

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF BIOLOGICAL SCIENCES
BScBzH / HBSceDbz / BScBioTec

PLANT PHYSIOLOGY (BZH204 / BTEC229) (1)

EXAMINATION
2 HOURS (100 MARKS)

 **AUG 2023**

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 to determine the water potential of a given plant tissue. (20 marks)
- (b) Outline the importance of water potential gradients in the plant body. (5 marks)

SECTION B

2. (a) Describe light dependent reactions of photosynthesis. (18 marks)
- (b) Explain use of carbon isotopes in photosynthesis. (7 marks)
3. (a) With the aid of illustrations, describe two forms of hydroponics. (13 marks)
- (b) Outline the deficiency symptoms of:
 - (i) Calcium (6 marks)
 - (ii) Magnesium (6 marks)
4. (a) Describe the significant properties of water molecules in plant physiology.
5. (a) Describe plant responses to salt stress factors. (15 marks)
- (b) Outline the commercial applications of auxins. (10 marks)

6. Discuss the classification of essential plant nutrients based on biochemical behaviour and physiological function.

END OF EXAMINATION QUESTION PAPER