



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**THIRD YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT**

**2021/2022 ACADEMIC YEAR  
REGULAR**

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**COURSE CODE: APT 3313  
COURSE TITLE: Crop Protection**

**EXAM VENUE: STREAM: BSc. Agribusiness Management**

**DATE: EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY other 2 Questions 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 from this Section**

1. Differentiate the following terms as they apply to the mode of action of insecticides: **[6 MARKS]**
  - (a) Non-systemic *vs* systemic insecticide:
  - (b) Selective *vs* non-selective insecticide:
  - (c) Stomach *vs* fumigant action:
2. Describe FIVE approaches you can use agronomic and cultural practices in integrating management of a fungal disease **[5 MARKS]**
3. Describe FOUR morphological features used by nematologists to classify orders, suborders and families of the Phylum Nematoda **[4 MARKS]**
4. Distinguish the following: **[3 MARKS]**
  - (a) Epiphytes plants:
  - (b) Hemi-parasites:
  - (c) True parasites:
5. How is a fungal hypha similar to a plant root? **[2 MARKS]**
6. Explain the following in relation to the management of diseases, insect pests and weeds **[10 MARKS]**
  - (a) ELISA
  - (b) Mechanical control
  - (c) Risk assessment
  - (d) Beneficial insect

- (e) Non-target organisms
- (f) Host range
- (g) Integrated Pest Management (IPM)
- (h) Nematicide
- (i) Biological control
- (j) Exotic weed

**SECTION B (40 MARKS)**

**Answer ANY TWO questions in this section**

7. DESCRIBE TEN functions of a regulatory institution tasked with ensuring food security and safety in Kenya **[20 MARKS]**
  
8. Insects are the most successful species in terms of adaptation. Describe the TEN evolutionary traits responsible for success of insects as serious constraints to agricultural productivity **[20 MARKS]**
  
9. EXPLAIN TEN ways through which weeds of field crops can affect the agricultural industry. **[20 MARKS]**