



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN
BIOLOGICAL SCIENCES
3rd YEAR 2nd SEMESTER 2018/2019 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3328
COURSE TITLE: ENTOMOLOGY
EXAM VENUE: BIO LAB **STREAM (BIO)**
DATE: 25/04/2019 **EXAM SESSION: 3.00-5.00PM**

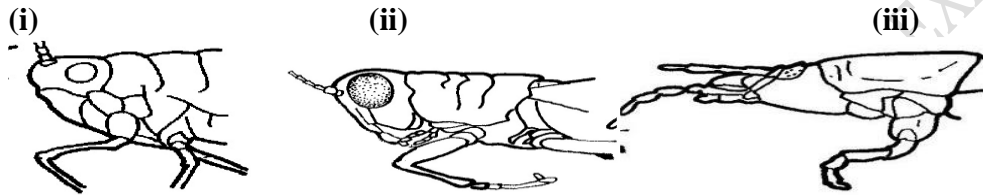
TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and Any two 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**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Name three of types excretory products in insects (3 marks)
2. Describe three modes of feeding in insects (3 marks)
3. Describe three mechanisms used by insects to obtain oxygen from aquatic ecosystems (3 marks)
4. Name the order represented by the following types of insects (3marks)
 - (i) Moth and butterflies
 - (ii) Dragon flies
 - (iii) Crickets and grasshoppers
5. List three morphological features that are used to identify insects from other groups of invertebrates (3 marks)
6. Name and describe three types of metamorphosis displayed by terrestrial insects (3 marks)
7. Using a specific example identify the following types of head orientations in insects (3 marks)



8. Explain the role of accessory glands in female insects (3 marks)
9. Describe three functions of the limbs of terrestrial insects (3 marks)
10. Outline six strategies used by insects to gain water from their environments. (3marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Discuss the structure of antenna and how it contributes to the success of insects in various habitats (20 marks)
12. Explain the role of the structure and function of insect integument in insect survival (20 marks)
13. Explain various forms of social insect behavior and how they contribute to complex activities in nature (20 marks)
14. Describe the structure and function of the digestive system of insects (20 marks)