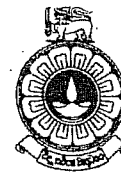


The Open University of Sri Lanka
 Department of Zoology
 BSc Degree Programme – Level 5
 Course title – Insect Biology
 Course code – ZLU3186 / ZLE5186
 Final Examination – 2016 / 2017



Date – 03 /08/2017

Time – 9.30 – 11.30 a.m.

Answer any four (04) questions.

Wherever necessary illustrate your answers with clearly labeled diagrams

- 1) a) Describe **three (3)** fundamentally different ways in which insects have evolved haustellate type of mouthparts, naming the mouthpart components that have participated in forming the sucking structure in each type. (60 marks)
- b) Explain how Xylem feeding Cicada, deals with excess fluid in its diet. (40 marks)

- 2) “Insects are among the nature’s most successful animals that have adopted many mechanisms to avoid their predators” Explain this statement describing examples. (100 marks)

- 3) a) Draw fully labeled diagrams of the insect integument to show it’s detailed anatomical structure. (25 marks)
- b) Explain the changes that occur in the insect integument
 - (i) just before moulting,
 - (ii) during the process of moulting and
 - (iii) between moulting and sclerotization. (75 marks)

- 4) a) Summarize the characteristic features of insect pheromones. (30 marks)
- b) Compare and contrast between Pheromones and Allelochemicals. (30 marks)
- c) “The continuous and widespread use of an artificial sex attractant to control an insect pest species will not be effective after sometime”. Explain this observation giving reasons. (40 marks)

- 5) a) Describe the histological structure of the insect malpighian tubules. (40 marks)

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- b) Explain nitrogenous waste excretion in *Rhodnius*. (40 marks)
- c) Summarize **four (4)** different methods insect usually use to regain water loss when exposed to very dry environmental conditions. (20 marks)
- 6) Write short notes on any **three (3)** of the following;
- a) Trachea of insects
 - b) Insect limb types.
 - c) Insect parasitoids
 - d) Post embryonic development in exo-pterygote insects. (100 marks)
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