



MACHAKOS UNIVERSITY

University Supplementary Examinations For 2020/2021 Academic Year
SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

**FOURTH YEAR SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF
BACHELOR OF ENVIRONMENTAL STUDIES (ENVIRONMENTAL RESOURCE
CONSERVATION)**

ERC 411: BIOLOGICAL CONTROL AND ENVIRONMENT

DATE:

TIME:

INSTRUCTIONS: Answer question ONE and any other TWO

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Discuss the role of plants in biological control. (10 marks)
- b) Discuss pathogens as agents for controlling insect pests in the Kenyan agricultural sector. (10 marks)
- c) Explain the advantages of mating disruption in biological control. (10 marks)

QUESTION TWO (20 MARKS)

Discuss the augmentative biological control method.

QUESTION THREE (20 MARKS)

- a) Give an account on the historical background of the Sterile Insect Technique.(10 marks)
- b) Explain the disadvantages of biopesticides. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe parasitic castrators as a major parasitic strategy. (10 marks)
- b) Discuss the behavioral adaptations of herbivores. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Outline FIVE characteristics which you would consider when identifying target weeds for biological control. (10 marks)

b) Assuming that you are a biocontrol officer at the Machakos County, discuss the potential introduction routes for invasive species which you would consider in a biocontrol programme.

(10 marks)