



2nd SEMESTER 2006/2007

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION

PROGRAMME: B.SC. IN AGRICULTURAL EDUCATION, B.SC. IN AGRONOMY, B.SC. IN ANIMAL SCIENCE, B.SC. IN FOOD SCIENCE, NUTRITION AND TECHNOLOGY, B.SC. IN HOME ECONOMICS, B.SC. IN HOME ECONOMICS EDUCATION, AND B.SC. IN HORTICULTURE YEAR 3 (NEW PROGRAMMES)

COURSE CODE: CP 206

TITLE OF PAPER: MICROBIOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS
BEGIN EACH QUESTION ON A NEW SHEET

DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE CHIEF INVIGILATOR

QUESTION 1

- a. Describe the properties of bacteria. (10 marks)
- b. Describe genetic recombination in bacteria. (15 marks)
- [25 marks]**

QUESTION 2

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 3

Explain the following:

- a. Plasmids (5 marks)
- b. Transcription (5 marks)
- c. Transposons (5 marks)
- d. Simple stains (5 marks)
- e. Gram stain (5 marks)
- [25 marks]**

QUESTION 4

- a. Distinguish between anabolism and catabolism in microbial metabolism, and how they are related? (10 marks)
- b. What are the functions of the following components of a prokaryotic cell:
- i. Fimbria (3 marks)
- ii. Pilus (3 marks)
- iii. Flagellum (3 marks)
- iv. Glycocalyx (3 marks)
- v. Flagellum (3 marks)
- [25 marks]**

QUESTION 5

What is the economic importance of the following:

- a. Mycorrhizae (8 marks)
 - b. Algae (8 marks)
 - c. Protozoa (9 marks)
- [25 marks]**