormone secreted by gastric mucosa

B. enzyme secreted by mucosa

C. homone secreted by duodenal mucosa

D. secreted by endocrine gland related to digestion

Answer: C

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32. Increase in bleeding time and delay in blood coagulation is due to the deficiency of which hormone?

A. adrenaline

B. noradrenaline

C. parathormone

D. thyroxine

Answer: C

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33. Which one of the following hormones never reaches to cytoplasm?

A. Estrogen

B. FSH

C. Progesterone

D. Testosterone

Answer: B

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34. Find the odd one out

A. Parathyroid-tetany

B. Pancreas-diabetes insipidus

C. Adrenal cortex - Cushing's syndrome

D. Thyroid-goitre

Answer: B

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35. 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

Answer: C

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36. In human adult females, oxytocin

A. stimulates pituitary to secrete vasopressin

B. causes strong uterine contractions during parturition

C. is secreted by anterior pituitary

D. stimulates growth of mammary glands

Answer: B

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

A. both calcitonin and parathormone

B. calcitonin

C. parathormone

D. thyroxine

Answer: C

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38. The chemical nature of hormones secreted by α and δ cells of pancreas is

A. Glycolipid

B. Glycoprotein

C. Steroid

D. Polypeptide

Answer: D

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39. Goitre can occur as a consequences of all the following except

A. Iodine deficiency

B. Pituitary adenoma

C. Grave's disease

D. Excessive intake of exogenous thyroxine

Answer: D

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40. The genetic deficiency of ADH - receptor leads to

A. diabetes mellitus

B. glycosuria

C. diabetes insipidus

D. nephrogenic diabetes

Answer: C

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41. In females, hormone inhibin is secreted by

A. granulosa and theca cells

B. granulosa cells and corpus luteum

C. granulosa and cumulus oophorus cells

D. granulosa cells and zona pellcuida

Answer: B

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42. In the nymphal stage of cockroach the juvenile hormone is secreted by

A. Corpora cardiaca

B. Corpora allata

C. Prothoracic gland

D. Intercerebral gland cells

Answer: B

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43. The glands which help in absorbing odoriferous substances to stimulate olfactory nerve are

A. Cerumenous glands

B. Meibomian glands

C. Bowman's glands

D. Cowper's glands

Answer: C

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44. An adenophypophysis hormone which is regulated by feedback mechanism is

A. oxytocin

B. TSH

C. Vasopressin

D. Cortisone

Answer: B

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45. Match the hormone with its source

(a) Somatostatin	1. Pineal gland
(b) Melatonin	2. Corpus luteum
(c) Aldosterone	3. Placenta
(d) Progesterone	4. Adrenal cortex
(e) HCG	5. Islet of Langerhans
	6. Adenohypophysis

A. A-5, B-1, C-6, D-3, E-2

B. A-1, B-2, C-4, D-3, E-5

C. A-2, B-6, C-4, D-5,E-3

D. A-5, B-1, C-4, D-2, E-3

Answer:

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46. Muscular tetany can be caused by deficiency of

A. Thyroxine

B. Oxytocin

C. STH

D. Parathyroid hormone

Answer: D

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47. Accessory glands associated with the genital organs in female rate are

(i) Vestibular Bartholins (ii) Cowper's glands

(iii) Ampullary glands (iv) Vesicular gland

A. I and II

B. III and II

C. IV only

D. I only

Answer: D

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48. Damage to thymus in a child may lead to

A. a reduction in the amount of plasma proteins

B. loss of antibody mediated immunity

C. loss of cell mediated immunity

D. a reduction in the haemoglobin content in blood

Answer: C

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49. Compare the statement A and B.

Statement A : Blood sugar level falls rapidly after hepactectomy.

Statement B : The glycogen of the liver is the principle source of blood sugar. Select the correct description.

A. Statement A is wrong B is correct.

B. Both the statement A and B are correct and B is not the reason for A.

C. Both the statements A and B are correct and B is the reason for A.

D. Statement A is corect and B is wrong.

Answer: A

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50. Which of the following hormones does not contain a polypeptide ?

A. Insulin

B. Antidiuretic hormone

C. Prostaglandin

D. oxytocin

Answer: C

Watch Video Solution

51. If the pituitary gland of an adult rat is surgically removed, which of the following endocrine glands will be less affected ?

A. Adrenal cortex

B. Adrenal medulla

C. Thyroid

D. Gonads

Answer: B

Watch Video Solution

52. The hormone that increases the blood calcium level and decreases its excretion by kidneys is :

A. Parathormone

B. calcitonin

C. Thyroxine

D. Insulin

Answer: A

Watch Video Solution

53. Estrogen and testosterone are steroid hormones, and most likely bind to

A. membrane ion channels

B. enzyme-linked membrane receptors

C. G-protein coupled membrane receptors

D. cytoplasmic receptors

Answer: D

Watch Video Solution

54. Which of the following hormones regulates growth and metamorphosis in insects

A. Juvenile hormone

B. Brain hormone

C. Ecdysome

D. Prothoracicotrophic

Answer: C

Watch Video Solution

55. Steroid hormones easily pass through plasma membrane by simple diffusions because by

A. are water soluble

B. contain carbon and hydrogen

C. enter through pores

D. are lipid soluble

Answer: D

Watch Video Solution

56. Which of the following is correctly matched ?

A. thyroxine -tetanus

B. insulin - diabetes insipidus

C. Adrenaline -hepatitis

D. Parathyroid-tetany

Answer: D

Watch Video Solution

57. Excess of which of the following hormones causes Cushing's syndrome ?

A. thyroxine

B. cortisol

C. adrenaline

D. noradrenaline

Answer: B

Watch Video Solution

58. Anidiuretic hormone is also known as

A. secretin

B. vasopressin

C. gastrin

D. renin

Answer: B

Watch Video Solution

59. Which of the following hormone is not steroid ?

A. Androgen

B. Aldosterone

C. Testosterone

D. Vasopressin

Answer: D

Watch Video Solution

60. Prostaglandins are

A. amino acid

B. steroid

C. fatty acid

D. carbohydrate

Answer: C

Watch Video Solution

61. Which of the following hormone contain iodine ?

A. Thyroxine

B. Insulin

C. Testosterone

D. adrenaline

Answer: A

Watch Video Solution

62. Select the right mathc of endocrine gland and their hormones among the options given below:

A. Pineal	(i)Epinephrine
B. Thyroid	(ii)Melatonin
C. Ovary	(iv)Estrogen
D. Adrenal medulla	(iv)Tetraiodothyronise

A. A-(iv), B-(ii), C-(iii), D-(i)

B. A-(ii), B-(iv), C-(i), D-(iii)

C. A-(iv), B-(ii), C-(i), D-(iii)

D. A-(ii), B-(iv), C-(iii), D-(i)

Answer: D

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63. Listed below are the hormones of anterior pituitary origin. Tick the wrong entry.

A. Growth hormone

B. Follicle stimulating hormone

C. oxytcoin

D. Adrenocoticotrophic hormone

Answer: C

Watch Video Solution

64. Mary is about to face an interview. But during the first five minutes before the interview she experiences sweating, increased rate of heart beat, respiration etc. Which hormone is responsible for her restlessness ?

A. Estrogen and progesterone

B. Oxytocin and vasopressin

C. Adrenaline and noradrenaline

D. Insulin and glucagon

Answer: C

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65. The steroid responsible for balance of water and electrolytes in our body is

A. Insulin

B. Melatonin

C. Testosterone

D. Aldosterone

Answer: D

Watch Video Solution

66. Thymosin is responsible for

A. Raising the blood sugar level

B. Raising the blood calcium level

C. Increased production of T lymphocytes

D. Decrease in blood RBC

Answer: C

Watch Video Solution

67. In the mechanism of action of a protein hormone, one of the second messengers is

A. Cyclic AMP

B. Insulin

C. T_3

D. Gastrin

Answer: A

Watch Video Solution

68. Leydig cells produce a group of hormones called

A. Androgens

B. Estrogens

C. Aldosterone

D. gonadotrophins

Answer: A

Watch Video Solution

69. Corpus luteum secretes a hormone called

A. Prolactin

B. Progesterone

C. Aldosterone

D. Testosterone

Answer: B

Watch Video Solution

70. Cortisol is secreted from

A. pancreas

B. Thyroid

C. Adrenal

D. Thymus

Answer: C

Watch Video Solution

71. A hormone responsible for normal sleep- wake cycle is

A. Epinephrine

B. Gastrin

C. Melatonin

D. Insulin

Answer: C

Watch Video Solution

72. Hormone are called chemical signals that stimulate specific target tissues . Their specific is due to the presence of signal receiving 'receptors' only in the respective target tissues. Where are these receptors present in case of hormones of protein nature

A. Extracellular matrix

B. Blood

C. Plasma membrane

D. Nucleus

Answer: C

Watch Video Solution

73. Choose the correct answer among the following options:

A Epinephrine	i Increase in muscle growth
V Testosterone	ii Decreae in blood pressure
C Glucagon	iii) Decrease in liver glycogen content
D Atrial natriuretic factor	iv Increase heart beat

A. A-ii, B-I, C-iii, D-iv

B. A-iv, B-I,C-iii,D-ii

C. A-I, B-ii, C-iii, D-iv

D. A-I, B-iv, C-ii, D-iii

Answer: B

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74. Blood calcium level is a resultant of how much dietary calcium is absorbed, how much calcium is lost in the urine, how much bone dissolves releasing calcium into the blood and how much calcium from blood enters tissues . A number of factors play an important role in these process . Mark the one which has no role

A. Vitamin D

B. Parathyroid hormone

C. Thyrocalcitonin

D. Thymosin

Answer: D

Watch Video Solution

75. All the following tissues in mammals except one consists of a central 'medullary' region surrounded by a cortical region. Mark the wrong entry

A. Ovary

B. Adrenal

C. Liver

D. Kidney

Answer: A

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76. One of the following conditions is not linked to deficiency of thyroid hormones

A. Cretinism

B. Goitre

C. Myxedema

D. Exophthalmosis

Answer: D

Watch Video Solution

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

A. Insulin-Diabetes mellitus (disease)

B. Glucagon-Beta cells (source)

C. Somatostatin-Delta cells (source)

D. Corpus luteum-Relaxin (secretion)

Answer: B

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

A. Cortisol

B. Aldosterone

C. Both androstenedione and dehydroepiandrosterone

D. Adrenaline

Answer: D

Watch Video Solution

79. Toxic agents present in food which interfere with thyroxine synthsis lead to the development of

A. thyrotoxicosis

B. toxic goitre

C. cretinism

D. simple goitre

Answer: D

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80. Select the correct matching pair of a hormone alongwith its source and function

A.

Hormone	Source	Function
Vasopressin	Posterior pituitary	Increases loss of water through ur

B.

Hormone	Source	Function
Glucagon	$\beta -$ cells of islets of Langerhans	Stimulates glycogenolys

C.

Hormone	Source	Function
Norepinephrine	Adrenal medulla	Increases the heart beat,rate of r

D.

Hormone	Source	Function
Prolactin	Posterior pituitary	Regulates growth of mammary gland

Answer: C

Watch Video Solution

81. Which of the following is not a function of insulin ?

A. Initiates the conversion of glycogen to glucose

B. Initiates the formation of hepatic glycogen from excess of glucose

C. Increases the permeability of cell membrane to glucose

D. Increases the oxidation of glucose in the cells

Answer: A

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82. Endemic goiter is a state of

A. increased thyroid function

B. normal thyroid function

C. decreased thyroid function

D. moderate thyroid function

Answer: C

Watch Video Solution

83. Islets of Langerhans are found in

A. anterior pituitary

B. kidney cortex

C. spleen

D. endocrine pancreas

Answer: D

Watch Video Solution

84. Which of the following is the function of adrenalline ?

A. Helps in gastric juice secretion

B. Increases heart rate and blood pressure

C. Increases blood calcium

D. Helps in milk secretion

Answer: B

Watch Video Solution

85. The hormone responsible for fight and flight response is

A. adrenalin

B. thyroxine

C. ADH

D. oxytocin

Answer: A

Watch Video Solution

86. Which of the following hormones is correctly matched with its deficiency disease ?

A. relaxin- cretinism

B. parathormone-tetany

C. insulin-diabetes insipidus

D. prolactin-astigmatism

Answer: B

Watch Video Solution

87. Function of ADH is

A. reabsorption of water

B. reabsorption of sodium

C. diluting the urine

D. increasing sugar level in urine

Answer: A

Watch Video Solution

88. Which is a 32-amino-acid water-soluble peptide hormone ?

A. gastrin

B. calcitonin

C. glucagon

D. insulin

Answer: B

Watch Video Solution

89. Parathormone influences calcium absorbton in the small intestine by regulating the metabolim of

A. Vitamin C

B. Vitamin D

C. Vitamin B_6

D. Enterogasterone

Answer: B

Watch Video Solution

90. Gastro-intestinal hoemone that stimulates insulin secretion is

A. gastrin

B. CCK

C. secretin

D. GIP

Answer: D

Watch Video Solution

91. Which of the following induces parturition?

A. vaopressin

B. oxytocin

C. GH

D. TSH

Answer: B

Watch Video Solution

92. Match the source gland with its respective hormone as well as the function.

A.

Source gland	Hormone	Function
anterior pituitary	oxytocin	contraction of uterus muscles during

B.

Source gland	Hormone	Function
posterior pituitary	vasopressin	stimulates resorption of water in t

C.

Source gland	Hormone	Function
corpus luteum	oestrogen	supports pregnancy

D.

Source gland	Hormone	Function
thyroid	thyroxine	regulates blood calcium level

Answer: B

Watch Video Solution

93. Given below is an incomplete table on hormones, their source glands and one major effect on each human body. Identify the option representing correct grouping of hormone its gland and effect.

Gland	**Secretion**	**Effect on body**
A	Oestrogen	Maintenance of secondary sexual characters
Alpha cells of Islets of Langerhans	B	Raises blood sugar level
Anterior pituitary	C	Oversecretion leads to gigantism

A. $\begin{matrix} A & B & C \\ \text{ovary} & \text{glucagon} & \text{growth hormone} \end{matrix}$

B. $\begin{matrix} A & B & C \\ \text{placenta} & \text{insulin} & \text{vasorpressin} \end{matrix}$

C. $\begin{matrix} A & B & C \\ \text{ovary} & \text{insulin} & \text{calcitonin} \end{matrix}$

D. $\begin{matrix} A & B & C \\ \text{placenta} & \text{glucagon} & \text{calcitonin} \end{matrix}$

Answer: A

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

Or

Which hormone is secreted more in dark condition

A. calcitonin

B. prolactin

C. adrenaline

D. metatonin

Answer: D

Watch Video Solution

95. 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. Thyroxin, insulin

C. Somatostatin, oxytocin

D. Cortisol, testosterone

Answer: D

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

A. Glucagon is secreted by β-cells of Istlets of Langerhans and stimulates glycogenolysis

B. Secretion of thymosine 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

Answer: C

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97. Select the answer which correctly matches the endocrine gland with the hormone it secretes and its function/deficiency symptom :

A.

Endocrine gland	Hormone	Function/deficiency s
Posterior pituitary	Growth Hormone (GH)	Oversecretion stimula

B.

Endocrine gland	Hormone	Function/deficiency symptoms
Thyroid gland	Thyroxine	Lack of iodine in diet results in goitre

C.

Endocrine gland	Hormone	Function/deficiency symptoms
Corpus luteum	Testosterone	Stimulates spermatogenesis

D.

Endocrine gland	Hormone	Function/deficiency symptoms
Anterior pituitary	Oxytocin	Stimulates uterus contraction during

Answer: C

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

A. Organs in the body like gastrointestinal tract, heart, kidney and liver do not produce any hormones.

B. Non-nutrient chemicals produced by the body in trace amount that act as intercellular messenger are known as homones.

C. Releasing and inhibitory hormones are produces by the pituitary gland.

D. Adenohypophysis is under direct neural regulation of the hypothalamus.

Answer: B

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99. A pregnant female delivers a baby who suffers from stunted growth , mental retardation, low intelligence quotient and abnormal skin. This is the result of

A. low secretion of growth hormone

B. cancer of the thyroid gland

C. over secretion of pars distalis

D. deficiency of iodine in diet

Answer: D

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100. 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.

Answer: B

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101. Fight-or-flight reactions cause activation of

A. the paathyroid gland, leading to increased metabolic rate.

B. the kidney, leading to suppression of reninangiotensin-aldosterone pathway.

C. the adrenal medulla, leading to increased secretion of epinephrine and norepinephrene

D. the pancreass leading to a reduction in the blood sugar levels.

Answer: C

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102. Injury localized to the hypothalamus would most likely disrupt

A. short-term memory

B. co-ordination during locomotion

C. executive functions, such as decision making

D. regulation of body temperature

Answer: D

Watch Video Solution

103. A gland called 'Clock of ageing' that gradually reduces and degenerates in ageing is

A. thyroid

B. thymus

C. parathyroid

D. pituitary

Answer: B

Watch Video Solution

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

A. Glucagon

B. Cortisone

C. Aldosterone

D. Insulin

Answer: C

Watch Video Solution

105. Which one of the following hormones through synthesized elsewhere is stored and released by the master gland

A. Melanocyte stimulating hormone

B. Antidiuretic hormone

C. Luteinizing hormone

D. Prolactin

Answer: B

Watch Video Solution

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

Or

Which hormone is secreted more in dark condition

A. calcitonin

B. prolactin

C. adrenaline

D. melatonin

Answer: D

Watch Video Solution

107. In the homeostatic control of blood sugar level, which organs function respectively as modulator and effector

A. Liver and islet of Langerhans

B. Hypothalamus and Liver

C. Hypothalamus and islet of Langerhans

D. Islet of Langerhans and hypothalamus

Answer: C

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108. Which of the following pairs of hormones are not antagonistic (having opposite effects) to each other ?

A. Insulin Glucagoon

B. Aldosterone Atrial Natriuretic Fator

C. Relaxin Inhibin

D. Parathormone Calcitonin

Answer: C

Watch Video Solution

109. Graves' disease is caused due to

A. hyposecretion of thyroid gland

B. hypersecretion of thyroid gland

C. hyposecretion of adrenal gland

D. hypersecretion of adrenal gland

Answer: B

Watch Video Solution

110. Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilization :

A. Insulin

B. Glucagon

C. Secretin

D. Gastrin

Answer: A

Watch Video Solution

111. The posterior pituitary gland is not a 'true' endocrine gland because

A. it is provided with a duct

B. it only stores and releases hormones

C. it is under the regulation of hypothaloamus

D. it secretes enzymes

Answer: B

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112. Several hormones like hCG, hPL , estrogen, progesterone are produced by

A. Ovary

B. placenta

C. fallopian tube

D. pituitary

Answer: B

Watch Video Solution

113. A temporary endocrine gland in the human body is

A. corpus cardiacum

B. corpus luteum

C. corpus allatum

D. pineal gland

Answer: B

Watch Video Solution

114. Hypersecretion of Growth Hormone in adults does not cause further increase in height, because

A. epiphyseal plates close after adolescence

B. bones loose their sensitivity to growth hormone in adults

C. muscle fibres do not grow in size after birth

D. growth hormone becomes inacitve in adults

Answer: A

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115. GnRH, a hypothalamic hormone, needed in reproduction acts on

A. anterior pituitary gland and stimulates secretion of LH and FSH

B. posterior pituitary gland and stimulates secretion of oxytocin and FSH

C. posterior pituitary gland and stimulates secretionf of LH and relaxin

D. anterior pituitary gland and stimulates secretion of LH and oxytocin

Answer: A

Watch Video Solution

116. Which of the following is an amino acid derived hormone ?

A. Epinephrine

B. Ecdysome

C. Estradiol

D. Estriol

Answer: A

Watch Video Solution

117. Which of the following hormones can play a significant role in osteoporesis

A. Aldosterone and prolactin

B. Progesterone and aldosterone

C. Estrogen and parathyroid hormone

D. Parathyroid hormone and prolactin

Answer: C

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Practice Questions Ii Assertion Reason Type Questions

1. Assertion . A woman usually does not conceive during the lactation period.

Reason. The hormone 'prolactin' stimulates (a) the growth of milk glands during pregnancy and (b) secretion of milk in a postpartum woman.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: B

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2. Assertion. The hormone FSH stimulates R.B.C. formation.

Reason. On reaching the red bone marrow, FSH stimulates mitosis to

increase RBC formation.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: D

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3. Assertion. Insulin and glucagon have the antagonistic effects on the blood-glucose level.

Reason. Insulin lowers the blood-glucose level by causing its storage in the liver and consumption in the tissues. Glucagon raises the blood-glucose level by convertin liver glycogen into blood-glucose and changing amino acids and fats into glucose.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: A

Watch Video Solution

4. Assertion. Eunuchoidism involves aspermia (lack of sperms), underdeveloped sex organs and lack of accessory sex characters in males. Reason. Failure of progesterone secretion leads to eunuchoidism.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: C

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5. Assertion. Two pituitary hormones of the mother take part in feeding the infant on milk.

Reason. Prolactin from anterior pituitary stimulates mammary glands to secrete milk, and oxytocin from posterior pituitary causes release of milk when the infant sucks at the breast.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: A

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6. Assertion. The hormone secreted by the hypothalamus are called neurohormones.

Reason. Neurohormones are produced by special non-nervous cells in the hypothalamus.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: C

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7. Assertion. Thymus gland is prominent at birth but gradually atrophies in the adult

Reason. Thymus hormone named thymosine causes growth in early life by accelerating cells division.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: A

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8. Assertion. Placenta functions as a temporary endocrine gland during development.

Reason. Placenta produces pheromones..

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: C

Watch Video Solution

9. Assertion : Diabetes insipidus iS marked by excessive urination and too much thirst for water .

Reason : Anti-diuretic hormone (ADH) is secreted by the posterior lobe of pituitary gland .

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: A

Watch Video Solution

10. Assertion: Our body secretes adrenaline in intense cold.

Reason: Adrenaline raises metabolic rate.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A.

C. If A is true but R is false.

D. If both A and R are false.

Answer: A

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Model Test Paper

1. How many base pairs are present in each turn of the helix of DNA as per Watson and Crick model ?

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2. How do old zoos and modern zoos differ ?

Watch Video Solution

3. In which stage of prophase of meiosis I, chiasmata are first observed ?

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4. Heart in fishes is called venous heart. Why ?

Watch Video Solution

5. Why do animals not graze upon ferns ? Give reason.

Watch Video Solution

6. What are viroids and prions ? Where are they found and what role they play ?

Watch Video Solution

7. Is it appropriate to call pituitary as master endocrine gland ?

Watch Video Solution

8. How would you differentiate between Protostomia and Deuterostomia ?

Watch Video Solution

9. What is meant by biological nitrogen fixation ? List atleast two organisms involved in biological nitrogen fixation.

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10. How would you differentiate between aggregate fruits and composite fruits ? Give one example of each.

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11. What is facilitated transport ? How does it help to transport materials ?

Watch Video Solution

12. Why do old people get bone fractures easily as compared to young ?

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13. (a) What is imbibition? How is it different form osmosis?

(b)What is the importance of imbibition to the plants

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Watch Video Solution

14. How is CO_2 fixed in photosynthesis in C_4 plants? Explain.

Watch Video Solution

15. How is nasal breathing superior to oral breathing ?

Watch Video Solution

16. (i) How can infection in the ear affect equilibrium of the body ?

(ii) Why do albinos have pink eyes ? Explain.

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17. Cell is the basic unit of life. Justify the statement.

Watch Video Solution

18. DIFFERENCE BETWEEN PLANT CYTOKINESIS AND ANIMAL CYTOKINESIS

Watch Video Solution

19. (i) What is dead space air ?

(ii) How does faetal haemoglobin ensure survival of foetus inside the mother's body ?

Watch Video Solution

20. What is the difference between the terms 'chyme' and 'chyle' refer to ?

Watch Video Solution

21. What is the shuttle system ? Give its role also.

Watch Video Solution

22. Explain the role of enzyme nitrogenease in fixation of atmospheric nitrogen.

Watch Video Solution

23. One day, Geeta asked her daughter aunt, " Why do breasts produce milk only after delivery ? Her aunt expalined her about the role of hormones in females.

(i) Which hormone stimulates milk production after delivery ? What is its other role ?

(ii) Which endocrine gland secretes this hormone ?

(iii) In what way is breast feeding good for the newly born ?

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24. Give a summary of the electrical and biochemical events that occur in muscle contraction.

Watch Video Solution

25. Draw diagram of internal structure of typical chloroplast and label any five parts.

Watch Video Solution

26. Give a list of gastro- intestinal hormones.

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