

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

BMET 110: HUMAN MORPHOLOGY AND DEVELOPMENTAL ANATOMY

STREAMS: BSC. BMET

TIME: 2 HOURS

DAY/DATE: MONDAY 14/04/2025

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS

- **Do not write anything on the question paper.**
- **Mobile phones and any other reference materials are NOT allowed in the examination room.**
- **Answer questions ONE and two other questions.**
- **Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.**

Question One

During the first week of intrauterine life, several events take place before and after the formation of the zygote:

- a) Describe the process of oogenesis (8 marks)
- b) Describe the development of the zygote before implantation (8 marks)
- c) Describe how dizygotic and monozygotic twins develop (6 marks)
- d) Describe four (4) key messages you would give a pregnant mother to maintain the optimum health for herself and her baby during the first trimester (8 marks)

Question Two

Explain the location and functions of the following organs in the male reproductive system:

- a) Testes (5 marks)

- b) Seminal vesicles (5 marks)
- c) Prostate gland (5 marks)
- d) Epididymis (5 marks)

Question Three

The respiratory system contributes to homeostasis by bringing in oxygen from the atmosphere into close proximity with blood from the body for gaseous exchange:

- a) With an aid of a diagram, describe the structure of the bronchial tree (10 marks)
- b) Define dead space and outline the structures that comprise it (4 marks)
- c) Describe the anatomy of the respiratory membrane (6 marks)

Question Four

The cardiovascular system provides blood circulation that nourishes body tissues and carries away wastes to excretory organs:

- a) With a well-labelled diagram, outline the diagram of the heart (8 marks)
 - b) With the aid of a diagram, trace the blood flow in the heart (8 marks)
 - c) Describe the components of blood plasma (6 marks)
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