

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE**

BIOC 424: BIOCHEMICAL ENDOCRINOLOGY

STREAMS: Y4S1 Bsc. CHEMISTRY

TIME: 2 HOURS

DAY/DATE : TUESDAY 28 /09/ 2021

8.30 AM – 10.30 AM

INSTRUCTIONS:

- Answer Question One and any other Two Questions
- Do not write on the question paper

QUESTION ONE (30 MARKS)

- a. Briefly discuss the general functions of hormones. [6 Marks]
- b. With the aid of diagrams, explain the chemical structures of estrogen hormones. [6 Marks]
- c. Discuss in detail the biosynthesis and metabolism of progesterone. [6 Marks]
- d. Hyperadrenocorticism is the excessive supply of adrenal cortical steroids. Discuss. [6 Marks]
- e. Insulin deficiency is characterized by diabetes mellitus in man. Describe characteristics of this disease. [6 Marks]

QUESTION TWO (20 MARKS)

- a. Discuss in detail the structure and function of the hormone glucagon. [10 Marks]
- b. Describe the disorders that result from insufficient secretion of pituitary hormones (hypopituitarism) [10 Marks]

QUESTION THREE (20 MARKS)

- a. Gastrin, Secretin and Cholecystokinin are hormone secreted by mucosal cells of the gastrointestinal tract. Discuss. [10 Marks]
- b. Discuss in detail hyperthyroidism and hypothyroidism. [10 Marks]

QUESTION FOUR (20 MARKS)

- a. Discuss in detail the structure and functions of epinephrine and norepinephrine. [10 Marks]
 - b. Describe the biosynthesis of various types of eiconasoids from arachidonic acid. [10 Marks]
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