



SUPPLEMENTARY EXAMINATION 2014

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**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME: BACHELOR OF SCIENCE YER TWO IN AGRICULTURAL
EDUCATION, AGRONOMY AND HORTICULTURE**

COURSE CODE: CP 203

TITLE OF PAPER: AGRICULTURAL ENTOMOLOGY

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3)
QUESTIONS)**

DO NOT OPEN UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

Question 1

Draw sketches of typical male and female reproductive systems of insects and label each part of each of them. **(25 Marks)**

Question 2

One of the major problems that arise when chemical pest control is used and exclusively relied on in crop production is that pests soon develop resistance against whatever pesticide is used. Answer the following questions on pesticide resistance.

- (a) What is meant by pesticide resistance? **(5 Marks)**
 - (b) Briefly explain how you can avoid pesticide resistance. **(10 Marks)**
 - (c) Organophosphates are some the most commonly used pesticides just about everywhere. Give five (5) examples of these chemicals. **(5 Marks)**
 - (d) How would you solve the problem of pesticide resistance if you had been using organophosphates against spidermites and ended up with a pesticide resistance problem? **(5 Marks)**
- (25 Marks)**

Question 3

Devastating armyworm outbreaks occur regularly in east Africa but they are only occasional pests in southern Africa. Answer the following questions about armyworm:-

- (a) Which species of armyworm is found in Swaziland and how would you identify it? **(5 Marks)**
 - (b) In general how do armyworm outbreaks occur? **(10 Marks)**
 - (c) Name two (2) enemies of armyworm that you know and give two reasons why they do not succeed to prevent outbreaks. **(5 Marks)**
- (25 Marks)**

Question 4

- (a) Name five (5) important solanaceous crops in Swaziland. **(5 Marks)**

- (b) Name five (5) pests that seem to always appear from nowhere when these crops are grown in Swaziland and also briefly describe the damage that each of these pests cause.

(20 Marks)

(25 Marks)

Question 5

Which insect Orders have each of the following:-

- | | |
|--------------------------------|-----------|
| (a) Opisthognathous mouthparts | (1 Mark) |
| (b) Prognathous mouthparts | (1 Mark) |
| (c) Suctorial mouthparts | (2 Marks) |
| (d) Non-functional mouthparts | (1 Mark) |
| (e) Naiads | (3 Marks) |
| (f) Tegmina | (1 Mark) |
| (g) Halteres | (2 Mark) |
| (h) Furcula | (1 Mark) |
| (i) Moniliform antennae | (2 Marks) |
| (j) Saltatorial legs | (2 Marks) |
| (k) Genuiculate antennae | (1 Mark) |
| (l) Setaceous antennae | (2 Marks) |
| (m) Styli | (1 Mark) |
| (n) Twisted wings | (1 Mark) |
| (o) Median caudal filament | (2 Marks) |
| (p) Pterostigmata | (2 Marks) |

(25 Marks)