



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FOURTH YEAR SECOND SEMESTER EXAMINATION FOR THE  
DEGREE OF  
BACHELOR OF SCIENCE IN HORTICULTURE  
2019/2020 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: AHT 3421**

**COURSE TITLE: GREENHOUSE PRODUCTION AND MANAGEMENT**

**EXAM VENUE:**

**STREAM: BSC. HORT.**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY OTHER TWO in section B**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A**

**[30 MARKS]**

**Answer ALL questions in this section**

- 1a. Outline the benefits of greenhouse crop cultivation. **[10 marks]**
- b. Describe a typical managerial business plan for a greenhouse. **[10 marks]**
- c. Highlight the types of plastic materials used in greenhouse covering and their properties. **[6 marks]**
- d. Modern greenhouse production procedures emphasize quality assurance in all production processes. Explain effects of relative humidity in the greenhouse. **[4 marks]**

**SECTION B**

**[40 MARKS]**

**Answer ANY TWO questions in this section**

2. Explain the following in greenhouse production and management:
- a. Light effects on crop quality **[8 marks]**
  - b. Pest management **[6 marks]**
  - c. Greenhouse ventilation. **[6 marks]**
3. A prospective fresh produce grower is contemplating growing crops under greenhouse for export and domestic markets. He / She require some information on construction and design and factors in site selection. As a consultant horticulturalist, describe the information you would provide. **[20 marks]**
4. Describe the following practices in greenhouse management:
- a. Automated environmental control systems **[10 marks]**
  - b. Water and media fertility management **[10 marks]**

**AHT 3421: Greenhouse Production and Management****42 Hours**

Types of greenhouse; Importance, functions and features of greenhouse; Scope and development of greenhouse technology; Location, planning of various greenhouse components; Principles and practices of producing plants in greenhouses; Design and construction of greenhouses; Managing the greenhouse environment; Automated greenhouse; Covering, heating and cooling techniques; Light quantity and duration controls; moisture regulation and carbon dioxide enrichment; Shade and net housing; Growth media, irrigation/fertigation, nutrition and growth regulators; Pest management.