

**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc.(Hons.) Agriculture – 2008 Admission - II<sup>nd</sup> Semester**  
**Supplementary Examination – March 2010**

Cat. No. : Ento1202

Max. marks: 80

Title : **Insect Ecology and Integrated Pest Management (2+1)**

Time : 3 hours

I. Answer all questions

(20x0.5=10)

State whether the following statements are true or false

1. Occasional pests are the ones found all through the year
2. Hopper burn symptoms are caused by thrips
3. Light trap is an example for physical control
4. Use of increased seed rate is cultural control
5. *Chrysoperla carnea* is used for the control of cotton sucking pests.
6. Aldicarb belongs to the carbamate group of insecticides
7. Mixing of red earth with pulses is cultural control.
8. Natural enemies of pests is a biotic factor.
9. Emamectin benzoate is available commercially as Proclaim
10. Endosulfan belongs to the OP group.

Fill up the blanks

11. Chemicals used to control snails and slugs are called \_\_\_\_\_
12. \_\_\_\_\_ lit. of water per hectare is used in a low volume spray
13. Insecticides Act was enacted in the year \_\_\_\_\_
14. \_\_\_\_\_ is used as a trap crop for *Spodoptera litura*
15. Synthetic pyrethroids exhibit good \_\_\_\_\_ effect of pests.
16. EC formulation is \_\_\_\_\_
17. The term Ecology was coined by \_\_\_\_\_
18. ETL for brinjal shoot and fruit borer \_\_\_\_\_
19. Spinosad is available commercially as \_\_\_\_\_
20. Rotenone is obtained from the \_\_\_\_\_ of *Derris elliptica*

II. Define/ describe in one / two sentences

(10x1=10)

- |               |                     |                           |
|---------------|---------------------|---------------------------|
| 1. IGR        | 5. Systemic poisons | 9. Insecticide resistance |
| 2. ETL        | 6. Pseudoresistance | 10. LC <sub>50</sub>      |
| 3. Autecology | 7. Ecofeast crop    |                           |
| 4. Predator   | 8. Bt               |                           |

III. Write short answers on any TEN of the following

(10x2=20)

1. Pesticide formulations
2. Mode of action of carbamates
3. Simple and Super parasitism
4. Sterile male technique
5. Microbial control of pests
6. Rodenticides
7. Pest surveillance
8. Legislative method of pest control
9. Mechanisms of host plant resistance
10. Pheromones

Refute/defend

11. Quality control is important in biological control.
12. Higher dose of insecticides results in higher killing of insects

IV Write short essays on any FOUR of the following

(4x5=20)

1. Outline classification of pest damage/injury to crops along with examples
2. Define biological control and discuss merits and demerits
3. Describe repellents, antifeedants and attractants along with suitable examples.
4. Bring out the classification of insecticides
5. What are the different ~~of~~ categories of pests and explain the causes for their outbreak
6. Discuss the impact of abiotic factors on pest population

V Write essays on any TWO of the following

(2x10=20)

1. Elaborate on the novel insecticides for use in IPM
2. Outline the procedure for mass multiplication of any two biocontrol agents.
3. Discuss the role of biotechnology in pest management