

**PARUL UNIVERSITY**  
**COLLEGE OF AGRICULTURE**

**B.Sc. (Hons.) Agriculture, Summer 2017-18 Examination**

Semester: 4

Date: 21/05/2018

Subject Code: 20104251

Time: 10:30 am to 1:00 pm

Subject Name: **Insect Ecology & Integrated Pest Management**  
**Including Beneficial Insects**

Total Marks: 60

**Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as Directed.****A. Fill in the blanks. (Each of 1.00 marks)****(10)**

1. Insecticidal property of DDT discovered by \_\_\_\_\_.
2. The association between two organisms by which both organisms are benefited, this association is known as \_\_\_\_\_.
3. *Epiricania melanoleuca* is an important parasitoid of \_\_\_\_\_.
4. Father of Host Plant Resistance was \_\_\_\_\_.
5. \_\_\_\_\_ is the cultivation of earthworms, especially in order to use them to convert organic waste into fertilizer.
6. Full form of DIPA is \_\_\_\_\_.
7. Dipel is the commercial product of \_\_\_\_\_.
8. When the commensal uses its host as a means of transport the phenomenon is termed as \_\_\_\_\_.
9. \_\_\_\_\_ is the study of the group or groups of organisms associated in a community in the same environment.
10. \_\_\_\_\_ is extracted from the roots of *Derris elliptica* plant.

**B. Multiple choice type questions. (Each of 1.00 mark)****(10)**

1. When crowding, the insects feed on the individuals of the same species is called.....
  - a) Carnivorous
  - b) Cannibalism
  - c) Both a and b
  - d) None of above
2. Which is granular insecticide?
  - a) Carbofuran
  - b) Phorate
  - c) Both a and b
  - d) None of above
3. The competition occurring between members of one species is called.....
  - a) Interspecific competition
  - b) Intraspecific competition
  - c) Both a and b
  - d) None of above
4. ....was first synthetic analogue of pyrethroids.
  - a) Fenvalerate
  - b) Allethrin
  - c) Permethrin
  - d) None of above
5. Rotenone is act as a.....
  - a) Nerve poison
  - b) Contact poison
  - c) Fish poison
  - d) All of above
6. Full form of CIB .....
  - a) Central Insects Board
  - b) Central Insecticide Beauru
  - c) Central Insecticide Board
  - d) All of above
7. ....coined the term pheromone
  - a) Karlson and Butenandt
  - b) Paul Muller
  - c) E. F. Knipling
  - d) None of above

8. ....Parasites that live on the body of the host
- |                  |                  |
|------------------|------------------|
| a) Ectoparasites | c) Both a and b  |
| b) Endoparasites | d) None of above |
9. White muscardine fungus is.....
- |                                |                                 |
|--------------------------------|---------------------------------|
| a) <i>Verticillium lecanii</i> | c) <i>Hirsutella thompsonii</i> |
| b) <i>Beauveria bassiana</i>   | d) All of above                 |
10. An ecosystem is a complete interacting system of with physical environment is called .....
- |               |                  |
|---------------|------------------|
| a) Community  | c) Population    |
| b) Individual | d) None of these |

**Q.2 Do as Directed.**

**A. Define the following. (Any five)**

**(05)**

1. Integrated Pest Management
2. Pest outbreak
3. Economic Threshold Level (ETL)
4. Pheromones
5. Ecology
6. Endemic pest
7. LD<sub>50</sub>

**B. Answer the following. (Any Five)**

**(05)**

1. Any two reference books of Integrated Pest Management
2. Components of Integrated pest management
3. Enlist the pesticide application methods
4. Characteristics of ideal microbial insecticide
5. Write two examples of parasitoids and predators each.
6. Difference between parasites and predators
7. Give two rodenticides names

**Q.3 Write short notes. (Any five)**

**(15)**

1. Pest forecasting
2. Physical control
3. Vermiculture
4. Host plant resistance
5. Legislative control
6. Sterile insect technique

**Q.4 Attempt any Three/Long Questions/Example**

**(15)**

1. Explain Biological control with examples
2. Give the classification of insecticides and explain in details
3. Explain the effects of abiotic factors on population growth of insects with examples
4. Explain the categories of pests with examples