BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA BIOLOGY (GUJRATI ENGLISH)

CHEMICAL COORDINATION AND INTEGRATION

Section A Exam Oriented Questions Answers From Darpan

1. State the importance of neural system.

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2. Give information of endocrine glands and hormones.

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3. Give brief information of location of endocrine glands and name in human.

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4. Give information of hormones secreted by hypothalamus. State its target / function in the body.

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5. Which type of hormones are secreted by pituitary gland ? Mention their names and target organs.

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6. Write short note : Pineal gland.

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7. Give information regarding location of thyroid gland and its hormones.

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8. Write short note - Disorders / Disease of thyroid gland.

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9. Give detailed information for location of gland hormones and physiological effects of parathyroid gland.

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10. Mention location of thymus gland in the body and state its importance.

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11. State location and types of adrenal gland.

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12. Describe hormones of adrenal gland, functions and disorders due to its deficiency.

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13. Describe the structure of pancreas, location and discuss its hormonal role.

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14. State the location of the testes. Mention the functions and name of the hormones produced by it.

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15. What is endocrine function of overy besides reproductive organ.

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16. Which hormones are released from ovary ? How is secondary sexual characters regulated by it ?

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17. What are the hormones of heart, kidney and G.I.tract ? What are their functions ?

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18. Chemically hormones are divided into which groups ?

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19. Describe mechanism of steroid and peoptide hormone with diagram.

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Section B Differentiate Scientific Reason

1. Neural system and Endocrine system

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2. Hormones of adrenal cortex and Hormones of adrenal medulla.

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3. Thyroid hormones and Parathyroid hormones

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4. Hormones of testis and Hormones of ovaries

View Text Solution

5. Hormones and Enzymes

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6. Hormones are regulatory chemicals.

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7. Less secretion of thyroxine results in stunted growth of person.

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8. Deficiency of insulin results in diabetes mellitus.

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9. Give a reason : Pancreas is endocrine as well as exocrine gland.

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Section C Definition Explanation Terms Location Function Differentive Word

1. Definitions / Explanation : Hormone

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2. Definitions / Explanation : Endocrine glands

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3. Definitions / Explanation : Exocrine glands

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4. Definitions / Explanation : Acromagely

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5. Location and function : Prolactin

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6. Location and function : ADH

Watch Video Solution

7. Location and function : Pineal gland

Watch Video Solution

8. Location and function : Relaxin

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9. Location and function : Thyrocalcitonin

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10. Difference in word : Neural system - Endocrine system

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11. Difference in word : Oxytocin - Vasopressin

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12. Difference in word : Dwarfism - Gigantism.

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13. Difference in word : FSH - LH.

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14. Difference in word : RH : IH.

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15. Difference in word : Diabetes incipidus - Dlabetes mellitus.

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16. Difference in word : Testosterone - Progesterone.

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17. Difference in word : Atrial Natriuretic Factor (ANF) - Erythropoietin.

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Section D Textual Exercise

1. Definitions / Explanation : Exocrine glands

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2. Definitions / Explanation : Endocrine glands

Watch Video Solution

3. Definitions / Explanation : Hormone

Watch Video Solution

4. Give information of hormones secreted by hypothalamus. State its target / function in the body.

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5. Which type of hormones are secreted by pituitary gland ? Mention their names and target organs.

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6. The hormones secreted by the following : Thyroid

Watch Video Solution

7. The hormones secreted by the following : Parathyroid

Watch Video Solution

8. The hormones secreted by the following : Adrenal

Watch Video Solution

9. The hormones secreted by the following :

Pancreas

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10. The hormones secreted by the following :

Testis

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11. The hormones secreted by the following :

Ovary

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12. The hormones secreted by the following :

Thymus

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13. The hormones secreted by the following :

Atrium

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14. The hormones secreted by the following :

Kidney

View Text Solution

15. The hormones secreted by the following : GI Tract

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16. Fill in the blank : Hypothalamic Hormones .....

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17. Fill in the blank : Thyrotrophin (TSH) .....

View Text Solution

18. Fill in the blank : Corticotrophin (ACTH) .....

View Text Solution

19. Fill in the blank : Gonadotrophin (LH, FSH).....

View Text Solution

20. Fill in the blank : Melanotrophin (MSH).....

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21. Write short notes on the functions of the following hormones : Parathyroid hormone (PTH)

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22. Write short notes on the functions of the following hormones : Thyroid hormones

View Text Solution

23. Write short notes on the functions of the following hormones : Thymosins

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24. Write short notes on the functions of the following hormones : Androgens

View Text Solution

25. Write short notes on the functions of the following hormones : Estrogens

View Text Solution

26. Write short notes on the functions of the following hormones : Insulin and Glucagon

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27. Give examples of : Hyperglycemic hormone and Hypoglycemic hormone

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28. Give examples of : Hypercalcemic hormone

View Text Solution

29. Give examples of : Gonadotrophic hormone

View Text Solution

30. Give examples of : Progestational hormone

View Text Solution

31. Give examples of : Blood pressure lowering hormone

View Text Solution

32. Give examples of : Androgens and estrogens

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33. Which hormnal deficiency is responsible for the following : Diabetes mellitus

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34. Which hormnal deficiency is responsible for the following : Goitre

View Text Solution

35. Which hormnal deficiency is responsible for the following : Cretinism

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36. Briefly mention the mechanism of action of FSH.

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37. Match the following :

Column-I		Column-II	
(a)	T_4	(i)	Hypothalamus
(b)	PTH	(ii)	Thyroid
(c)	GnRH	(iii)	Pituitary
(d)	LH	(iv)	Parathyroid

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Section E Solution Of Ncert Exemplar Multiple Choice Questions

1. Select the right match of endocrine gland and their hormones among the optinons

given below:

Column-I		Column-II	
(A)	Pineal	(1)	Epinepnrine
(B)	Thyroid	(2)	Melatonin
(C)	Ovary	(3)	Estrogen
(D)	Adrenal medulla	(4)	Tetraiodothyronine

A. $(A-4),(B-2),(C-1),(D-3)$

B. $(A-2),(B-4),(C-1),(D-3)$

C. $(A-3),(B-2),(C-1),(D-4)$

D. $(A-2),(B-4),(C-3),(D-1)$

Answer: D

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2. Which of the follwing hormones is not secreted by anterior pituitary ?

A. Growth hormone

B. Follicle stinulating hormone

C. Oxytocin

D. Adrenocorticotrophic hormone

Answer: C

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

A. Insulin

B. Melatonin

C. Testosterone

D. Aldosterone

Answer: D

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5. Thymosin is responsible for

A. Raisisng the blood sugar level.

B. Raising the blood calcium level.

C. Differentiation of T-lymphocytes.

D. Decrease in blood RBC.

Answer: C

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6. 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

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7. Leydig cells produce a group of hormones called .....

A. Androgens

B. Estrogens

C. Aldosterone

D. Gonadotropins

Answer: A

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8. Corpus luteum secretes a hormone called.....

A. Prolactin

B. Progesterone

C. Aldosterone

D. Testosterone

Answer: B

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9. Cortisol is secreted from .....

A. Pancrease

B. Thyroid

C. Adrenal

D. Thymus

Answer: C

View Text Solution

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

A. Epinephrine

B. Gastrin

C. Melatonin

D. Insulin

Answer: C

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11. Hormones are called chemical signals that stimulate specific target tissues. Which is the correct location of these receptors in of protein hormones ?

A. Extra cellular matrix

B. Blood

C. Plasma membrene

D. Nucleus

Answer: C

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12. Match the following columns.

Column - I		Column - II	
(a)	Epinephrine	(1)	Increase in muscle growth.
(b)	Testosterone	(2)	Decrease in blood pressure.
(c)	Glucagon	(3)	Breakdown in liver glycogen.
(d)	Atrial natriuretic factor	(4)	Increase heart beat.

A. $(a-2), (b-1), (c-3), (d-4)$

B. $(a-4), (b-1), (c-3), (d-2)$

C. $(a-1), (b-2), (c-3), (d-4)$

D. $(a-1), (b-4), (c-2), (d-3)$

Answer: B

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13. Which of the following do not play any role in calcium balance in the human body ?

A. Vitamin D

B. Parathyroid hormone

C. Thyrocalcitonin

D. Thymosin

Answer: D

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14. All the following organs in mammals does not one consists of a central 'medullary' region surrounded by a cortical region.

A. Ovary

B. Adrenal

C. Liver

D. Kidney

Answer: C

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15. Which of the following conditions is not linked to deficiency of thyroid hormone ?

A. Cretinism

B. Goitre

C. Myxedema

D. Exophthalmosis

Answer: C

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Section E Solution Of Ncert Exemplar Very Short Answer Questions

1. There are many endocrine glands in human body. Name the glands which is absent in male and the one absent in female.

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2. Which of the two adrenocortical layers, zona glomerulose and zona reticularis lies outside enveloping the other ?

View Text Solution

3. Which is erythropoiesis ? Which hormone stimulate it ?

View Text Solution

4. Name the only hormone secreted by pars intermedia of the pituitary gland.

View Text Solution

5. Name the endocrine gland that produces calcitonin and mention the role played by this hormone.

View Text Solution

6. Name the hormone that helps in cell-mediated immunity.

View Text Solution

7. What is the role of second messenger in the mechanism of protein hormone action ?

View Text Solution

8. True of false : Gastrointestinal tract, kidney and heart also produce hormones

View Text Solution

9. True of false : Pars distalis produces six trophic hormones.

View Text Solution

10. True of false : B-lymphocytes provide cell - mediated immunity.

View Text Solution

11. True of false : Insulin resisitance results in a disease called diabetes mellitus.

View Text Solution

12. A patient complains of constant thirst, excessive passing of urine and low blood pressure, When the doctor checked the patients' blood glucose and blood insulin level, the level were normal or slightly low. Thw doctor diagnosed the condition as diabetes insupidus. But he decided to measure one more hormone in patients blood. Which hormone does the doctor intend to measure ?

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13. Correct the following statements by replacing the term underlined. : Insulin is a steroid hormone.

View Text Solution

14. Correct the following statements by replacing the term underlined. : TSH is secreted from the corpus luteum.

View Text Solution

15. Correct the following statements by replacing the term underlined. : Tetraiodothyronine is an emergency hormone.

View Text Solution

16. Correct the following statements by replacing the term underlined. : The pineal gland is located on the anterior part of the kidney.

View Text Solution

17. Match the following columns.

Column - I		Column - II	
(A)	Oxytocin	(1)	Amino acid derivaties
(B)	Epinephrine	(2)	Steroid
(C)	Progesterone	(3)	Protein
(D)	Growth hormone	(4)	Peptide

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Section E Solution Of Ncert Exemplar Short Answer Questions

1. What is the role-played by luteininzing hormones in males and females respectively ?

View Text Solution

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

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3. On an educational trip to Uttaranchal, Ketki and her friends observe that many local people were having swollen necks. Please help Ketki and her fridnds to find out the solutions to the following questions.

Which probable disease are these people suffering from ?

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4. On an educational trip to Uttaranchal, Ketki and her friends observe that many local people were having swollen necks. Please help Ketki and her fridnds to find out the solutions to the following questions.

How is it caused ?

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5. On an educational trip to Uttaranchal, Ketki and her friends observe that many local

people were having swollen necks. Please help Ketki and her fridnds to find out the solutions to the following questions.

What effect does this condition have on pregnancy ?

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6. George comes on a vcation to India from U.S. The long journey disturbs his biological system and he suffers from jet lag. What is the cause of his dicomfort ?

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7. Inflammatory responses can be controlled by a certain steroid. Name the steroid, its source and also its other important functions.

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8. Old people have weak immune system. What could be the reason ?

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9. What are the effects of hypothyroidism (observed dueing pregnancy) on the development and maturation of a growing baby ?

View Text Solution

10. Mention the difference between hypothyroidism and hyperthyroidism.

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Section E Solution Of Ncert Exemplar Long Answer Questions

1. Amilkman is very upset one morning as his cow refuses to give any milk. The milkman's wife gets the calf from the shed. On feeding by the calf, the cow gace sufficient milk. Describe the role of endocrine gland and pathway associated with this response ?

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2. A sample of urine was diagnosed to contain high content of glucose and ketone bodies. Based on this observation, answer the following :

Which endocrine gland and hormone is related to this condition ?

View Text Solution

3. A sample of urine was diagnosed to contain high content of glucose and ketone bodies.

Based on this observation, answer the following :

Name the cells on which this hormone acts.

View Text Solution

4. A sample of urine was diagnosed to contain high content of glucose and ketone bodies. Based on this observation, answer the following :

What is the condition called and how can it be rectified ?

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5. Calcium plays a vary important role in the formation of bones. Write on the role of endocrine glands and hormones responsible for maintaining calcium homeostasis.

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6. Illustrate the differences between the mechanism of action of a protein and a steroid hormone.

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

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Questions From Module Important Mcq For Neet

1. Which endocrine gland stores its secretions is intercellular space before releasing into

blood ?

A. Adrenal

B. Pancreas

C. Testis

D. Thyroid

Answer: D

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2. Which pair is correct ?

A. Thyroxine - Tetanus

B. Insulin - Diabetes incipedus

C. Adrenaline - Tetany

D. Parathormone - Tetany

Answer: D

View Text Solution

3. Which hormone regulates 24 hour cycle and controls sleep and wakefulness ?

A. Adrenalin

B. Melationin

C. Calcitonin

D. Prolactin

Answer: B

View Text Solution

4. ..... Does not function as secondary messenger.

A. Na

B. C - AMP

C. C - GMP

D. Calcium

Answer: A::D

View Text Solution

5. Which gland inactivated at old age ?

A. Adrenal

B. Pineal

C. Thymus

D. Pituitary

Answer: C

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Objective Section Multiple Choice Questions

1. Which organ is stimulated by secreten ?

A. Lungs

B. Liver

C. Pancreas

D. Gastric glands

Answer: D

View Text Solution

2. Which is not a steroid hormone ?

A. Aldosterone

B. Androgen

C. Estrogen

D. Thyroxine

Answer: D

View Text Solution

3. Anterior pituitary and hypothalamus is connected through .....

A. Hepatic portal vein

B. Renal portal vein

C. Hypothalamo hypophyseal axis

D. All of these

Answer: C

View Text Solution

4. Development of mammary gland and secretion of milk in females is by .....

A. GH

B. PH

C. TSH

D. FSH

Answer: B

View Text Solution

5. Inhibits the secretion of hormones of anterior pituitary gland

A. GH

B. FSHRH

C. GHRIH

D. GHRH

Answer: C

View Text Solution

6. Which hormone regulates the development, maturation and functions of male reproductive system.

A. Androgens

B. LTH

C. FSH

D. TSH

Answer: A

View Text Solution

7. Absence of ..... causes Diabetes inspidus.

A. Oxytocin

B. ADH

C. Prolactin

D. Testosterone

Answer: B

View Text Solution

8. Hormone regulating 24-hour (diuranl) rhythm.

A. ADH

B. Prolaction

C. Melatonn

D. Testosterone

Answer: C

View Text Solution

9. ..... Deficiency results in hypothyroidism and enlargement of thyroid gland, commonly called as goitre.

A. Vitamin

B. Protein

C. Iodine

D. Lipids

Answer: C

View Text Solution

10. Pragnancy hormone is .....

A. Estrogen and progesterone

B. Androgen

C. Progesterne

D. Gastrin

Answer: C

View Text Solution

11. Secretion of which gland regulates oxidation and ATP formation.

A. Somatotropic hormone

B. Pituitary gland

C. Thyroid

D. Adrenaline

Answer: C

View Text Solution

12. Hormone acts on bones and stimulates the process of bone resorption

A. PTH

B. TCT

C. Thymosin

D. Melatonin

Answer: A

View Text Solution

13. Which hormone increases Ca^{+2} absorption form digested food and increases Ca^{++} level in blood ?

A. Thymosin

B. PTH

C. Thyroxine

D. TCT

Answer: B

View Text Solution

14. Hormone playing major role in differentiation of T-lymphocytes

A. Thyroxine

B. Thymosine

C. PTH

D. Thyroid gland

Answer: B

View Text Solution

15. Hormones including in the category of catecholamines are

A. Prollactin

B. Adrenaline - nor - adrenaline

C. Adrenal

D. Mineralcorticoid

Answer: B

View Text Solution

16. Hormone regulating the balance of water and electrolytes in our body

A. Epinephrine

B. nor epinephrine

C. Adrenal

D. Mineralcorticoids

Answer: D

View Text Solution

17. A : Hypothalamus is made up of neuron.

R : Pineal hormone secreted from hypothalamus.

A. A and R both are correct and R is correct explanation of A.

B. A and R are correct but R is not explanation of A.

C. A is correct and R is false.

D. A and R are false.

Answer: B

View Text Solution

18. A : Hypothalamus and adenohyapophysis in connected through hypthalahyphoseal axis

R : Hypothalamus secretes the releasing hormones the inhibiting hormones.

A. A and R both are correct and R is correct explanation of A.

B. A and R are correct but R is not explanation of A.

C. A is correct and R is false.

D. A and R are false.

Answer: B

View Text Solution

19. A : Our body secretes adrenaline in intense cold.

R : Adrenaline reise metabolic rate.

A. A and R both are correct and R is correct explanation of A.

B. A and R are correct but R is not explanation of A.

C. A is correct and R is false.

D. A and R are false.

Answer: A

View Text Solution

20. A : Glucagon is a hypoglycemic hormone.

R : It increases the utilization of glucose in tissue.

A. A and R both are correct and R is correct explanation of A.

B. A and R are correct but R is not explanation of A.

C. A is correct and R is false.

D. A and R are false.

Answer: D

View Text Solution

21. A : Hormone calcitonin has antagonistic effect to that of parathormone.

R : Calcitonin decreases blood Ca^{++} level while PTH increases blood Ca^{++} level.

A. A and R both are correct and R is correct explanation of A.

B. A and R are correct but R is not explanation of A.

C. A is correct and R is false.

D. A and R are false.

Answer: A

View Text Solution

Objective Section Analogy Type Questions

1. Hyperglycemia : Diabetes mellitus :: ADH : .....

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2. GH-oversecretion : Gigantism :: GH-Hyposcretion : .....

View Text Solution

3. Pineal gland : Melatonin :: Somatostatin : .....

View Text Solution

4. ADH : Diabetes inspidus :: Pancreatic β-cells : .....

View Text Solution

5. Corpus luteum : progesterone : leyding cells : .....

View Text Solution

6. GIP : Gastric inhibitory peptide :: CCK :: .....

View Text Solution

7. Ovarian follicles : estrogen :: corpus luteum : .....

View Text Solution

8. Reduces cellular glucose uptake : Hyperglycemia :: Decrease in blood glucose level :: .....

View Text Solution

9. Pancreatic α-cell : Glucagon :: β-cell : .....

View Text Solution

Objective Section True Or False

1. Somatostatin from hypothalamus inhibits the release of growth hormone from pituitary.

View Text Solution

2. Hypothalamus forms upper part of diencephalon of forebrain.

View Text Solution

3. Anterior pituitary gland can also be called as neurohypophysis.

View Text Solution

4. Deficiency of Iodine in our diet results in hypothyroidism.

View Text Solution

5. CH and FSH inhibits gonadial activity.

View Text Solution

6. MSH regulates pigmentation of skin.

View Text Solution

7. ADH can also be called as vasopressin.

View Text Solution

8. Parathormone decrease blood Ca^{++} level.

View Text Solution

9. Thymosin plays a major role in differentiation of T - lymphocyte which provide cell - mediated immunity.

View Text Solution

10. Under production of hormones by adrenal cortex can cause addison's disease.

View Text Solution

11. Glucagon from Pancreatic cell decreass blood glucose level.

View Text Solution

12. Leydig cells in intertubular spaces secretes esterogen.

View Text Solution

13. After ovulation, the ruptured follicle is converted into structure called corpur luteum which secretes progesterone.

View Text Solution

14. Atrial wall of our heart secretes ANF.

View Text Solution

15. The juxtaglomerular cells of kidney produce erythropoietin which inhibits erythropoiesis (formation of RBC)

View Text Solution

Objective Section Pick Up The Correct Option

1. Hormones acting as intercellular messengers and are produced in trace amounts are nutrient / non-nutrient.

View Text Solution

2. Posterior pituitary gland secretes oxytocin/prolactin.

View Text Solution

3. Under secretion of GH causes giangtism/low secretion results in stunted groth.

View Text Solution

4. Glucocorticoids are steroids/proteinceous

View Text Solution

5. In females, LH induces/inhibits rupting Graafian follicles to cause ovulation.

View Text Solution

6. TCT regulates level of $N\frac{a^{+}}{C}a^{++}$ ion blood.

View Text Solution

7. Thymosine of thymus gland is steroid/peptide hormone.

View Text Solution

8. The hormones of adrenal medulla are generally steroids / catecholamines.

View Text Solution

9. Pancreas α-cell secreted glucagon/Insulin hormone.

View Text Solution

Objective Section Fill In The Blanks

1. Hormones produce their effects on target tissues by binding to specific proteins called.....

View Text Solution

2. ..... acts on gastric glands and stimulates secretion of HCI.

View Text Solution

3. ..... From hypothalamus inhibits the releas of growth hormone from pituitary.

View Text Solution

4. Glucagon acts mainly on liver cells and ..... Glycogenolysis resulting in an increased blood gugar.

View Text Solution

5. Glucocorticoids particularly cortisol, produces ..... Reactions and suppresses the immune response.

View Text Solution

6. Cortisol ..... The RBC production.

View Text Solution

7. Thymosine play amjor role in the differentiation of .....

View Text Solution

8. PTH increases the ..... Levels in blood.

View Text Solution

9. ..... Plays a very important role in the regulation of 24-hour rhythm in our body.

View Text Solution