



2nd SEMESTER SUPPLEMENTARY 2012/2013

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR 2, BACHELOR OF SCIENCE IN ANIMAL SCIENCE YEAR 2, BACHELOR OF SCIENCE IN ANIMAL SCIENCE (DAIRY OPTION) YEAR 2, BACHELOR OF SCIENCE IN FOOD SCIENCE, NUTRITION AND TECHNOLOGY YEAR 2, BACHELOR OF SCIENCE IN CONSUMER SCIENCE YEAR 2, BACHELOR OF SCIENCE IN CONSUMER SCIENCE EDUCATION YEAR 2, AND BACHELOR OF SCIENCE IN HORTICULTURE YEAR 2

COURSE CODE: CP 204

TITLE OF PAPER: MICROBIOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY QUESTIONS FOUR QUESTIONS

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QUESTION 1

What is the economic importance of the following:

- a. Fungi (7 marks)
 - b. Bacteria (7 marks)
 - c. Protozoa (6 marks)
 - d. Rickettsias (5 marks)
- [25 Marks]**

QUESTION 2

- a. Diagram each of the following flagella arrangements:
 - i. Amphitrichous (2 marks)
 - ii. monotrichous (2 marks)
 - iii. sarcinae (2 marks)
 - b.
 - i. Why is an endospore called a resting structure? (2 marks)
 - ii. Of what advantage is an endospore to a bacterial cell? (2 marks)
 - c.
 - i. Why are mycoplasmas resistant to antibiotics that interfere with cell wall synthesis? (5 marks)
 - ii. Why does penicillin have no effect on most Gram-negative bacteria? (5 marks)
 - iii. Differentiate recombinant DNA and genetic engineering. (5 marks)
- [25 Marks]**

QUESTION 3

Explain how microbes are used in the following:

- a. Bioremediation (5 marks)
 - b. Insect pest control (5 marks)
 - c. Sewage treatment (5 marks)
 - d. Industrial fermentation (5 marks)
 - e. Cheese production (5 marks)
- [25 Marks]**

QUESTION 4

Explain the following:

- a. Lichens (5 marks)
- b. Basidiomycetes (5 marks)
- c. Chemoheterotroph (5 marks)
- d. Enveloped viruses (5 marks)
- e. Bacteriophages (5 marks)

[25 Marks]

QUESTION 5

- a) Draw a well labelled diagram of a bacterial cell (10 marks)
- b) What are interferons? How are they involved in host defense in humans?
(9 marks)
- c) List Koch's postulates and its exception (6 marks)

[25 Marks]