

UNIVERSITY OF ESWATINI  
FACULTY OF SCIENCE AND ENGINEERING  
DEPARTMENT OF BIOLOGICAL SCIENCES  
SUPPLEMENTARY EXAMINATION PAPER 2020/2021

COURSE CODE: BIO422

TITLE OF PAPER: MODERN TRENDS IN BIOLOGY II

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: NUMBERS IN BRACKETS DENOTE THE NUMBER OF MARKS

THIS PAPER COMPRISES OF **TWO SECTIONS.**

SECTION A COMPRISES 2 QUESTIONS (50 MARKS). SECTION B COMPRISES ALSO COMPRISES 2 QUESTIONS (50 MARKS). ANSWER ALL QUESTIONS IN SECTIONS A AND B.

ANSWER THE SECTIONS A AND B IN SEPARATE BOOKLETS.

**CLEARLY INDICATE THE SECTION AND QUESTION NUMBER ON YOUR ANSWER PAPER.**

**NO ADDITIONAL MATERIAL (E.G. NOTES, CALCULATORS ETC) MAY BE TAKEN INTO THE EXAMINATION.**

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

**BIO422 Exam (Supplementary/Re-sit) Section A**

**Total marks available: 50**

There are two (2) questions in this section. Answer **ALL** the questions in this section

**Section A Question 1** Discuss the significance of teff (*Eragrostis tef*) as a grain crop in Africa, and especially in the horn of Africa.

(25 Marks)

**Section A Question 2** Give an analysis of maize (*Zea mays*) breeding programmes as a grain crop in Africa, and especially in South Africa and Swaziland, noting any possible biotechnological innovations.

(25 Marks)

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**NOW USE A SEPARATE BOOKLET TO ANSWER SECTIONS B**

**BIO422 Exam (Supplementary/Re-sit) Section A**

**Total marks available: 50**

There are two (2) questions in this section. Answer **ALL** the questions in this section

**Section B Question 1**

Outline and explain the steps for the hypothetico-deduction (scientific) method of investigation. Make sure to explain key terms i.e hypothesis, predictions, and their characteristics.

(25 Marks)

**Section B Question 2**

Outline the process of model selection, highlighting how it differs from the traditional scientific method of null hypothesis testing and when/why it would be important for scientific investigations

(25 Marks)

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**END OF EXAMINATION**