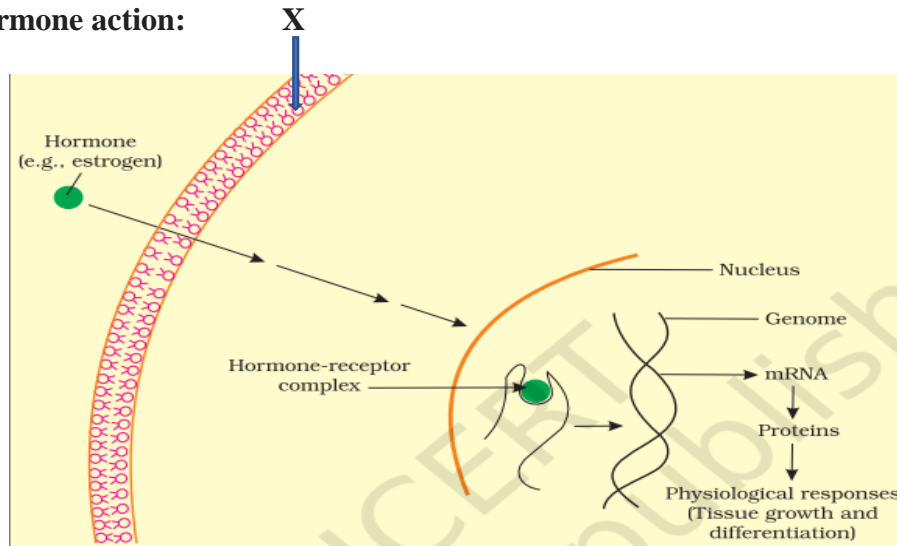




Class: XI	Department: SCIENCE 2021 – 22 SUBJECT : BIOLOGY	Date of submission: Last week of January
Worksheet No: 15 WS WITH ANS.	UNIT: HUMAN PHYSIOLOGY CHEMICAL COORDINATION AND INTEGRATION	Note: A4 FILE FORMAT
NAME OF THE STUDENT	CLASS & SEC:	ROLL NO.

Case Study: OBJECTIVE TYPE QUESTIONS (1 Marks.)

Given below is the Diagrammatic representation of the mechanism of a Steroid hormone action:



1. The figure given represents a Hormone which interact with
 - a) Intracellular receptors
 - b) Membrane-bound receptors
 - c) Both (a) & (b)
 - d) Neither (a) or (b)
2. The interaction of the above hormone-receptor complex takes place with
 - a) The messengers
 - b) The genome.

c) The target cell membrane

d) Physiological functions

3. Cumulative biochemical actions result in physiological and developmental effects of this hormone---True/ False

4. Identify the non-steroidal hormone

a) Cortisol,

b) Testosterone,

c) Progesterone

d) Iodothyronines

5. Identify the part marked X in the diagram

a) Ovarian follicles

b) Ovarian cell membrane

c) Uterine cell membrane

d) Seminiferous tubule

OBJECTIVE TYPE QUESTIONS (1 Marks.)

1. _____ controls the concentration of urine

1. ADH
2. Oxytocin
3. ACTH
4. None of the above

2. Children who have damaged thymus may result in _____

1. Loss of an antibody-mediated immunity
2. Reduction in stem cell production
3. Deafness
4. Loss of cell-mediated immunity

3. A group of hormones called _____ are released due cortex

1. Glucose
2. Glucocorticoid
3. Glucagon
4. None of the above

4. Adrenocorticotrophic hormones stimulate the adrenal cortex to produce _____

1. Testosterone
2. Aldosterone
3. Cortisol
4. None of the above

5. Deficiency of this element causes the thyroid gland to swell up
 1. Calcium
 2. Iodine
 3. phosphorous
 4. None of the above
6. The hormone that participates in metabolizing calcium and phosphorous are called _____
 1. Glucagon
 2. Calcitonin
 3. Glycogen
 4. None of the above
7. If too much growth hormone is released during the growth period, it can cause _____
 1. Acromegaly
 2. Crohn's Disease
 3. Gigantism
 4. None of the above
8. Endemic goitre relates to
 1. Increased Pancreases function
 2. Increased Thyroid function
 3. Decreased Thyroid function
 4. Decreased Pancreases function
9. _____ secretes glucagon hormone
 1. Thyroid gland
 2. Pituitary gland
 3. Liver
 4. Pancreas
10. Name the hormone that is responsible for milk secretion after parturition.
 1. Insulin
 2. Prolactin
 3. Lactogen
 4. None of the above
11. _____ is produced by the alpha cells of the pancreas
 1. Calcitonin
 2. Glucagon
 3. Insulin
 4. None of the above
12. _____ is a hormone produced by the beta cells of the pancreas
 1. Insulin
 2. Glucagon
 3. Glycogen
 4. Oxytocin

SHORT ANSWER TYPE QUESTION (2 Marks)

Q.13. Define erythropoiesis. Name the hormone that triggers it.

Q.14. Which is the endocrine gland that secretes calcitonin? What role does this hormone play?

Q.15. Which hormone aids in cell-mediated immunity? Why do old people have a weak immunity system?

Q.16 Which is the steroid that controls inflammatory responses? Name its source and its other functions.

Q.17. How does hypothyroidism affect the maturation and development of a growing baby, generally seen during pregnancy?

Q.18. Differentiate between hyperthyroidism and hypothyroidism.

Q.19. Write about the importance of the second messenger in hormone action.

LONG ANSWER TYPE QUESTIONS (3 Marks)

Q.20. State the significance of luteinizing hormones in males and females.

Q.21. A urine sample contained increased content of glucose and ketone bodies. Answer the questions below based on this observation.

a) Name the hormone and gland associated with this condition.

b) On which cells do these hormones act?

c) Name the condition. How can it be rectified?

Q.22. Explain why hypothalamus is a super master endocrine gland.

VERY LONG ANSWER QUESTIONS (5 MARKS)

Q.23. Illustrate the action of Peptide hormone and Steroids.

Some Important Hints

ANSWERS MCQs (1-12)

1 – 1	2 – 4	3 – 2	4 – 3
5 – 2	6 – 2	7 – 3	8 – 3
9 – 4	10 – 2	11 – 2	12 – 1

A.13. The process of formation of RBC is known as erythropoiesis. The peptide hormone erythropoietin produced from the juxtaglomerular cells of the kidney triggers the erythropoiesis.

A.14. It is produced by the thyroid gland. It restricts excess Ca^{2+} and phosphate in the plasma by lowering mobilization from bones. Its deficiency causes osteoporosis or loss of bone density.

A.15. Thymosin plays a significant role in the differentiation and development of T-lymphocytes that provide cell-mediated immunity.

In older individuals, the thymus degenerates thus causing a decreased thymosin secretion. Hence their immune system becomes weak.

A.16. Glucocorticoids. They are secreted by the adrenal cortex. They trigger gluconeogenesis, proteolysis

A.17. During pregnancy, hypothyroidism causes defective maturation and development of the foetus, that induces a stunted growth, low Intelligence, mental retardation, deaf-mutism, abnormal skin, etc.

A.18. Hyperthyroidism is the over secretion of thyroid hormone and occurs due to the cancer of the thyroid gland whereas hypothyroidism is the low secretion of the thyroxine hormone.

A.19. The hormones that do not enter the target cells, communicate with specific receptors situated on the surfaces of the target cell membranes and produces second messengers on the plasma membrane (inner side). In turn, the second messenger performs all the functions related to hormones.

A.20. * The luteinizing hormone in males triggers the production and secretion of hormones known as androgens from testes.

*Along with Follicle Stimulating Hormone (FSH), androgens control the spermatogenesis.

*The LH in females causes ovulation of the Graafian follicles and maintains the corpus luteum, developed from the traces of the Graafian follicles after ovulation that produces progesterone.

A.21. a) Insulin hormone and Insulin gland.

b) It acts on the β -cells of islets of Langerhans present in the pancreas

c) Prolonged hyperglycaemia causes diabetes mellitus that is linked to loss of glucose via urine and accumulation of harmful compounds called as ketone bodies. Insulin therapy can be successfully used to treat Diabetic patients.

A.22. *The hypothalamus controls an array of functions.

*It has many groups of neurosecretory cells known as nuclei that produce hormones.

* These hormones maintain the secretion and synthesis of pituitary hormones.

*The hormones produced by the hypothalamus are – the releasing hormones and the inhibiting hormones.

*The releasing hormones trigger the secretion of pituitary hormones and the inhibiting hormones hinder the secretions of the pituitary hormones.

* Hypothalamus directly regulates the posterior pituitary. It also synthesizes two hormones – vasopressin and oxytocin which are further conveyed to the posterior pituitary.

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