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RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
Second Year – Semester II Examination – October /November 2017

ZOO 2202 – GENERAL ENTOMOLOGY

Time: Two (02) hours

Answer **four (04)** questions only.

1. a) Discuss the role function of insects in their environment emphasizing both posture and negative aspects. (10 marks)
- b) Insects often are classified as beneficial, harmful, or neutral. In which category would you place each of the following insects? Give reasons for it.
 - i. Lady bird beetles
 - ii. Mosquitoes
 - iii. Aphids
 - iv. Swallowtail butterfly
 - v. Cockroach
 - vi. Silverfish(12 marks)
- c) State the anatomical differences between Subphylum Chelicerata and Hexapoda. (03 marks)
2. a) Describe the major parts and their functions of the insect sympathetic nervous system. (13 marks)
- b) Draw and label a neuron. (07 marks)
- c) Discuss the mode of transmission of an impulse in the nervous system. (05 marks)
3. a) Describe the distinct characters of **three (03)** sub orders of Lepidoptera. (11 marks)
- b) Giving reasons, mention which category would you place moth, butterfly, butterfly moth and skipper. (04 marks)

c) State the important changes of wing structure that have evolved in the following Orders /sub Orders;

- i. Orthoptera
- ii. Coleoptera,
- iii. Heteroptera,
- iv. Diptera
- v. Thysanoptera

(10 marks)

4. a) What are the physical characteristics and developmental stages shared by all holometabolous orders that make them different from other insects? Name and describe as many of these differences as you can for both adults and immature stages.

(20 marks)

b) Mention the significance of metamorphosis.

(05 marks)

5. Explain the differences between the following pairs;

- a) metamerism and tagmosis
- b) direct flight muscles and indirect flight muscles
- c) nymph and naiad
- d) K.A.A. mixture and X.A mixture
- e) symphyta and apocryta.

(25 marks)

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