



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**FIRST YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE
OF MASTER OF SCIENCE IN FOOD SECURITY AND SUSTAINABLE
AGRICULTURE**

2019/2020 ACADEMIC YEAR

REGULAR

COURSE CODE: AFB 5114

COURSE TITLE: Sustainable Agriculture and Food Security

EXAM VENUE: STREAM: MSc. Food Security and Sustainable Agriculture

DATE: 10/09/19 EXAM SESSION: 9.00 – 12.00NOON

TIME: 3.00 HRS

Instructions:

- 1. Answer THREE questions.**
- 2. Question ONE is Compulsory**
- 3. Candidates are advised NOT to write on the question paper.**
- 4. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

Question 1

(a) Discuss Farm Yard Manure (FYM) under the following:

(i) Quality and composition [5 marks]

(ii) Trend method of preparing FYM. [5 marks]

(iii) Minimizing losses from FYM during collection and handling [5 marks]

(b) Discuss green manure as a major component of organic manure. [4 marks]

Question 2

(a) Although pesticides are among the main input in agriculture, accounting for about 30-40% of global gross agricultural production, they are not the perfect answer to controlling pests and pathogens. Discuss integrated pest management (IPM) practices in the context of sustainable agriculture. [12 marks]

(b) Non-pesticidal management (NPM) indicates farmers' creativity in situations of serious pest challenge and limited resources. Explain in details. [8 marks]

Question 3

The concept of sustainable agriculture has acquired global importance following the adverse social and environmental impacts of modern agriculture. Discuss the concept of sustainable agriculture as the main driver of sustainable global food production.

[20 marks]

Question 4

Discuss Climate Smart Agriculture (CSA) in the context of sustainable agriculture. [20 marks]

Question 5

Explain the following:

(a) "Sustainability" in the context of sustainable agriculture.

(b) Goals of sustainable agriculture.

(c) Dimensions of sustainable agriculture.

(d) Parameter for sustainable agriculture

[20 marks]