

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN MEDICAL BIOCHEMISTRY AND BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE

BMET 110: HUMAN MORPHOLOGY AND DEVELOPMENTAL ANATOMY

STREAMS: Y1S2

TIME: 2 HOURS

DAY/DATE: THURSDAY 20/4/2023

8.30 P.M. – 10.30 A.M.

INSTRUCTIONS:

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

During fertilization the genetic material from the haploid gametes merges to form a single diploid cell, the zygote:

- a) Describe how the haploid gametes are produced during oogenesis (6 marks)
- b) Describe the events that lead to the formation of a zygote (8 marks)
- c) Describe the development of the zygote during the first week of life (6 marks)
- d) Describe the location and functions of the uterine tubes (4 marks)
- e) Outline the messages you would give a pregnant mother to maintain the optimum health for herself and her baby (6 marks)

Question Two

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 Three

Explain the structure, location and functions of the following glands/ducts in the male reproductive system:

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

Question Four

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

- a) Describe the adaptations of the cardiovascular system that enhances its function (6 marks)
- b) With the aid of a diagram, trace the blood flow in the heart (8 marks)
- c) Describe the components of blood (6 marks)

Question Five

The endocrine system contributes to homeostasis by producing specialized chemical substances (hormones) that mediate communication in the whole body:

- a) Explain the difference between endocrine and exocrine glands (4 marks)
- b) Describe the location of endocrine glands and the hormones they secrete in the female (16 marks)