



University of choice

**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
(MMUST)**

**SCHOOL OF AGRICULTURE, VETERINARY SCIENCES AND
TECHNOLOGY (SAVET)**

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

MAIN EXAMS FOR

**BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION,
BACHELOR OF EDUCATION (SCIENCE), BACHELOR OF EDUCATION IN
PHYSICAL EDUCATION**

COURSE CODE: AGR 321

COURSE TITLE: CROP PROTECTION

DATE: 19.04.2024

TIME: 8-10AM

INSTRUCTIONS TO CANDIDATES

**This paper is divided into two sections, A and B. Answer ALL Questions in SECTION A and
Two in SECTION B**

SECTION A: Answer ALL questions (40 marks)

1. What has the government of Kenya done to align with SDG 2 in terms of crop protection?
[5 marks]
2. Explain the following in full giving their roles in terms of crop protection. [5 marks]
 - a. KEPHIS
 - b. KALRO
 - c. ICIPE
 - d. PCPB
 - e. CABI
3. Provide examples of biotic stress factors affecting crops in different climate zones.
[3 marks]
4. Briefly explain the role of global trade in the spread of pests and diseases. [5 marks]
5. With examples relevant in crop protection, define precision agriculture. [5 marks]
6. Briefly explain two real-life examples of successful and unsuccessful crop protection strategies in Kenya. [5 marks]
7. With examples, briefly explain how nematodes affect crop performance. [5 marks]
8. Why is international cooperation essential in addressing global crop protection challenges? [2 marks]
9. Define host plant resistance and explain the mechanisms of host plant resistance.
[5 marks]

Section B. ANSWER TWO QUESTIONS. Answer Question 10 and any other.

Question 10 (Compulsory)

Describe how you would develop an Integrated Pest Management (IPM) plan targeting aphid pests in cowpea (*Vigna unguiculata*), cultivation [15 marks]

Question 11

Describe the diagnostic tools and techniques you would employ to recognize specific biotic and abiotic stresses in a farmers' garden. [15 marks]

Question 12

Discuss biological control giving the types of biological control as well as specific examples of how it has been used to manage pests. [15 marks]

