

**FIJI NATIONAL UNIVERSITY****College of Agriculture, Fisheries & Forestry****School of Agricultural Sciences****B. Sc. (Ag.) Third Year Second Trimester– 2017****ENT 701 : Integrated Insect Pest Management****Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 50****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. 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, and C. All questions in this part are compulsory. Second part is Descriptive Type which has **six (6)** questions. Attempt only any **five (5)** 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. (5 Marks)

Section C: Write True or False. (5 Marks)

**II. DESCRIPTIVE TYPE QUESTIONS (30 marks)**

There are **six (6)** descriptive type questions provided, please **attempt any 5 (5) questions only** and write on the Answer Booklet. Answer every question from a new page to facilitate evaluation.

**I. OBJECTIVE TYPE QUESTIONS****Time: 45 Minutes****Total Marks: 20****A. Fill in the blanks.****(10x1=10 Marks)****B. Fill in the blanks.****(10x1=10Marks)**

1. Define Integrated Pest Management (IPM).
2. Define Pest Complex
3. Define Economic Injury level
4. Define Economic damage
5. Define Economic threshold
6. Population size per unit area is known as -----
7. The way in which individuals are distributed in space is known as-----
8. The class Insecta is also known as-----
9. -----is a mathematical characteristics of a population
10. The rate as which the individuals are lost by death is known as -----

**B. Multiple choice questions: Select the correct answer.****(10x0.5=5 Marks)**

1. The first definition of population was given by-----

A.	Cole in 1957	B.	Cole in 1947
C.	Cole in 1967	D.	Cole in 1975

2. DDT was banned in year-----

A.	1971	B.	1979
C.	1969	D.	1970

3. IPM was formulated in year-----

A.	1977	B.	1967
C.	1957	D.	1947

4. Commercialization of DDT was started in year-----

A.	1952	B.	1962
C.	1972	D.	1942

5. The second definition of population was given by-----

A.	Krebs in 1972	B.	Krebs in 1962
C.	Krebs in 1982	D.	Krebs in 1952

6. Gotelli has given the definition of population in the year-----

A.	1988	B.	1998
C.	1978	D.	1968

7. Properties of DDT was discovered to control pest in the year-----

A.	1922	B.	1942
C.	1932	D.	1952

8. The IPM was officiated in USA in the year-----

A.	1969	B.	1979
C.	1989	D.	1959

9. Cooling and heating method for insect control comes under

A.	Chemical control	B.	Cultural control
C.	Biological control	D.	Physical control

10. The population dynamics grows in ----- ways

A.	3	B.	4
C.	2	D.	5

**C. Write 'True' or 'False'.****(5x1=5Marks)**

1.	Insecticides used for control of insects comes under chemical control.	
2.	The population of individuals of different ages in the group is known as age distribution	
3.	The first report on housefly resistance against DDT in year 1948	
4.	Attractants comes under chemical control	
5.	Repellants comes under cultural control	
6.	Shaking of branches comes under mechanical control	
7.	The rate at which new individuals are added to the population is known birth rate	
8.	The population grows as J-shaped growth form	
9.	The rate at which individuals immigrate into and emigrate out of population known as dispersal	
10	Beating of branches comes under mechanical control	

**II. Descriptive type Questions****(30 Marks)****Note: Attempt Any FIVE Questions Only. All carries equal SIX marks.**

1	Define IPM. Discuss the history and tools of IPM.	(6)
2	Define population. Discuss attributes of population.	(6)
3	Define Ecosystem. Discuss abiotic and biotic factors.	(6)
4	Discuss principals of forest insect management.	(6)
5	Discuss Economic Injury Level concept.	(6)
6	Discuss Organophosphates and carbamates insecticides.	(6)

**The End**