

MAR 2023

BINDURA UNIVERSITY OF SCIENCE EDUCATION
BIOLOGICAL SCIENCES DEPARTMENT
BScBZH
BZH218 MICROBIAL GENETICS AND VIROLOGY (3)

EXAMINATION
2 HOURS (100 MARKS)

INSTRUCTIONS

Answer FOUR questions. You MUST answer QUESTION 1 (Section A) and any THREE questions from Section B. Each question carries 25 MARKS. Where a question contains subdivisions, the mark value of each subdivision is given in brackets. Illustrate your answers, where appropriate, with large, clearly labelled diagrams. You should not spend more than thirty minutes on each question.

SECTION A (COMPULSORY)

1. Describe an experiment to demonstrate transduction in bacteria

SECTION B

2. (a) Describe the structure of DNA. (20 marks)
(b) Differentiate between DNA and RNA. (5 marks)
3. Discuss the importance of plasmids to bacteria and humans.
4. (a) Describe the structure of a bacteriophage. (10 marks)
(b) Describe reproduction of a bacteriophage through a host cell (15 marks)
5. Discuss the importance of mutagens in bacterial and viral evolution.
6. Describe pre-transcriptional control mechanisms of repression and induction.

END OF EXAMINATION QUESTION PAPER