



**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF PURE & APPLIED SCIENCES**  
**UNIVERSITY EXAMINATION FOR:**  
**BSPH**  
**AAB 4106 : HUMAN GENETICS**  
**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE: Pick Date May 2016**

**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. Define the following terms (6 marks)
- i) Pseudogene
  - ii) Centromere
  - iii) Cancer
- b. List four factors affecting PCR (4 marks)
- c. Differentiate between the following
- i) Domain and motif (5 marks)
  - ii) Mini and microsatellite (5 marks)
- d. Outline the stages of cancer (5 marks)
- f. Outline the causes and effects of Aneuploidy in man (5 marks)

## **Question TWO**

Describe the structure of the following

- a. Retroviruses (10 marks)
- b. LINEs transposable elements (10 marks)

## **Question THREE**

- a) Explain replication in mitochondrial genome (10 marks)
- b) Describe the four stage of the cell cycle (10 marks)

## **Question FOUR**

- a) Explain the causes and symptoms of Downs syndromes (10 marks)
- b) Describe gastrulation process in a human embryo using illustration (10 marks)

## **Question FIVE**

Describe plasmid vectors using illustration (20 marks)