BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT OF BIOLOGICAL SCIENCES
BScBZH / HBScEdBZ / BScBioTec
BZH204/BTEC229(PLANT PHYSIOLOGY)

EXAMINATION
2 HOURS (100 MARKS)

JAN 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 a practical procedure to determine stomatal distribution and density in dicot leaves.

SECTION B

2.(a) Outline the stages of the link reaction (7 Marks)
(b) Describe the Krebs Cycle reactions of respiration. (18 Marks)

3.(a) Describe the physiological effects of auxins on plants. (15 Marks)
(b) Outline the commercial applications of auxins. (10 Marks)

4.Write brief notes on any FIVE of the following:
(a) Diffusion Pressure Deficit (5 Marks)
(b) Aquaporins (5 Marks)
(c) Wilting Coefficient (5 Marks)
(d) Respiratory Quotient (5 Marks)
(e) Hatch-Slack Pathway (5 Marks)
(fi) Chemiosmotic hypothesis (5 Marks)

5. Using suitable examples, describe the different types of hydroponic systems in plants.

6. Discuss plant's physiological and biochemical responses to water deficit.

END OF PAPER.