

**UNIVERSITY OF FORT HARE**

AGC411

**DEGREE EXAMINATIONS  
June 2018**

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**Time: 3 HOURS**

**Subject: Advanced Crop Production**

**Marks: 100**

**This paper consists of 2 pages including cover page**

**Internal Examiner**

**Prof C. Chiduzo**

**External Examiner**

**Prof I.K. Mariga**

**Instructions**

**Answer all the questions**

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1. What are the benefits to the farmer of adopting intercropping as a cropping system? [10 marks]
2. Explain why molybdenum and boron trace elements are essential additives to sunflower seed or fertilizers used in sunflower production. Describe the deficiency symptoms and the circumstances under which these micronutrients become deficient, [10 marks]
3. Discuss the soil and climatic factors that do not favour the production of sunflower in South Africa. [10 marks]
4. Cotton pests can be divided into 3 groups for purposes of control: Bollworm complex; Red Spider Mites; and Sporadic and secondary pests. The first two are the key pests. The effective control of bollworms holds the key to overall efficiency of insect and mite control. Write detailed notes about integrated pest management (IPM) in the context of cotton. [10 marks]
5. Define the term “scouting” and explain the procedure in cotton. State the economic injury levels for key pests used to trigger use of insecticides. [15 marks]
6. Write notes on the following with respect to tobacco production: (a) soil requirement; (b) ploughing; and (c) nitrogen fertilization. [15 marks]
7. Discuss the procedures of topping and suckering tobacco and explain why it is necessary to do so. [10 marks]
8. What is growth analysis? Explain the following growth analysis terms: (i) leaf area ratio (LAR); (ii) specific leaf area; (iii) net assimilation rate; and (iv) crop growth rate [10 marks]
9. Discuss the Consultative Group on International Agricultural Research (CGIAR), background to its formation, and using Africa Rice and the International Institute of Tropical Agriculture, highlight some of its achievements and impacts. [10 marks]

**END OF QUESTION PAPER**