BINDURA UNIVERSITY OF SCIENCE EDUCATION
SCIENCE AND MATHEMATICS EDUCATION DEPARTMENT
DipScEd
BZ009 PLANT SCIENCE (3)

EXAMINATION
2 HOURS (100 MARKS)

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. How do you investigate if a plant is carrying out photosynthesis? [7]
b. Briefly describe how you will investigate if carbon dioxide is necessary for photosynthesis. [10]
c. What do you expect as results of your experiment? Explain them [8]

SECTION B

2. a. Differentiate between a named group of non-vascular and vascular plants [12]
b. Why are Gymnosperms considered better adapted for life on land than the Bryophytes? [13]

3. Discuss the different ways in which water, molecules and ions move across a partially permeable membrane [25]

4. a. Describe apical, lateral and intercalary meristems. [10]
b. Describe the structure and function of vascular tissues [15]

5. a. Describe the external and internal structure of the eudicot and monocot leaves and relate them to their functions. [16]
b. Describe how a leaf is adapted for its functions and outline the different types of leaf modification that occur. [9]

6. a. Use large and clearly labelled diagrams of the external and internal structure of a named dicotyledonous seed and explain the function of each of the parts. [16]
b. Explain the conditions needed for the germination of a typical seed [9]

END OF EXAMINATION QUESTION PAPER