

**FIJI NATIONAL UNIVERSITY**

College of Agriculture, Fisheries & Forestry

School of Agricultural Sciences

B.Sc. (Ag) Year II, Trimester I, Final Examination - 2017

ENT 601: Economic Entomology**Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 100****INSTRUCTIONS:**

1. This paper consists of six pages including two 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 and Descriptive Type Questions in the Answer Booklet only.
4. The Answer sheet of the objective Type Questions will be collected 45 Minutes after the start of Examination.
5. No written or printed material and mobile phones are allowed in the examination hall
6. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
7. 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 eight (8) questions. Attempt only any six (6) questions from this part.

I. OBJECTIVE TYPE QUESTIONS (20 Marks)**To be answered only on the Answer Sheet.**

Section A: Fill in the blanks. (10 Marks)

Section B: Multiple choice Questions. (10 Marks)

Section C: Matching type. (10 Marks)

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

II. DESCRIPTIVE TYPE QUESTIONS (30 marks)

There are eight (8) descriptive type questions provided, please attempt any six (6) questions only and write on the Answer Booklet. Answer every question from a new page to facilitate evaluation.

Student ID No.:

Date.....

I. OBJECTIVE TYPE QUESTIONS

Note: Answer only on the Answer Sheet and return 45 minutes after the start of Examination.

Time: 45 Minutes

Total Marks: 40

A. Fill in the blanks.

(10x1=10 Marks)

1. Scientific name of two spotted mite.....
2. The scientific name of pickleworm.....
3. Fruit fly belongs to order.....
4. The melon aphid has..... mouth part.
5. The common name of *Melanitis ismene* is.....
6. The sorghum midge belongs to family
7. The common name of *Eurygaster maura* is.....
8. The sugarcane hopper belongs to family.....
9. The wheat bug has type of mouth part.
10. The scientific name of rice earhead bug.....

B. Multiple choice questions: Select the correct answer. (10x1=10 Marks)

1. The rice case worm belongs to family.....

A.	Pyraustidae	B.	Pyralidae
C.	Thripidae	D.	Aphididae

2. The swarming caterpillar belongs to order.....

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

3. The scientific name of wheat aphid is.....

A.	<i>Macrosiphum miscanthi</i>	B.	<i>Pyrilla perpusilla</i>
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C.	<i>Eurygaster maura</i>	D.	<i>Mythimna separata</i>
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4. The brown plant hopper belongs to family

A.	Delphacidae	B.	Hesperidae
C.	Pyralidae	D.	Noctuidae

5. The scientific name of Melon aphid

A.	<i>Aphis craccivora</i>	B.	<i>Aphis gossypii</i>
C.	<i>Macrosiphum euphorbiae</i>	D.	<i>Myzus oersicae</i>

6. The flea beetle belongs to order.....

A.	Homoptera	B.	Lepidoptera
C.	Coleoptera	D.	Diptera

7. The common name of *Atherigona varia soccata* is

A.	Pink stem borer	B.	Leaf roller
C.	Sorghum shoot fly	D.	Sorghum midge

8. The scientific name of broad mite.....

A.	<i>Tetranychus ludeni</i>	B.	<i>Tetranychus urticae</i>
C.	<i>Polyphagotarsonemus latus</i>	D.	<i>Bryobia cristata</i>

9. The cotton leafhopper belongs to family

A.	Lophopidae	B.	Pentatomidae
C.	Aphididae	D.	Pyralidae

10. Economic Threshold Level (ETL) of green leafhopper infesting rice is..... during mid tillering to panicle initiation stage

A.	5 insects/hill	B.	15 insects/hill
C.	10 insects/hill	D.	20 insects /hill

C. Match the following:(10x1=10 Marks)

1.	Rice green leaf hopper	A.	Lymantriidae
2.	Leaf roller	B.	<i>Peregrinus maidis</i>
3.	Piercing and sucking	C.	Tungro disease
4.	<i>Amrasca biguttula biguttula</i>	D.	Asian maize borer
5.	Shoot bug	E.	<i>Marasmia trapezalis</i>
6.	<i>Ostrina furnacalis</i>	F.	Cotton leafhopper
7.	Wingless grasshopper	G.	Wheat bug
8.	Tussock caterpillar	H.	Orthoptera

9.	Red hairy caterpillar	I.	European corn borer
10.	<i>Ostrinia nubilatis</i>	J.	Arctiidae

D. Write 'True' or 'False'.

(10x1=10 Marks)

1.	The scientific name of cutworm is <i>Agrotis ipsilon</i>	
2.	The scientific name of paddy stem borer is <i>Spodoptera mauritia</i>	
3.	The earhead bug belongs to family Miridae	
4.	The common name of <i>Helicoverpa armigera</i> is gram caterpillar	
5.	Stink bug belongs to family Pentatomidae	
6.	The scientific name of southern green stink bug is <i>Eublemma silicuta</i> .	
7.	The African army worm belongs to family Acrididae	
8.	The blister beetle belongs to family Meloidae	
9.	The white grub belongs to family Noctuidae	
10	The scientific name of rice gall midge is <i>Orseolia oryzae</i> .	

II. Descriptive type Questions

(60 Marks)

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

1	List five insects pests infesting rice crop. Describe nature, symptoms of damage and management of green leaf hopper infesting rice crop.	(10)
2	List three pest of sorghum. Describe the damage symptoms, life history and management of sorghum shoot fly.	(10)
3	List any five (5) insect pests of sweet potato and discuss the damage symptoms and management of any one pest.	(10)
4	List any five insect pests of maize . Discuss the nature of damage and management of spotted stem borer.	(10)
5	List three insect pests of cassava. Discuss the nature of damage and management of cassava mealy bug.	(10)
6	List three insect pests of ginger. Discuss the life cycle and management of Shoot borer and mealy bug of ginger	(10)
7	List five insect pests of sugarcane. Discuss the identification and management of top shoot borer.	(10)
8	Describe the distribution , biology and management of sorghum shoot borer.	(10)

Date:

Marks obtained:

Name:

Student I D No.:

B.Sc. (Ag) Second Year, Trimester I, Final Examination - 2017

ENT 601: Economic Entomology

I. Objective Type Questions - Answer Sheet

Time: 45 Minutes

Total Marks: 20

A.	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		
B.	11.		
	12.		
	13.		
	14.		
	15.		
	16.		
	17.		
	18.		
	19.		
	20.		

C.	21.		
	22.		
	23.		
	24.		
	25.		
	26.		
	27.		
	28.		
	29.		
	30.		
D.	31.		
	32.		
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	38.		
	39.		
	40.		

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