

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE

AGC221

Department of Crop Science
BSc Agricultural Science (Honours) Part II Examination
Crop Ecology and Physiology (AGC221)

3 HOURS (100 Marks)

INSTRUCTIONS

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

1. Discuss the following growth measurement parameters and how they are measured
 - a. Relative growth rate [5 marks]
 - b. Leaf area index [5 marks]
 - c. Net assimilation rate [5 marks]
 - d. Specific leaf area [5 marks]
 - e. Crop Growth rate [5 marks]
2. Describe maize growth phenology and how it is influenced by environmental conditions [25 marks]
3. Discuss the factors that affect crop radiation use efficiency [25 marks]
4. Discuss mechanisms of drought tolerance under the following headings
 - a. Drought avoidance [12 marks]
 - b. Drought escape [13 marks]
5. Describe crop root traits that maximises acquisition of edaphic resources from the soil [25 marks]
6. Elaborate on the differences between C3 and C4 photosynthesis [25 marks]

End of Exam Paper