

**NATIONAL UNIVERSITY OF LESOTHO
B.Sc. (AGRIC) EXAMINATION**

CPS4506: PLANT BIOTECHNOLOGY

JANUARY 2024 TOTAL MARKS: 100 TIME: 3 HOURS

INSTRUCTIONS: ANSWER ALL QUESTIONS

Question 1: (20 marks)

Describe the two gene transfer methods in genetic engineering.

Question 2: (20 Marks)

Discuss the principle of micropropagation under the following:

- i) Applications of micropropagation in crop improvement.
- ii) Factors influencing micropropagation.

Question 3: (20 Marks)

Discuss different sterilization methods used in plant tissue culture.

Question 4: (20 Marks)

- a) Discuss the theory of cell suspension cultures. [10]
- b) Illustrate the pattern of cell growth in a nutrient medium. [10]

Question 5: (20 Marks)

Discuss the possible risks associated with plant biotechnology [10]

Describe the uses / or applications of transgenic plants in crop improvement [10]

