



MACHAKOS UNIVERSITY

University Examinations for 2017/2018 Academic Year

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE

IN AGRICULTURAL EDUCATION AND EXTENSION

KST 301 AGRICULTURAL ENTOMOLOGY

DATE:11/12/2017

TIME: 2.00-4.00 PM

Instructions:

Answer ALL questions in section A and ANY TWO questions in section B

SECTION A: 30 MARKS

QUESTION ONE (30 MARKS)

- a) Explain briefly THREE differences of holometabolous and hemimetabolous insect types (6 marks)
- b) Describe SIX insect orders of economic importance in crop production (6 marks)
- c) Explain the meaning of Oviparity, Ovoviviparity and Viviparity in insect reproduction (6 marks)
- d) Explain THREE differences of exponential and logistic insect growth types (6 marks)
- e) Describe sexual insect reproduction system in male and females (6 marks)

SECTION B: 40 MARKS

QUESTION TWO (20 MARKS)

- a) With the help of a diagram show the main parts of a typical insect head (12 marks)
- b) Explain the functions of each of the named parts in 2(a) on the insect head (8 marks)

QUESTION THREE (20 MARKS)

Explain 10 principles observed in pest management

(20 marks)

QUESTION FOUR (20 MARKS)

- a) Describe TWO pests of major economic importance on maize, showing the insect life-stage responsible for the damage on the crop (10 marks)
- b) Explain the most feasible management method for each of the two pests named in question 4 (a) above (10 marks)

QUESTION FIVE (20 MARKS)

- a) Explain how insect populations are affected by temperature regimes in their ecologies (10 marks)
- b) Describe proven biological control techniques in Kenya crop production systems (10 marks)