



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN AGRONOMY AND
HORTICULTURE WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

AAG 408: PLANT BIOTECHNOLOGY

Date: 1st August, 2017

Time: 3.30 - 6.30 pm

INSTRUCTIONS:

- Answer ALL questions in SECTION A and any TWO in SECTION B

AAG 408 : PLANT BIOTECHNOLOGY

Time: 2 hrs

Instructions:

-
1. Answer ALL the questions in section A and any TWO in section B.
 2. Do not write on this question paper.
 3. Each question in section B carries equal marks.

SECTION A [30 MARKS]

Answer ALL questions in this Section.

- Q1. (a) List the 4 types of plant tissue culture (2marks)
- (b) State the central dogma and briefly explain it. (2marks)
- (c) What is a molecular marker? (2marks)
- (d) Define the term genetic engineering (2marks)
- (e) List the ingredients of a tissue culture medium (2marks)
- Q2. Explain in detail the four steps of micropropagation. Explain why each step is necessary (10 marks)
- Q3. Discuss genetic engineering, its goals and applications in agriculture (10 marks)
-

SECTION B [40 MARKS]

Answer any TWO QUESTIONS in this Section.

Q4. Discuss roles of application of biotechnology in agriculture (20 marks)

Q5. Discuss the role and application of different growth regulators in various tissue culture applications (20 marks)

Q6. Write short notes on the following:

- (a) Polymerase Chain Reaction (7 marks)
- (b) Gel electrophoresis (6 marks)
- (c) Vector dependent gene transfer (7 marks)