



Department	: Zoology
Level	: 5
Name of the Examination	: Final Examination
Course Code and Title	: ZYU5306 – Entomology
Academic Year	: 2019 / 2020
Date	: 9 <sup>th</sup> January, 2020
Time	: 9.30 a.m. – 11.30 a.m.
Duration	: 2 hours

### **General Instructions**

1. Read all instructions carefully before answering the questions.
  2. This question paper consists of six (6) questions indicated in pages 2 to 3.
  3. Answer any four (4) questions only.
  4. Answer for each question should commence from a new page.
  5. Draw fully labelled diagrams where necessary.
  6. Clearly state your index number in your answer script
  7. Having any unauthorized documents/ mobile phones in your possession is a punishable offense
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- 1) 1.1 Describe modes of life of the following insects with respect to their habitats, adaptations, feeding behaviour and nutrition.  
a) **Bees**, b) **Praying mantis**, c) **Braconid wasps**, d) *Aedes*, e) **Ants**.  
(60 marks)
- 1.2 Comment on impacts of the insects described in 1.1 above, on agricultural crop production and human health.  
(40 marks)
- 2) 2.1 Compare and contrast between hemimetabolous development and holometabolous development in insects.  
(50 marks)
- 2.2 Outline hormonal control of post embryonic development in insects.  
(25 marks)
- 2.3 Briefly explain how metamorphosis has influenced the evolution of pterygote insects.  
(25 marks)
- 3) 3.1 Name **three (3)** chemical signals that elicit intraspecific interaction in insects and explain using examples, the interaction **each** chemical signal mediates describing outcomes and the importance to species.  
(50 marks)
- 3.2 Explain the following **two** observations giving reasons.  
a) Responding to chemical signals is known to be more advantageous to insects compared to visual signals.  
b) Myrcene, acts as a kairomone and as a synomone in insect phytophagy.  
(50 marks)
- 4) 4.1 Describe, **four** types of insect collection methods from natural habitats.  
(40 marks)
- 4.2 Discuss the advantages and disadvantages of captive breeding of insects.  
(60 marks)
- 5) Explain the reproductive, morphological and behavioral adaptations found among insects to avoid predation.  
(100 marks)

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6) Write short notes on **any three (3)** of the following:

- a) Insect limbs.
- b) *Musca domestica*.
- c) Learned behaviour of insects.
- d) Cicada.

(100 marks)

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