

**BINDURA UNIVERSITY OF SCIENCE EDUCATION**  
**FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE**

**AGC 226**

**Department of Crop Science**  
**BSc Agricultural Science (Honours) Part II Examination**  
**Principles of Crop Production**

**3 HOURS (100 Marks)**

**INSTRUCTIONS**

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

1. a) The Ministry of Lands is planning to resettle new farmers into previously uncultivated lands. Advise the Ministry on any five factors to be considered in selecting land for cultivation. [15 marks]  
b) Describe the division of Zimbabwe into agro-ecological regions. [10 marks]
2. a) Outline plant classification according to the following;  
i. Life cycle, [3 marks]  
ii. Sexual expression, [3 marks]  
iii. Climatic adaptation, [4 marks]  
iv. Water requirement, [4 marks]  
v. Binomial system of nomenclature. [6 marks]  
b) Outline the advantages of early planting. [5 marks]
3. Discuss the contribution of the following climatic factors on crop production.  
a) Temperature, [5 marks]  
b) Solar radiation, [5 marks]  
c) Wind, [5 marks]  
d) Rainfall, [5 marks]  
e) Relative humidity. [5 marks]
4. Discuss the following terms and their relevance to irrigation systems.  
a) Crop factor, [5 marks]  
b) Total available moisture, [5 marks]  
c) Soil type, [5 marks]  
d) Root depth, [5 marks]  
e) Evaporation pan. [5 marks]
5. Discuss the criteria for selection of rainwater harvesting technologies in dryland cropping systems. [25 marks]
6. Discuss any five factors limiting biological nitrogen fixation in crop production. [25 marks]

**End of Exam Paper**