

**FIJI NATIONAL UNIVERSITY**

College of Agriculture, Fisheries & Forestry

School of Agricultural Sciences

Trade Diploma in Agriculture First Year Third Trimester– 2017
ENT 503 – Applied Entomology**Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 100****INSTRUCTIONS:**

1. This paper consists of **eight** pages including **three** pages Answer Sheet.
2. Please check to see that all your answer script is complete.
3. Answer all the Objective Type Questions on the Answer Sheet provided and Descriptive Type Questions in the Answer Booklet only..
4. **No** written or printed material and mobile phones are allowed in the examination hall
5. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Two parts. First part contains Objective Type Questions which has four Sections – A, B, C, and D. All questions in this part are compulsory. Second part is Descriptive Type which has **seven (7)** questions. Attempt only any **five (5)** questions from this part.

I. OBJECTIVE TYPE QUESTIONS (50 Marks)**To be answered only on the Answer Sheet.**

Section A: Fill in the blanks. (15 Marks)

Section B: Multiple choice Questions. (15 Marks)

Section C: Matching type. (10 Marks)

Section D: Write True or False. (10 Marks)

II. DESCRIPTIVE TYPE QUESTIONS (50 marks)

There are **seven (7)** descriptive type questions provided, please **attempt any five (5) questions only** and write on the Answer Booklet. Answer every question from a new page to facilitate evaluation.

I. OBJECTIVE TYPE QUESTIONS

Note: Answer only on the Answer Sheet provided

Total Marks: 50

A. Fill in the blanks.

(15x1= 15 marks)

1. Estimated number of species on the land are-----.
2. More than ----- phytophagous insect species live on about----- plant species
3. ----- have poison glands.
4. The body is divided in to----- and abdomen in insects belongs to class Arachnida.
5. The scientific name of Jackfruit leaf webber is-----
6. Millipedes generally feeds on ----- matter.
7. The main function of sprayer is to break the liquid into----- for uniform application of pesticides.
8. Stirrup pump sprayer is used for -----.
9. The scientific name of Diamond Back Moth is-----
10. The stirrup pump sprayer is also called-----
11. ----- is simplest method for applying chemicals.
12. Fine droplets are required to control-----
13. The scientific name of slug caterpillar is-----
14. The Jackfruit leaf webber belongs to order-----
15. The stirrup pump sprayer is used to control -----

B. Multiple choice questions: Select the correct answer.

(15x1=15 Marks)

1. Estimated number of species on earth are-----

A.	8.6 million	B.	7.7 million
C.	8.8 million	D.	8.7 million

2. Banana Aphid belongs to order-----

A.	Coleoptera	B.	Diptera
----	------------	----	---------

- | | | | |
|----|-------------|----|-----------|
| C. | Lepidoptera | D. | Hemiptera |
|----|-------------|----|-----------|
3. The cardamom thrips belongs to order-----
- | | | | |
|----|--------------|----|-------------|
| A. | Thysanoptera | B. | Hymenoptera |
| C. | Diptera | D. | Isoptera |
4. The scientific name of Cassav mealy bug is-----
- | | | | |
|----|-----------------------|----|-----------------------------|
| A. | <i>Bemisia tabaci</i> | B. | <i>Phenacoccus manihoti</i> |
| C. | <i>Earias vitella</i> | D. | <i>Hellula undalis</i> |
5. Sweet Potato weevil was first recorded in USA in-----
- | | | | |
|----|------|----|------|
| A. | 1865 | B. | 1975 |
| C. | 1875 | D. | 1975 |
6. Ginger was introduced in Fiji in late-----
- | | | | |
|----|-------|----|-------|
| A. | 1800s | B. | 1850s |
| C. | 1900s | D. | 1940s |
7. Fiji currently exports ginger upto -----
- | | | | |
|----|-------------------|----|-------------------|
| A. | F\$ 59 m per anum | B. | F\$ 49 m per anum |
| C. | F\$ 39 m per anum | D. | F\$ 69 m per anum |
8. Banana weevil belongs to family -----
- | | | | |
|----|---------------|----|-------------------|
| A. | Curculionidae | B. | Pyralidae |
| C. | Cicadellidae | D. | None of the above |
9. The IPM was formulated in the year.
- | | | | |
|----|------|----|------|
| A. | 1968 | B. | 1969 |
| C. | 1970 | D. | 1967 |
10. The scientific name of Mango hopper is-----
- | | | | |
|----|------------------------------|----|--------------------------|
| A. | <i>Cosmopolites sordidus</i> | B. | <i>Mangifera indica</i> |
| C. | <i>Idioscopus clypealis</i> | D. | <i>Nacoleia octasema</i> |
11. The bigger size of droplets are required for application of-----
- | | | | |
|----|--------------|----|--------------|
| A. | Insecticides | B. | Rodenticides |
| C. | Acaricides | D. | Herbicides |
12. The field capacity of stirrup pump sprayer is-----
- | | | | |
|----|-------------|----|-------------------|
| A. | 0.3 hac/day | B. | 0.7 hac/day |
| C. | 0.5 hac/day | D. | None of the above |

13. Citrus psylla belongs to order-----

A.	Thysanoptera	B.	Hymenoptera
C.	Hemiptera	D.	Lepidoptera

14. The shoot and fruit borer belongs to family-----

A.	Pyralidae	B.	Noctuidae
C.	Crambidae	D.	Tephritidae

15. The ginger maggot belongs to order-----

A.	Diptera	B.	Hemiptera
C.	Hymenoptera	D.	Lepidoptera

Match the following:

(10x1=10 Marks)

1.	Millepedes	A.	Chilopoda
2.	The corneal lens	B.	Diplopoda
3.	Having 11 segments	C.	Diptera
4.	Used for placing the eggs	D.	Ommatidia
5.	Sweet potato weevil	E.	Lepidoptera
6.	Centipedes	F.	Abdomen
7.	Cutworm	G.	Orthoptera
8.	Flies order	H.	<i>Cylas formicarius</i>
9.	Moths order	I.	Middle valve
10.	Grasshopper	J.	Sporadic pest

C. Write 'True' or 'False'.

(10x1=10Marks)

1.	About 2,20,000 species are described under order Lepidoptera	
2.	Jassid is a regular pest	
3.	Thrips is a sporadic pest	
4.	Total number of species described as insect are 10,000	
5.	The smallest size of mite is 0.09 mm long	
6.	The pine apple thrips belongs to order Hemiptera	
7.	The Rocket sprayer is used to spray tall trees	
8.	Mango mealy bug belongs to order Hemiptera	
9.	Cassava Green Mite belongs to order Acari	
10	Cole crops belongs to family Brassicacae	

II. Descriptive type Questions

(50 Marks)

Note: Attempt Any FIVE Questions Only. All carries equal TEN marks.

1	Discuss the characters of Phylum Arthropoda and classes under Phylum Arthropoda.	(10)
2	List five pests of Cassava. Discuss one pest with its distribution, life cycle, nature of damage and management in detail.	(10)
3	List three pests of Sweet potato. Discuss one pest with its distribution, life cycle, nature of damage and management in detail.	(10)
4	List five pests of vegetables. Discuss Diamond Back Moth with its distribution, life cycle, nature of damage and management in detail.	(10)
5	Define Integrated Pest Management. Discuss history in brief and tools of IPM.	(10)
6	List five pests of fruits. Discuss one pest with its distribution, life cycle, nature of damage and management in detail.	(10)
7	Discuss safety measures before applying, mixing and during application of pesticides.	(10)

The End

Date:

Marks obtained:

Name:

Student I D No.:

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I. Objective Type Questions - Answer Sheet

Total Marks: 50

A.	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		
	11.		
	12.		
	13.		
	14.		
	15.		
B.	1.		
	2.		
	3.		

	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		
	11.		
	12.		
	13.		
	14.		
	15.		

C.	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		

	10.		
D.	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		