

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE  
OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE AND  
TECHNOLOGY**

**BIOC 424: BIOCHEMICAL ENDOCRINOLOGY**

**STREAMS: BSC (BMET)**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 15/04/2020**

**8.30 A.M. – 10.30 A.M.**

**INSTRUCTIONS:**

- Answer question ONE and any other TWO questions
- Do not write on the question paper

**QUESTION ONE (30 MARKS)**

- (a) Briefly discuss the hormones from class insect involved in moulting [5 marks]
- (b) Using a well labeled diagram, describe the three compounds of C<sub>18</sub> estrogen hormones [5 marks]
- (c) Describe briefly the biosynthesis of the hormone insulin [5 marks]
- (d) Outline 5 physiological functions of glucocorticoid hormones [5 marks]
- (e) Insulin deficiency leads to diabetes mellitus in man. Outline characteristics of this disease [5 marks]
- (f) Highlight disorders as a result of hypopituitarism [5 marks]

**QUESTION TWO (20 MARKS)**

- (a) Describe briefly the functions of parathyroid hormones [10 marks]
- (b) With the aid of diagrams, describe the biosynthesis and the structure of thyroid hormones. [10 marks]

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**QUESTION THREE (20 MARKS)**

- (a) Describe the functions of adrenal medullar hormones; epinephrine and nor epinephrine?  
[10 marks]
- (b) Describe the general functions of hormones [10 marks]

**QUESTION FOUR (20 MARKS)**

- (a) Describe in details the biosynthesis and metabolism of the hormone testosterone  
[10 marks]
- (b) Discuss in detail the disorders as a result of a decrease or excessive corticosteroids.  
[10 marks]
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