



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN MEDICAL ENGINEERING

AAB 4150: BIOMEDICAL SCIENCE

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2017

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- (a) Name two human diseases of skeleton stating their aetiology, prevention and control of such diseases. **(5 marks)**
- (b) Name three pancreatic hormones and their function(s). **(3 marks)**
- (c) With examples, classify hormones into four groups. **(4 marks)**
- (d) Explain the ALL and NONE Principle in nervous transmission. **(5 marks)**
- (e) Name at least eight components of the human semen. **(4 marks)**
- (f) With an example (s), define the terms Chemical Digestion and Mechanical Digestion. **(4 marks)**
- (g) Outline at least five functions of the liver. **(5 marks)**

Question TWO

Describe the structure and major functions of the skin. **(20 marks)**

Question THREE

- (a) Describe the process of maintaining water-salt balance by the kidney. **(7 marks)**
- (b) Describe the process of urine formation. **(8 marks)**
- (c) Draw the anatomical structure of a nephron. **(5 marks)**

Question FOUR

Name and describe the four major sutures, cranium bones in the brain and describe its development. (20 marks)

Question FIVE

Describe the process of Homeostasis and Gas Exchange in the lungs. **(20 marks)**