

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE & EDUCATION
DEPARTMENT: BIOLOGICAL SCIENCES
PROGRAMME: MScMPP

COURSE CODES: MPP506: MICROBIAL BIOCHEMISTRY & PHYSIOLOGY

EXAMINATION

JUN 2025

2 HOURS (100 MARKS)

INSTRUCTIONS

Answer **TWO** (2) questions in all. You **MUST** choose **ONE QUESTION** from Section A and any other **ONE QUESTION** from **SECTION B**. Each question carries 50 marks. Where a question contains subdivisions, the mark value of each part is given in brackets. Illustrate your answer where appropriate with large clearly labelled diagrams.

SECTION A

1. Explain the role of microbial fermentation in food and beverage production.
2. Discuss with examples of essential coenzymes and cofactors as well as their involvement in key metabolic reactions.

SECTION B

3. Describe how microorganisms adapt to extreme environments such as high salinity, high temperature, and low pH. Discuss the specific biochemical adaptations that support these physiological changes.
4. Elaborate the applications of secondary metabolites in medicine and industry.

END OF PAPER