

# **BINDURA UNIVERSITY OF SCIENCE EDUCATION**

## **FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE**

NR125

**Department of Crop Science**  
**Bachelor of Agricultural Science (Honours) Part I Examination**  
**Plant Biology**

**3 HOURS (100 Marks)**

### **INSTRUCTIONS**

Answer any **FOUR** questions. Each question carries **25 marks**.

1. "The  $C_4$  pathway of photosynthesis is an extension route that was made to increase the efficiency of the  $C_3$  pathway." Qualify this statement. [25 marks]
2. Write notes on the following cell organelles;
  - (a) Nucleus, [5 marks]
  - (b) Vacuole, [5 marks]
  - (c) Golgi apparatus, [5 marks]
  - (d) Endoplasmic reticulum [5 marks]
  - (e) Ribosomes and lysosomes. [5 marks]
3. (a) Describe the germination process. [15 marks]  
(b) Specify the functions of components of a typical flower with the aid of a diagram. [10 marks]
4. (a) Outline the light reactions of photosynthesis. [11 marks]  
(b) Explain the importance of water in plants. [8 marks]  
(c) Outline the importance of roots to plants. [6 marks]
5. (a) Explore the importance of plant hormones in plant growth and development. [15 marks]  
(b) Detail how plants are classified. [10 marks]

6. (a) Describe the double fertilization process in plants. [9 marks]
- (b) Describe the growth process. [10 marks]
- (c) Describe the structure of the phloem. [6 marks]

**End of paper**