JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

DEPARTMENT OF PLANT, ANIMAL AND FOOD SCIENCES

FIRST YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN FOOD SECURITY AND SUSTAINABLE
AGRICULTURE

2019/2020 ACADEMIC YEAR

REGULAR

COURSE CODE: AFB 6111

COURSE TITLE: Characterization and Optimization of Edible Insect Production

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

DATE: 2/09/19 EXAM SESSION: 9.00 – 12.00NOON

TIME: 3 HOURS

Instructions:

1. Answer question ONE and ANY other TWO Questions
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.
1. (a) Insects contribute significantly to food security and sustainable agriculture. Explain the concept of food security (4 marks).

(b) Using a specific example, list four orders in class insecta that are commonly used for food and feeds (4 marks).

(c) Explain how entomophagy contributes to the achievement of Sustainable Development Goals? (4 marks)

(d) Explain why the use of geographical information systems should be integrated in the study of natural populations of edible insects in East and Central Africa (4 Marks)

(e) Understanding the biology of edible insects required for domestication and mass rearing is very important. As a researcher describe eight desirable characteristics that should be considered while selecting edible insects for mass rearing (4 marks)

2. Highlight and describe different criteria used to characterize and optimize edible insects (20 marks)

3. Discuss how insects contribute to food security and sustainable agriculture (20 Marks)

4. Discuss why edible insects are preferred to livestock as a source of proteins and six techniques used to evaluate their feeding preferences (20 Marks)

5. Explain challenges involved in rearing and breeding edible insects in Africa and current achievements (20 Marks)