



SUPPLEMENTARY 2007/2008

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION

PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR 2 & YEAR 3 (NEW), BACHELOR OF SCIENCE IN ANIMAL SCIENCE YEAR 2 & YEAR 3 (NEW), BACHELOR OF SCIENCE IN FOOD SCIENCE AND NUTRITION TECHNOLOGY YEAR 2 & YEAR 3 (NEW), BACHELOR OF SCIENCE IN HOME ECONOMICS YEAR 2 & YEAR 3 (NEW), BACHELOR OF SCIENCE IN HOME ECONOMICS EDUCATION YEAR 2 & YEAR 3 (NEW), AND BACHELOR OF SCIENCE IN HORTICULTURE YEAR 2 & YEAR 3 (NEW)

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**

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THE CHIEF INVIGILATOR**

QUESTION 1

- a. Explain how the idea of spontaneous generation was proven wrong. (5 marks)
- b. What are the different classes of Ribonucleic Acid. (6 marks)
- c. What are the function of the different RNA classes? (8 marks)
- d. Describe the following microorganisms:
 - i) Photoheterotrophs (3 marks)
 - ii) Chemoheterotrophs (3 marks)

[25 marks]

QUESTION 2

- a. Describe the life-cycle of malaria. (10 marks)
- b. Discuss properties of fungi. (10 marks)
- c. What are Actinomycetes, give an example? (5 marks)

[25 marks]

QUESTION 3

- a. Discuss properties of protozoa. (15 marks)
- b. Explain the following media used in a Microbiology laboratory:
 - i. Complex media (2 marks)
 - ii. Synthetic media (2 marks)
 - iii. Differential media (3 marks)
 - iv. Selective media (3 marks)

[25 marks]

QUESTION 4

An experiment conducted in a laboratory, using a hemocytometer, obtained the following reading from a fungal spore suspension: 66 and 89 spores per chamber.

- a) What is the concentration of the spores in the suspension, given that each chamber is made up of 25 squares which are 0.2mm wide and 0.1mm deep. (10 marks)
- b) (i) If the desired concentration is 3×10^3 , what would be the dilution factor? (7 marks)
- (ii) How should the desired concentration be achieved? (8 marks)

[25 marks]

QUESTION 5

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]