

# UNIVERSITY OF EMBU

2016/2017 ACADEMIC YEAR

FIRST SEMESTER EXAMINATION

FOURTH YEAR MAIN EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE AGRICULTURE (CROP PROTECTION)

ACP 401: DIAGNOSTIC STUDIES OF CROP PESTS

DATE: DECEMBER 5, 2016

TIME: 11:00AM-1:00PM

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

QUESTION ONE (30 MARKS)

- a) Discuss the major features of Phylum Arthropoda (5 marks)
- b) Describe a method of preparing an insect pest killing jar (5 marks)
- c) Discuss insect pinning (5 marks)
- d) Insect setting is an important skill for every crop protection specialist since a well prepared 'insect or entomological box' acts a reference key to future pest identification. Explain how you would set insect samples in such a box. (5 marks)
- e) Discuss land preparation as a method of pest control (5 marks)
- f) Visual examination is a method of identifying crop pests. Using mouthparts only, describe how you would identify a crop pest from an array of insects. (5 marks)

QUESTION TWO (20 MARKS)

- a) Highlight the various features of Class Insecta (10 marks)
- b) Outline the sub-Classes of Class Insecta (10 marks)

QUESTION THREE (20 MARKS)

- a) Outline the insect Orders of agricultural importance (10 marks)

- b) The armyworm (*Spodoptera exempta*) is a common pest of field crops and usually causes massive damages to crops in many farms in Kenya each year. Describe the Families of the taxonomical Order to which the army worms belongs (10 marks)

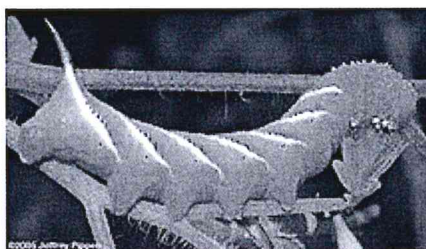
**QUESTION FOUR (20 MARKS)**

- a) Discuss the various plant defenses against pests (8 marks)  
b) Describe the various equipment used for collecting insects (12 marks)

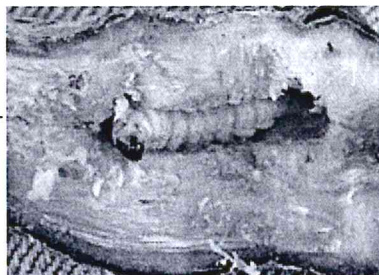
**QUESTION FIVE (20 MARKS)**

Examine the photographs shown below:

Tomato Horn Worm



Squash Vine Borer



- a) Discuss the various damages caused by pests on crops (12 marks)  
b) Describe the control measures for crop pests (8 marks)

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