



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

MASTERS OF SCIENCE IN BIOTECHNOLOGY

ABT 5116: PLANT MOLECULAR GENETICS

SPECIAL/ SUPPLEMENTARY EXAMINATIONS

SERIES: SEPTEMBER 2018

TIME: 3 HOURS

DATE: Pick Date Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **SIX** Question(s). Attempt any **FOUR** questions.

Do not write on the question paper.

Question ONE

- a) Outline the ideal properties of genetic markers (10 marks)
- b) Explain the applications of molecular markers in plant genome (15 marks)

Question TWO

Give reason(s) for adoption of Brachypodium as model for grasses plant. (25 marks)

Question THREE

Discuss some of the molecular techniques used to study evolution (25 marks)

Question FOUR

List the benefits and weaknesses of RFLP and SSR markers. (25 marks)

Question FIVE

- a) List the necessary steps to follow in positional cloning of QTLs (5 marks)

b) Explain QTL cloning strategy by association mapping. (20 marks)

Question SIX

Compare and contrast sRNAs and mRNAs. (25 marks)