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University Examinations 2023/2024

THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN BIOTECHNOLOGY

SHD 3353: PLANT BIOTECHNOLOGY

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Describe the composition of plant nuclear genome (6 marks)
- b) Describe the *Agrobacterium tumefaciens* mediated transformation in plants. (6 marks)
- c) Explain three undesirable effects of plant breeding. (6 marks)
- d) Explain three DNA markers applied in plant breeding (6 marks)
- e) Describe key functions of plant growth hormones in plant tissue culture (6 marks)

QUESTION TWO (20 MARKS)

Discuss the sequence of activities required for successful plant breeding.

QUESTION THREE (20 MARKS)

Discuss the essential composition of a tissue culture medium.

QUESTION FOUR (20 MARKS)

Discuss the steps involved in a generic gene cloning process