

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF BIOLOGICAL SCIENCES
BSc HONOURS IN BIOLOGICAL SCIENCES
GLOBAL CHANGE BIOLOGY (BZH 406)

EXAMINATION
2 HOURS

JUN 2025

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 key measurements carried out to determine water exchange between the soil, plants and the atmosphere.

SECTION B

2. Describe the effects of climate change on water, carbon and nutrient cycles.
3. Discuss characteristics of non-native species that facilitate their ability to become established in novel environments.
4. Write brief notes on any **FIVE** of the following:
 - (a) Global warming. (5 marks)
 - (b) Habitat degradation. (5 marks)
 - (c) Mass extinction. (5 marks)
 - (d) Emerging infectious diseases. (5 marks)
 - (e) Phenotypic plasticity. (5 marks)
 - (f) Adaptive management in conservation. (5 marks)
5. (a) Describe ecosystem services derived from the environment. (10 marks)
(b) Discuss plants' physiological indicators of stress. (15 marks)
6. Describe conservation approaches for mitigating effects of climate change on evolutionary processes.

END OF EXAMINATION QUESTION PAPER