



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DIPLOMA
IN
MEDICAL BIOTECHNOLOGY
DIRECT ENTRY

MAIN EXAM

COURSE CODE: BBD 221

COURSE TITLE: MEDICAL ENDOCRINOLOGY

DATE: 28/04/2022

TIME: 12.00 - 2.00 PM

INSTRUCTIONS TO CANDIDATES

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**).

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

SECTION A: Multiple Choice Questions (20 Marks)

1. Endocrine glands _____.
 - a) Secrete hormones that travel through a duct to the target organs
 - b) Release neurotransmitters into the synaptic cleft
 - c) Secrete chemical messengers that travel in the bloodstream
 - d) Include sebaceous glands and sweat glands
2. Chemical signaling that affects neighboring cells is called _____.
 - a) Autocrine
 - b) Paracrine
 - c) Endocrine
 - d) Neuroendocrine
3. Which of the following is an anterior pituitary hormone?
 - a) ADH
 - b) Oxytocin
 - c) TSH
 - d) Cortisol
4. How many hormones are produced by the posterior pituitary?
 - a) 0
 - b) 1
 - c) 2
 - d) 6
5. Which of the following hormones contributes to the regulation of the body's fluid and electrolyte balance?
 - a) Adrenocorticotrophic hormone
 - b) Antidiuretic hormone
 - c) Luteinizing hormone
 - d) All of the above
6. Which of the following statements about the thyroid gland is true?
 - a) It is located anterior to the trachea and inferior to the larynx.
 - b) The parathyroid glands are embedded within it.
 - c) It manufactures three hormones.
 - d) All of the above
7. The secretion of thyroid hormones is controlled by _____.
 - a) TSH from the hypothalamus
 - b) TSH from the anterior pituitary
 - c) Thyroxine from the anterior pituitary
 - d) Thyroglobulin from the thyroid's parafollicular cells

8. When blood calcium levels are low, PTH stimulates _____.

- a) Urinary excretion of calcium by the kidneys
- b) A reduction in calcium absorption from the intestines
- c) The mobilization of calcium from the bone
- d) Decreased Vitamin D synthesis

9. The adrenal glands are attached superiorly to which organ?

- a) Thyroid
- b) Liver
- c) Kidneys
- d) Hypothalamus

10. Cushing's disease is a disorder caused by _____.

- a) Abnormally low levels of cortisol
- b) Abnormally high levels of cortisol
- c) Abnormally low levels of aldosterone
- d) Abnormally high levels of aldosterone

11. Melatonin is secreted by which gland?

- a) Thyroid
- b) Pineal
- c) Adrenal
- d) Parathyroid

12. The gonads produce what class of hormones?

- a) Amine hormones
- b) Peptide hormones
- c) Steroid hormones
- d) catecholamines

13. Stimulates the release of breast milk during breastfeeding

- a) Oxytocin
- b) Prolactin
- c) FSH
- d) ACTH

14. It is also known as Vasopressin

- a) Growth Hormone
- b) ADH
- c) Ghrelin
- d) Leptin

15. Which hormone is released during hugging?

- a) LH
- b) Prolactin

- c) Oxytocin
- d) GnRH

16. The following disorders are associated with Growth Hormone **EXCEPT**

- a) Gigantism
- b) Dwarfism
- c) Acromegaly
- d) Addison's disease

17. Which organ is referred to as the "command centre" of the endocrine system?

- a) Hypothalamus
- b) Anterior pituitary gland
- c) Pineal gland
- d) Anterior pituitary gland

18. Disease caused by destruction of Beta Cells of the pancreas by autoimmune reactions

- a) Diabetes mellitus Type I
- b) Diabetes Insipidus
- c) Diabetes mellitus Type II
- d) None of the above

19. Athletes may take synthetic EPO to boost their _____.

- a) Blood calcium levels
- b) Secretion of growth hormone
- c) Blood oxygen levels
- d) Muscle mass

20. The end result of the RAAS is to _____.

- a) Reduce blood volume
- b) Increase blood glucose
- c) Reduce blood pressure
- d) Increase blood pressure

SECTION B: Short Answer Questions (40 Marks)

1. Giving examples, differentiate between positive and negative feedback loops(8 Marks)
2. What are the three classes of hormones? Name at least one hormone in each class (8 Marks)
3. State the differences between the endocrine and nervous systems(8 Marks)
4. With examples describe how hormones interact at the target cells (8 Marks)
5. Briefly, describe the roles of gastrointestinal tract hormones after a meal(8 Marks)

SECTION C: Long Answer Questions (60 Marks)

1. Discuss how blood glucose level is regulated in the body (20 Marks)
2. Discuss the hormones of the Anterior Pituitary gland (20 Marks)
3. With an aid of a well labeled diagram, describe the Renin-Angiotensin-Aldosterone System (RAAS) (20 Marks)