

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

PLANT PHYSIOLOGY (BZH204 / BTEC229) (1)

EXAMINATION
2 HOURS (100 MARKS)

AUG 2024

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 the gravimetric technique use to determining the water potential of potato tubers. (20 marks)
- (b) Outline the limitations of the above technique. (5 marks}

SECTION B

2. (a) Describe the major stages of the Calvin cycle. (18 marks)
- (b) Outline the CAM pathway. (7 marks)
3. (a) With the aid of illustrations, describe two forms of hydroponics. (15 marks)
- (b) Outline the deficiency symptoms of:
 - (i) Calcium (5 marks)
 - (ii) Magnesium (5 marks)
4. Describe the physical properties of water and their importance in plant physiological functions.
5. (a) Outline the important roles of plant secondary metabolites. (15 marks)
- (b) Explain the biosynthesis of flavoids and alkaloids. (10 marks)
6. Discuss the commercial applications of plant growth regulators.

END OF EXAMINATION QUESTION PAPER