

BINDURA UNIVERSITY OF SCIENCE EDUCATION  
BIOLOGICAL SCIENCES DEPARTMENT  
BScBZH  
BZH218 MICROBIAL GENETICS AND VIROLOGY (2)

EXAMINATION  
2 HOURS (100 MARKS)

**21 MAR 2024**

**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 conjugation in bacteria

**SECTION B**

2. Outline the types of viral genomes.
3. Describe lytic and lysogenic life cycles in viruses.
4. Outline types of mutations in bacteria and viruses.
5. Write short notes on any **FIVE** of the following:
  - (a) Degeneracy of the genetic code
  - (b) Complementary base pairing
  - (c) Antibiotic resistance
  - (d) Post-transcriptional processing of mRNA.
  - (e) Reverse transcription
  - (f) Base tautomerization
6. Describe the process of translation.

**END OF EXAMINATION QUESTION PAPER**