

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

BMET 111: HUMAN PHYSIOLOGY

STREAMS: BSC (BIOMED SCI & TECH) AND BSC (BIOCHEM) Y1S2

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

QUESTION 1 (COMPULSORY) (30 MARKS)

- a) Identify the four components of a negative feedback loop and explain what would happen if secretion of a body chemical controlled by a negative feedback system became too much. (4 marks)
- b) Identify the three major classes of hormones on the basis of chemical structure.(3 marks)
- c) Explain the role of the respiratory system in the regulation of the blood pH.(7 marks)
- d) Identify 3 most important plasma proteins and the role they play. (6 marks)
- e) Identify the importance of testosterone in male reproductive function. (5 marks)
- f) Highlight five major functions played by human stomach in digestive process. (5 marks)

QUESTION 2 (20 MARKS)

- a) Illustrate the mechanism of hormone response resulting from the binding of a hormone with an intracellular receptor. (10marks)
- b) Compare and contrast the signaling events involved with the second messengerscAMP and IP3. (10 marks)

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QUESTION 3 (20 MARKS)

- a) Illustrate how the extrinsic and intrinsic coagulation pathways lead to the common pathway, and the coagulation factors involved in each. (10 marks)
- b) Compare and contrast ABO and Rh blood groups. (10 marks)

QUESTION 4 (20 MARKS)

- a) Explain the events during spermatogenesis that produce haploid sperm from diploid cells. (10 marks)
 - b) Compare and contrast the neural and hormonal controls involved in digestion. (10 marks)
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