

UNIVERSITY OF SWAZILANDSUPPLEMENTARY EXAMINATION PAPER 2005TITLE OF PAPER

CRYPTOGAMIC BOTANY

COURSE CODE:

B201

TIME ALLOWED:

THREE HOURS

INSTRUCTIONS:

1. ANSWER ONE QUESTION FROM EACH SECTION
2. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE

SPECIAL REQUIREMENTS:

NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS
BEEN GRANTED BY THE INVIGILATORS

SECTION A : BACTERIA**QUESTION 1**

Discuss the functions of bacterial walls and organelles. Illustrate key components.

[25 MARKS]

QUESTION 2

- (a) Why are bacteria considered to be prokaryotes?
 (b) With certain organelles missing in bacteria, how are their functions accomplished?

[TOTAL MARKS = 25]

SECTION B : FUNGI**QUESTION 3**

- (a) Prepare and fully label a possible evolutionary tree of the peronosporales. (10 marks)
 (b) Draw the life cycle of a zoosporic peronosporale that produces an acervulus. (10 marks)
 (c) Sketch the spore bearing of any five genera mentioned in 3(a) and mention their diagnostic feature. (5 marks)

[TOTAL MARKS = 25]

QUESTION 4

- (a) Draw and label the life cycle of *Rhizopus stolonifer*. (10 marks)
 (b) Write brief notes on physical features and economic importance of named genera of the following zygomycota groups.
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|-------|------------------|-----------|
| (i) | Glomales | (3 marks) |
| (ii) | Zoopagales | (3 marks) |
| (iii) | Entomophthorales | (3 marks) |
| (iv) | Mucorales | (3 marks) |
| (v) | Trichomycetes | (3 marks) |

[TOTAL MARKS = 25]

SECTION C : ALGAE

QUESTION 5

Discuss the possible ways in which the wide array of vegetative structures observed in chlorophyta, could have arisen from a unicellular chlamydomonad ancestor.

[25 MARKS]

QUESTION 6

- | | | | |
|---------|-------|---|------------|
| Discuss | (i) | sexual reproduction in <i>Floriideophycidae</i> . | (10 marks) |
| | (ii) | oogonia development in Cyclosporeae. | (6 marks) |
| | (iii) | sexual reproduction in <i>Oedogonium</i> . | (9 marks) |

[TOTAL MARKS = 25]

SECTION D : BRYOPHYTES

QUESTION 7

In Bryophyta gametangia are conserved but sporophytes are highly variable. Support or refute this notion.

[25 MARKS]

QUESTION 8

Write an essay on a liverwort of your choice. Present characteristics that make liverworts bryophytes.

[25 MARKS]

J.S.