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**Gandhi Institute of Engineering and Technology University, Odisha,  
Gunupur  
(GIET University)**

**B. Sc. (Ag.)(Fifth Semester) Examinations, November- 2024  
ENT-314 – Principles of Integrated Pests & Diseases Management**

Time: 2 hrs

Maximum: 50 Marks

**The figures in the right hand margin indicate marks.**

**PART – A**

**Q.1. Fill in the blanks with suitable word / figure.**

**(0.5 x 10 = 5 Marks)**

- a. .... is used as an antidote in organophosphate poisoning.
- b. The specific monophagous larval parasitoid of coconut black headed caterpillar is.....
- c. Astha model of pest management is associated with..... crop.
- d. Mode of action of nicotine is .....
- e. The parasitism in which a parasite draws its nutrition from another parasite is called.....
- f. Occurrence of the pest in a low level in few pockets, regularly and confined to particular area is known as.....
- g. The presence of sinigrin in plants imparts resistance against..... insect pest.
- h. Rope dragging in rice is done against.....
- i. Golden nematode in potato has been introduced in India from the European countries and is now well established in the ..... region of India.
- j. The term “Integrated Pest Management” was given by..... for the first time.

**Q. 2. Define (or) Explain the following in one or two sentences.**

**(1 x 5 = 5 Marks)**

- a. IPM
- b. LD<sub>50</sub>
- c. Parasitoid
- d. Disease forecasting
- e. Phytosanitary certificate

**Q3. Match the following. (Any 10)**

**(0.5 x 10 = 5 Marks)**

**Column – A**

**Column – B**

- |                                      |  |
|--------------------------------------|--|
| (a) Simple interest disease          | (i) Polyetic disease                         |
| (b) Crown gall & hairy root of apple | (ii) Burke                                   |
| (c) Lutman                           | (iii) Stewart wilt of corn                   |
| (d) Cedar rust                       | (iv) Australia                               |
| (e) Irish rule                       | (v) first attempts at predicting forecasting |
| (f) Downy mildew of maize            | (vi) Fire blight of pear                     |
| (g) R. H. Painter                    | (vii) Integrated control                     |
| (h) Flag smut of Wheat               | (viii) Loose smut of wheat                   |
| (i) <i>Erwinia sp.</i>               | (ix) Host Plant Resistance                   |
| (j) Michelbacher and Bacon           | (x) England                                  |
| (k) England                          | (xi) Java                                    |

**Q4. Write True or False against each statement**

**(0.5 x 10 = 5 Marks)**

- a. *Bacillus thuringiensis* is a non spore forming bacteria.
- b. Pyrethrin I was derived from Pyrethrolone and Chrysanthemic acid.
- c. Fishmeal trap is used against fruit fly.
- d. Bagging fruits avoids the infestation of leaf hopper in mango.
- e. In non-parasitic disease the causal agents may be a plant or an animal or a virus.
- f. Allopatric resistance in plants acquired by co evolution of plant and pathogen (gene for gene) Governed by major genes.
- g. The downy mildew of cucurbits was introduced in to India from Europe.
- h. Buprofezin is a chitin synthesis promoter.
- i. Handpicking of egg mass/ larvae falls under mechanical control component.
- j. Knowledge on pest biology is a pre-requisite to formulate IPM.

**PART – B**

**Attempt ANY FIVE questions. All question carries equal marks (6 x 5 = 30 Marks)**

5. Explain in detail about classification of plant diseases based on the nature of the causal agent, based on host plant, based on perpetuation and based on occurrence and geographical distribution with suitable examples.
6.
  - a. Explain push pull strategy with example.
  - b. Mention categories of plants used in ecological engineering with examples.
7. Write in detail about the types of host plant resistance with suitable examples.
8. Elaborate about the methods of disease forecasting along with examples of few well-developed forecasting system.
9. Write about the various steps involved in import of quarantine clearance of seed and propagating plant material.
10. Differentiate between the following
  - a. Vertical resistance and horizontal resistance
  - b. Predator and parasitoid
  - c. Sign and syndrome

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