



# Technical University of Mombasa

Faculty of Applied and Health Sciences

**DEPARTMENT OF PURE AND APPLIED SCIENCES**  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN COMMUNITY HEALTH  
**BSCH 13S**

**AAB 4109 : HUMAN ANATOMY & PHYSIOLOGY I**

SUPPLEMENTARY/SPECIAL EXAMINATION

MARCH 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

## QUESTION ONE

a) Describe the following human anatomical planes

- (i) A sagittal plane
- (ii) A frontal plane
- (iii) A transverse plane

**(3 marks)**

b) Explain the following terms as used in human anatomy & physiology

**(4 marks)**

- (i) Cell
- (ii) Tissue
- (iii) Organ

- (iv) Organ System
- c) Briefly describe the factors affecting the rate of diffusion **(4 marks)**
  - d) Illustrate the ciliated columnar epithelium **(4 marks)**
  - e) Explain why blood group O is a universal donor and blood group AB a universal recipient **(3 marks)**
  - f) Explain how the lymph is able to flow and yet it lacks a pumping mechanism **(4marks)**
  - g) Describe classification of bones based on shape **(4marks)**
  - h) Describe phagocytosis in human blood cells **(4marks)**

## **QUESTION TWO**

Discuss the composition and function of blood as a fluid tissue in the human body **(20marks)**

## **QUESTION THREE**

- a) With the aid of a well labelled diagram, describe the pumping mechanism of the heart **(16 marks)**
- b) Explain differences between veins and arteries **(4 marks)**

## **QUESTION FOUR**

- a) Describe composition and function of the lymphatic system **(16 marks)**
- b) Explain FOUR diseases of the lymphatic system **(4 marks)**

## **QUESTION FIVE**

Describe meiosis type of cell division with the aid of well labelled diagrams **(20 marks)**