



**2<sup>nd</sup> SEMESTER 2010/2011**

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**UNIVERSITY OF SWAZILAND**

**SUPPLEMENTARY EXAMINATION**

**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 AND YEAR 3, BACHELOR OF SCIENCE IN CONSUMER SCIENCE EDUCATION YEAR 2 AND YEAR 3, AND BACHELOR OF SCIENCE IN HORTICULTURE YEAR 2.**

**COURSE CODE: CP 204**

**TITLE OF PAPER: MICROBIOLOGY**

**TIME ALLOWED: TWO (2) HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE, WHICH IS COMPULSORY AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE IS COMPULSORY****QUESTION 1**

- A. Give a diagram each of the following flagella arrangements:
- i. Monotrichous (2 marks)
  - ii. Peritrichous (2 marks)
- B. i. Why is an endospore called a resting structure? (3 marks)
- ii. Of what advantage is an endospore to a bacterial cell? (2 marks)
- iii. Why are mycoplasmas resistant to antibiotics that interfere with cell wall synthesis? (5 marks)
- iv. Why does penicillin have no effect on most Gram-negative bacteria? (5 marks)
- iii. Differentiate between recombinant DNA and genetic engineering. (5 marks)
- C. What is meant by:
- i. normal microflora (3 marks)
  - ii. transient microflora (3 marks)
- D. What is meant by transcription? (5 marks)
- E. What are transposons? (5 marks)
- [40 Marks]**

**QUESTION 2**

- a. Discuss the different components of a bacterial cell (15 Marks)
- b. Discuss bacteriophage multiplication through the lytic cycle (15 Marks)
- [30 Marks]**

**QUESTION 3**

- A. What is the economic importance of the following:
- (i) Algae (10 marks)
  - (ii) Protozoa (9 marks)
- B. (i) Explain how the idea of spontaneous generation was proven wrong. (5 marks)
- (ii) What are the different classes of Ribonucleic Acid? (6 marks)
- [30 Marks]**

**QUESTION 4**

A. Microorganism can produce toxins. Using an example, discuss one toxin produced by the following microorganisms:

- (i) Algae (4 Marks)
- (ii) Fungi (4 Marks)
- (iii) Bacteria (4 Marks)

B. Describe the life cycle of the malaria-causing protozoa. (10 Marks)

C. Describe the symptoms of malaria. (8 Marks)

**[30 Marks]**