



SUPPLEMENTARY 2004/2005

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME: BACHELOR OF SCIENCE IN AGRICULTURE
YEAR 4 (CROP PRODUCTION AND
HORTICULTURE OPTIONS) AND BACHELOR
OF SCIENCE IN AGRICULTURAL EDUCATION
YEAR 4**

COURSE CODE: CP 403

TITLE OF PAPER: MICROBIOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

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INSTRUCTIONS : ANSWER ANY FOUR (4) QUESTIONS

QUESTION 1 [25 marks]

- (i) What is virulence? [2]
- (ii) In what two ways can virulence be measured? [4]
- (iii) Suppose: The ID₁₀₀ for staphylococcus is 100 and
The ID₁₀₀ for streptococcus is 400
 - (a) Which of these is the more virulent pathogen ? [3]
 - (b) Justify your answer from (a) above. [4]
 - (c) What does the "100" in the term ID₁₀₀ mean? [2]
- (iv) Discuss "food poisoning" [10]

QUESTION 2 [25 marks]

Note: Read the whole question before starting to answer it to avoid repetition of answers

- (a) Give a working definition of (i) Autoimmunity [4]
 - (ii) Hypersensitivity [6]
- (b) What causes these two conditions? [6,6]
- (c) What type of specific immune reaction can be caused by exposure of a susceptible host to dust mites? [3]

QUESTION 3 [25 marks]

Mention the special feature which is responsible for the functions listed below and also state the class of microorganism in which the features may be observed.

Function	Feature [3]	Class of microorganism[2]
Protects against phagocytosis.....		
Allows for motility.....		
A virulence factor.....		
Offers protection against adverse conditions e.g extreme temperatures.....		
Help prevent osmotic lysis.....		

QUESTION 4 [25 marks]

- Describe :
- (i) Chemical agents for controlling microorganisms [5]
 - (ii) Chemotherapeutic agents [5]
 - (iii) Measures used in the sterilization process [5]
 - (iv) Measures of controlling microbes by heat. [5]
 - (v) Phenol coefficient [5]

QUESTION 5 [25 marks]

- (i) What does the term etiology mean? [5]

- (ii) How does Pseudomonas help to inhibit certain disease causing microorganisms? [10]

- (iii) (a) What is common about IAA, auxins and gibberellins? [4]

- (b) Mention three microorganisms associated with (a) above. [6]