



Final term Exam



Department: Zoology
Time: 2 Hours
Date: 13 . 01 . 2026

Major: molecular biology
program
(fifth semester students)

Course Title: Endocrinology
Code number: 304 Z
Mark: 90

Answer the Following Questions:

الإمتحان في 3 صفحات:

First question:

(30 marks)

Choose the best fitting answer:

- The function(s) of oxytocin is/are to _____
A) cause the uterus to contract
B) induce labor
C) stimulate the release of milk from the mother's mammary glands when her baby is nursing.
D) all the above
- Which of the following is not a corticosteroid hormone?
A) aldosterone
B) estrogen
C) parathormone
D) cortisol
- Hypothalamic releasing and release-inhibiting hormones are transported from the hypothalamus to the anterior pituitary by way of _____.
A) direct contact between the two organs
B) a portal system of blood vessels directly connecting the two organs
C) the general bloodstream
D) none of the above
- GH promotes: _____
A) cell division
B) protein synthesis
C) bone growth
D) all the above
- If _____ is lacking, the thyroid gland enlarges, producing a goiter.
A) thyroxin
B) triiodothyronine
C) iodine
D) all the above
- Gonadocorticoids are secreted from the adrenal cortex in response to:
A) Gonadotropins
B) Adrenal cortex tropic hormone (ACTH)
C) Direct hypothalamic effect
D) Main hormones of gonads
- In addition to thyroxin and triiodothyronine, the thyroid gland produces:
A) TSH
B) calcitonin
C) PTH
D) iodine
- The following has NO tropic hormones:
A) Islets of Langerhans
B) Adrenal medulla
C) Parathyroid gland
D) All of the above
E) A) and C)

9. Insulin functions to _____
- A) stimulate uptake of glucose by cells
 - B) lower the blood glucose level by stimulating liver, fat and muscle cells to metabolize glucose
 - C) promote the storage of nutrients
 - D) all the above
10. A pair of hormones that have similar effects on blood sugar levels:
- A) Calcitonin and PTH
 - B) Adrenalin and growth hormone
 - C) Glucagon and Glucose
 - D) Insulin and glucagon
11. In Grave's disease, blood tests reflect _____
- A) low TSH and high thyroxin levels.
 - B) high TSH and low thyroxin levels.
 - C) low TSH and low thyroxin levels.
 - D) high TSH and high thyroxin levels.
12. The parathyroid glands are located _____.
- A) Above the thyroid
 - B) below the thyroid
 - C) on the anterior surface of the thyroid
 - D) on the posterior surface of the thyroid
13. The target organ of aldosterone is _____.
- A) liver
 - B) kidneys
 - C) muscles
 - D) skeleton
14. PTH raises blood calcium levels by:
- A) increasing vitamin D production.
 - B) Decreasing osteoclast activity.
 - C) Inhibiting calcitonin.
 - D) None of the above.
15. The target of SAD disorder is -----.
- A) hypothalamus
 - B) pituitary gland
 - C) pineal gland
 - D) none of the above

Second question: (20 marks)

Write short notes on the following:

- a) ICSH
- b) Hypothalamic – endocrine control
- c) diabetes insipidus and pituitary diabetes
- d) anatomy and hormones of thyroid

Third question: (20 marks)

Are the following sentences TRUE or FALSE? Please CORRECT, if necessary, and DON'T use the opposite sentence to correct.

1. Growth hormone is similar to insulin in its action.
2. Somatomedin is secreted in muscles to stimulate muscular growth.
3. Type I diabetes usually occurs in people who are obese and inactive.
4. Diabetes insipidus occurs due to an autoimmune disease in alpha cells of pancreatic islets.
5. C-cells are a constituent of islets of Langerhans and secrete parathormone.
6. Cortisol is a mineralocorticoid responsible for regulating electrolyte balance.
7. The target organs for epinephrine are muscles in order to "fight or flight".

Insulin functions
A) stimulat
cat.

8. The hormone melatonin regulates the body rhythms and is secreted from the skin in response to sunlight
9. Androgens are secreted from adrenal medulla and controlled by ACTH.
10. The medulla and the cortex of the adrenal glands function together as a physiological unit

Fourth question:

(20 marks)

Write essays on the following titles:

- a) The role of microRNAs in endocrine regulation.
- b) Some molecular diagnostics are applied in endocrinology.

Best Wishes
Prof. Ayman Hyder