



SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Technology (Agriculture)

First Year, First Semester Examination – 2017

AG 1109-Principles of Plant Protection

Instructions for Candidates:

Answer all questions

All questions do not carry equal marks.

There are three (03) parts in the question paper.

One hour (01) for part I & II and two hours (02) for part III.

Answer part I and II on the paper itself.

No. of questions : 08

No. of pages : 07

Time : 03 hours

Index Number:-

Part I

Q1. (Total marks 16)

Select the correct answer and underline it on this paper.

1. What is the subphylum and class of shrimps?
 - a) Subphylum Mandibulata and class crustacea
 - b) Subphylum Chelicerata class Miriapoda
 - c) Subphylum Mandibulata and class Miriapoda
 - d) Subphylum Chelicerata and class Arachnida

2. What is the correct answer in relation to centipedes?
 - a) It contains three body regions of head, thorax and abdomen
 - b) It has no antennae and it has compound eyes
 - c) It has flat elongated body and One pair of legs present in each segments
 - d) It contains three pairs of legs attached to the abdomen

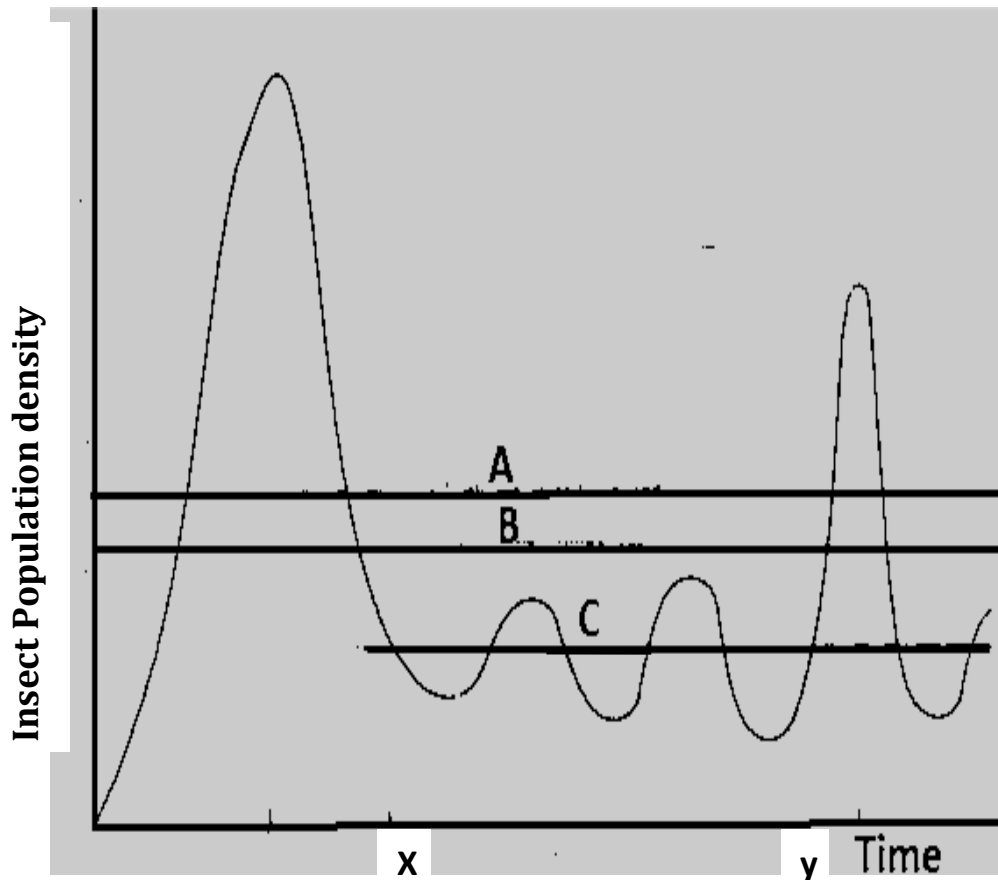
3. What is the mouth part type of insects which belong to order Hemiptera ?
- Piercing and sucking type of mouth parts
 - Biting and chewing type of mouthparts
 - Rasping and sucking type of mouthparts
 - Sponging type of mouthparts
4. What is the correct statement on the mouthpart of ephypharynx of an insect?
- It divides the oral cavity into an anterior region (cibarium) and a posterior region (salivarium).
 - It acts as an upper lip and closes the oral cavity from below.
 - Grouping of stout spines on the swollen inner surface of the labrum.
 - An unpaired structure serving as a lower lip
5. What is the type of mouth parts in order Thysanoptera ?
- Piercing and sucking types of mouthparts
 - Rasping and Piercing types of mouthparts
 - Rasping and sucking types of mouthparts
 - Biting and chewing types of mouthparts
6. What is the order of Eruciform larvae?
- Order Coleoptera
 - Order Isoptera
 - Order Diptera
 - Order Lepidopera
7. What is the pupae type shown in bellow picture?
- Exerate type pupae
 - Obtect type pupae
 - Coarctate type pupae
 - Acephalous larvae



8. What is the insect order that converted second pair of wings into halteres

- a) Order Coleoptera
- b) Order Diptera
- c) Order Isoptera
- d) Order Hymenoptera

9. Carefully observe the graph and identify 'A', 'B' and 'C'



- a) A is economically injury level, B is general equilibrium level and C is damage threshold level
- b) A is damage threshold level, B is general equilibrium level and C is economically injury level
- c) A is general equilibrium level, B is economically injury level and C is damage threshold level
- d) A is economically injury level, B is damage threshold level and C is general equilibrium level

10. According to the above graph, what is the condition of insect population of 'C' for the period of 'x' to 'y'?

- a) Serious pest
- b) Non-pest
- c) Occasional pest
- d) Seasonal pest

11. What is the stage of disease cycle that facilitate the germination of spores and seeds, hatching of eggs (nematodes) and recognition between host and pathogen?

- a) Inoculation
- b) Pre-penetration
- c) Penetration
- d) infection

12. What is the causal organism, which forms Cyst?

- a) Bacteria
- b) Fungi
- c) Nematode
- d) Virus

13. What is the base for classified weed as prostrate types?

- a) Growth type
- b) Habits
- c) Age
- d) Morphology

14. What is the correct statement in relation to method of preventing weed?

- a) Complete removal of weed
- b) Ploughing and harrowing
- c) use of weed seeds free crop seeds
- d) Application of selective weedicides

15. “Living plants are examined thoroughly 14 days prior to shipment and give a phytosanitary certificate for the plants or seed lots or cuttings” According to the above statement what is the disease control method applied here?

- a) Legislative method
- b) Physical method
- c) Mechanical method
- d) Biological method

16. What is the meaning of rouging?

- a) Application of balance fertilizer mixture.
- b) Use of light traps, pheromone traps
- c) Control through trap crops and antagonistic plants
- d) Removal and disposal of whole infected plants from the field. E.g. dead trees.

Part II

Q2. (Total 12 marks)

i. Define the term 'pest'

(03 marks)

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.....

.....

ii. Name three types of larva present in insects

1.....

2.....

3.....

(03 marks)

iii. Write the functions of each mouthparts in bellow table

Mouthpart	Function
Labrum	
Labium	
Maxillae	
Mandibles	

(06 marks)

Q3. (Total marks 12)

i. Write an example insect for the following insect orders

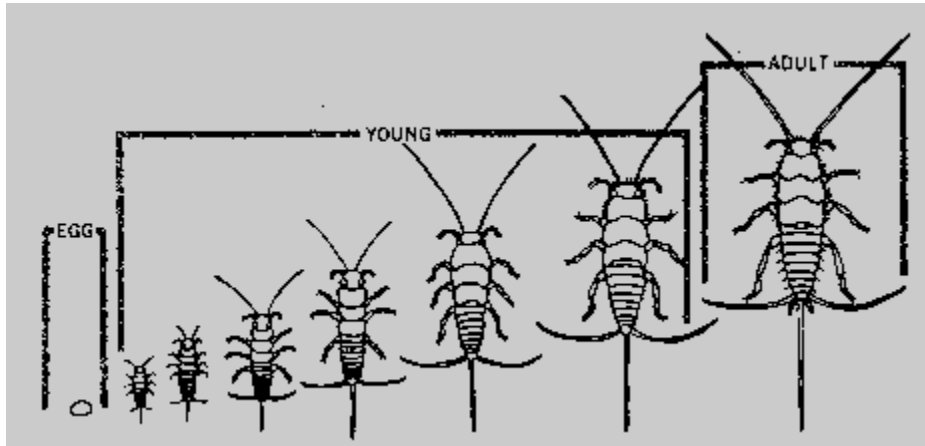
(03 marks)

1. Orthoptera:-.....

2. Hemiptera:-.....

3. Isoptera:-.....

ii. Carefully observe the following diagram and answer the questions



a. What is the type of metamorphosis presented in the above diagram? (03 marks)

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b. Write two examples for insect orders that shows the above type of metamorphosis. (03 marks)

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iii. Write down 04(four) insect population multiplication factors (06 marks)

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PART III

Q4. (Total marks 15)

- i. Write 04(four) major pest groups in crop cultivation **(04 marks)**
- ii. Briefly explain the order characteristics of Order Diptera **(05 marks)**
- iii. How to differentiate disease plants from normal plants. **(06 marks)**

Q5. (Total marks 15)

- i. Write 02(two) biotic and 02(two) abiotic causes for plant diseases **(04 marks)**
- ii .Briefly explain the disease triangle **(05marks)**
- iii. Explain the dissemination factors of a plant pathogen **(06 marks)**

Q6. (Total marks 15)

- i. State 04(four) morphological characteristics of bacteria **(04 marks)**
- ii. ‘Weeds are one of the main problems in crop cultivation’ give your comments on this statement. **(05marks)**
- iii. Explain the advantages and disadvantages of applying weedicides in crop cultivation **(06 marks)**

Q7. (Total marks 15)

- i. What are the 02 (two) steps in legislative method of pest and disease control. **(04 marks)**
- ii. Briefly explain the agronomic method of pest and disease management. **(05marks)**
- iii. Explain 03(three) steps in IPM in pest and disease management. **(06 marks)**

