Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Voc. (Agriculture) (Sem.–2)

INSECT ECOLOGY AND INTEGRATED PEST MANAGEMENT

Subject Code : BVAG206-18

M.Code : 79600

Date of Examination : 14-07-22

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a. Define the term ecology. Who proposed this term and what are its main sub-divisions?

b. What is law of population growth? Give mathematical equation for biotic potential?

c. What are density dependent and density independent factors?

d. What is ecosystem? Give its structural components.

e. Define pesticide. How it differs from insecticides?

f. Give brief about mode of action of neonicotinoids and organochlorines.

g. Define plant resistance to insects. How host plant resistance is utilized in pest management?

h. Write briefly about the formulations of different insecticides available for field applications?

i. Define Economic Threshold level (ETL) and Economic Injury Level (EIL). What is their role in pest management?

j. How parasitoids and predators play role in pest management? Give one example in each.

SECTION-A

2. Describe various chemical, physical, mechanical and cultural control strategies recommended by PAU, Ludhiana for management rice stemborers and leaffolder?

3. Define microbial control of pest. What is mode of action of *Bacillus thuringiensis* in lepidopteran pests? How the Nuclear Polyhedrosis viruses (NPV) affect the insects?

4. Define mechanical control and outline five methods for mechanical control of insects. Also list various pheromone traps and sticky traps which are useful for insect control.

5. Define legislative control and list its categories. When the Insecticides Act, 1968 passed and enforced, and what are its specific objectives?

6. What are the major insecticides in neonicotinoids group used for pest management? Give their mode of action in insects. What is their impact on beneficial insects?

SECTION-C

7. Define Integrated Pest Control (IPC) and Integrated Pest Management (IPM). Explain IPM approaches for management of maize borer and brinjal shoot and fruit borer?

8. Write short note on semiochernicals, pheromones, allelochemicals and hormones? What are various hormones produced by endocrine organs in insects and what advantages and disadvantages of using hormones in pest management?

9. Giving one example, write briefly the mode of action of organochlorines and organophosphates? Explain the management of mites on brinjal, okra and chilli with different acaricides. Also describe use of pesticides as fumigants in rodents and stored grain pest management.