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University Examinations 2022/2023

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN MOLECULAR BIOLOGY

SZE 5102: MOLECULAR BACTERIOLOGY

DATE: APRIL 2023

TIME: 3 HOURS

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

QUESTION ONE (30 MARKS)

- a) Discuss the structure of Bacterial RNA Polymerase (8 marks)
- b) Explain the types of RNAs in Prokaryotes (6 marks)
- c) Discuss one type of a restriction enzyme in Bacteria (4 marks)
- d) Explain the steps in creating a DNA library (4 marks)
- e) Discuss the function of a promoter in protein synthesis in prokaryotes (8 marks)

QUESTION TWO (20 MARKS)

Discuss Bacterial transposons

QUESTION THREE (20 MARKS)

Discuss one form of gene regulation in Prokaryotes

QUESTION FOUR (20 MARKS)

Using an appropriate example, discuss the application of genetic engineering in agriculture