BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE EDUCATION

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

JUN 2025

DIPLOMA IN SCIENCE EDUCATION BIOLOGY

BZ004 TRANSPORT SYSTEMS

DURATION: 2 HOURS

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. (a) Describe a procedure for determining stomata distribution in leaves.

(15 marks)

(b) Define osmosis, diffusion and active transport in plants giving examples of each process.

(10 marks)

SECTION B

2. (a) Draw and label an artery and a vein

(5 marks)

(b) Describe how the structures of the two blood vessels are related to their function.

(20 marks)

3. (a) Describe the mechanism of translocation.

(9 marks)

(b). Explain how xylem vessels are adapted to their functions.

(6 marks)

(c). Describe the ascent of water in the xylem by root pressure and transpiration pull.

(10 marks)

4. Describe adaptations of xerophytes to water loss.

(25 marks)

5. Describe functions and components of blood.

(25 marks)

6. Describe the sequence of events in the cardiac cycle.

(25 marks)

END OF EXAMINATION