



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BSPH

AAB 4106: HUMAN GENETICS: PAPER 2

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2017

TIME: 2 HOURS

DATE: Pick Date Sep 2017

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) Describe the following types of chromosomes

(4 marks)

- i) telocentric
- ii) acrocentric
- iii) submetacentric
- iv) metacentric

b) Define the following terms

(6 marks)

- i) Pseudogene
- ii) Centromere
- iii) Cancer

- c) Describe the dystrophin gene (5 marks)
- d) Describe the causes and symptoms of the following syndromes
- i) Turners (5 marks)
 - ii) Klinefelters (5 marks)
- e) Highlight the process of 5' capping (5 marks)

Question TWO

- a) Explain the factors causing DNA damage (10 marks)
- b) Describe the excision DNA repair mechanisms in human cells (10 marks)

Question THREE

Explain the following types of DNA in the human genome;

- a) Long Interspersed Nuclear Elements (10 marks)
- b) Microsatellite DNA (10 marks)

Question FOUR

Explain the following types of non synonymous gene mutations:

- a) Missense gene mutation (10 marks)
- b) Nonsense gene mutation (10 marks)

Question FIVE

Describe pericentric inversions chromosomal mutation (20 marks)