RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
Third year – Semester II Examination – July 2020

ZOO 3203 – ECONOMIC ENTOMOLOGY

Time: Two (02) hours

Answer **Four (04)** questions **including** question number **01**.

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1. a) Explain the Social Structure of a bee colony. **(50 marks)**

   b) Illustrate a honey comb showing different cells and broods. **(15 marks)**

   c) Discuss briefly the process of collecting a natural colony into an empty hive. **(35 marks)**

2. a) Define the term "Integrated Pest Management (IPM)". **(20 marks)**

   b) Discuss briefly the steps you should follow when establishing a successful IPM programme for an identified pest. **(30 marks)**

   c) Give a concise account on the methods of pest control used in IPM. **(50 marks)**

3. "One way of managing insect pests is by modifying insect development and behaviour." Justify this statement using suitable examples. **(100 marks)**

4. a) Name the crop/crops upon which the following insects feed and describe the nature of damage caused by them.
    i. Diamond back moth (*Plutella xylostella*)
    ii. White fly(*Bemisia tabaci*)
    iii. Brown plant hopper(*Nilaparvata lugens*)
    iv. Rhinoceros beetle(*Oryctes rhinoceros*)
    v. Tuber moth(*Phthorimaea operculella*)

    (60 marks)

   b) Chemicals are used widely in different forms in pest control. Describe briefly the available formulations of insecticides. **(40 marks)**

5. a) *Aularches miliaris* (yellow spotted locusts), recently reported at Mawathagama, have been identified as a pest attacking variety of plants including coconut, mango, banana, teak, rice, maize and guvava. Explain the economic decision levels that you are going to consider when developing a management plan to control the population level of *Aularches miliaris*. **(30 marks)**

   b) Categorize insect pests according to their economic level of injury. State the parameters you used to distinguish those categories and the respective management strategies.

   (45 marks)

   c) "Economy has an influence in agricultural pest outbreaks." Discus this statement briefly. **(25 marks)**

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