



**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

COURSE CODE :Greenhouse Production and Management

EXAM VENUE:

STREAM: BSC. HORT.

: AHT 3421

COURSE TITLE:

DATE:

EXAM SESSION:

TIME: 2 HOURS

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.