

UNIVERSITY OF ESWATINI

MAIN EXAMINATION PAPER: 2019/2020

TITLE OF PAPER: CRYPTOGAMIC BOTANY

COURSE CODE: B201/BIO241

TIME ALLOWED: THREE HOURS

- INSTRUCTIONS:**
- 1. THIS PAPER IS DIVIDED INTO FOUR SECTIONS**
 - 2. ANSWER A TOTAL OF FOUR (4) QUESTIONS, CHOOSING ONE (1) QUESTION FROM EACH SECTION**
 - 3. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS**
 - 4. ILLUSTRATE YOUR ANSWER WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE**

SPECIAL REQUIREMENTS: NONE

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

QUESTION 2

- a) What is a plasmid and what does it code for? (5 marks)
- b) Explain and illustrate the sequence of events in an Hfr x F⁻ cross. (10 marks)
- c) Differentiate between an Hfr and a recombinant. Illustrate your answer. (5 marks)
- d) Differentiate between a prophage and a transducing phage. Illustrate your answer. (5 marks)

[TOTAL MARKS = 25]

SECTION D (BRYOPHYTES)

Answer **one** question from this section

Question 7

Discuss the life cycle of *Marchantia* (10 marks)

Illustrate the following:

- i. Morphology of a male and female gametophyte, (2 marks)
- ii. Transversal section of the gametophyte, (4 marks)
- iii. Male and female gametangia, (4 marks)
- iv. Mature sporophyte. (5 marks)

[TOTAL MARKS = 25]

QUESTION 8

a) Prepare a table to compare the three sub-classes of Musci. (15 marks)

b) Draw and label the sporophyte of *Mnium* and explain how it is more advanced than that of *Marchantia*. (10 marks)

[TOTAL MARKS = 25]

END OF EXAM PAPER