



**FIJI NATIONAL UNIVERSITY
COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY**

Bachelor of Science in Agriculture Second Year Third Trimester Final Examination- 2016

ENT 704: Non Insect Pests and Their Management

Time Allowed: 3.00 hours plus (10 minutes reading time)

Total Marks: 100

INSTRUCTIONS:

1. This paper consists of eight (8) pages including one Answer Sheet.
2. Please check to see that all your paper is complete.
3. Answer all the Objective Type Questions on the Answer Sheet and Descriptive Type Question in the Answer Booklet only.
4. The Answer sheet of the objective Type Questions will be collected together with your subjective questions at the end of this 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 having two parts. The first part contains Objective Type Questions which is having Three Sections – A, B and C. The second part contains Descriptive Type Questions.

I. OBJECTIVE TYPE QUESTIONS (40 Marks)

To be answered only on the Answer Sheet.

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

Section B: True or False Questions. (15 Marks)

Section C: Multiple choice Questions. (10 Marks)

II. DESCRIPTIVE TYPE QUESTIONS (60 marks)

There is one part in descriptive type questions. It is compulsory to attempt six (6) of the seven (7) questions. Write your answer 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 and return at the end of this Examination.

Total Marks: 40

A. Fill in the blanks.

(15x1=15 Marks)

1. Rat is a common non-insect pest in Fiji. It belongs to the order.....
2. Both rats and mouse belongs to the class
3. The phylum of which a rat belongs to is known as
4. A female rat demonstrates intrinsic reproductive cyclicity, characterized by the regular occurrence of a.....cycle.
5. A snail is also a common non-insect pest commonly found in most horticultural farms in Fiji. It belongs to the order
6. A slug belongs to the phylum
7. Both snails and slugs belongs to the order
8. A fruit bat is a common non-insect pests found in Fiji. It belongs to the order
9. Bird pests belongs to the phylum
10. Antelopes, horses and kangaroo are known as pests due to the presence of their backbones.
11. All porcupine-like rodents are classified under Hystricomorphs/Caviomorphs.
12. All squirrel-like rodents are classified under the category
13. A pest refers to pest species that are active only during the day.
14. A pest refers to pest species that are active only during the night.
15. All rat-like and mouse-like rodents are classified under category

B. True or False questions: Select the correct answer.

(15x1=15 Marks)

16. A molluscan possesses a toothed tongue called the radula.....
17. All gastropods are asymmetrical.....
18. The pneumostome refers to the breathing hole of a slug.....
19. The tentacle is located on the foot of a mollusk.....
20. Rats generally have five pairs of nipples

21. Mice generally have six pairs of nipples
22. Fruit pests generally roosts during the day
23. Fruit bats have big wings. The big wings of fruit bats allow it to cool during roostings
24. Fruit bats generally live in sub colonies. Generally a sub colony will consist of a single female and eight males.....
25. All phytophagous mites are parasitic in nature.....
26. Phytophagous mites have unique characteristics. They all have three pairs of legs.
27. Like insects, mites do not cause galls in plants.....
28. A mite general structure is composed of a head, thorax and abdomen
29. Spider mites are categorized under the family Tetranychidae
30. In the IUCN risk categorization table, the abbreviation VU refers to a species that is vulnerable to conservation

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

31. The body part of a mite that is referred to as the head is also called

A.	idiosoma	B.	pedipals
C.	gnathosoma	D.	thorax

32. The body part of a mite that is referred to as the body is also called

A.	idiosoma	B.	pedipals
C.	gnathosoma	D.	thorax

33. The is located closer to the head of a mite.

A.	idiosoma	B.	pedipals
C.	gnathosoma	D.	thorax

34. The is a mite species that is well known to affect coconuts, bananas, gingers and helicornia

A.	<i>Raoiella indica</i>	B.	<i>Eutetranychus orientalis</i>
C.	<i>Brevipalpus obovatus</i>	D.	<i>Brevipalpus phoenicis</i>

35. The is a mite species that is well known to affect mandarins, lemons and oranges.

A.	<i>Raoiella indica</i>	B.	<i>Eutetranychus orientalis</i>
C.	<i>Brevipalpus obovatus</i>	D.	<i>Brevipalpus phoenicis</i>

36. When are consumed by the rodents it leads or results in to death of an animal within a few hours.

A.	acute rodenticides	B.	chemosterilants
C.	chronic rodenticides	D.	preventive rodenticides

37. cause long-term exposure and its effects can take some time before it is noticed. These include cancer, dermatitis, neurological disorder, birth defects, sterility, endocrine system disruption and immune system depression.

A.	acute rodenticides	B.	chemosterilants
C.	chronic rodenticides	D.	preventive rodenticides

38. cause temporary or permanent sterility of one or both of the sexes. It could also prevent the young from reaching maturity or reproductive stages.

A.	acute rodenticides	B.	chemosterilants
C.	chronic rodenticides	D.	preventive rodenticides

39. One of the problems caused by is broken fences in the fields. They compete also with livestock and native animals for pasture and food.

A.	large mammalian pests	B.	fruit bats
C.	rodents	D.	birds (Sparrows and parrots)

40. Of all placental mammalian reproductive events, the is the most energetically demanding process in organisms such as fruit bats.

A.	lactation	B.	fertilization
C.	ovulation	D.	parturition

II. Descriptive type Questions

(60 Marks)

Note: Attempt SIX Questions Only. SIX questions from this part are compulsory. All carries ten (10) marks each.

1. You were invited to present at the Pacific Annual Mollusk Conference, organized by FNU at the "Tanoa International Hotel" in Nadi. You decided discuss in a drawing the anatomy of mollusk. **Draw and label the anatomy of a mollusk? (10)**
2. As an agriculturalist you were requested to give a presentation to the second year Trade Diploma in Agriculture students of CAFF, FNU. Your topic was on the differences between a slug and a snail. Both the organisms are commonly known as non-insect pests here in Fiji. **In the form of a table, discuss the similarities and differences between slugs and snails? (10)**
3. You were employed by an NGO that deals with rodent pests in agriculture. You were tasked to identify the characteristics of rodents that are harmful to horticultural pests in Fiji. **List and discuss five characters of rodents that are detrimental to horticultural farmers in Fiji? (10)**
4. Fruit Bats are a common non-insect pest in Fiji. **Discuss the following:**
 - (i) **Systematic position of fruits bats (2 marks)**
 - (ii) **Distribution of fruit bats (2 marks)**
 - (iii) **Host range of fruit bats (2 marks)**
 - (iv) **Life cycle of fruit bats (4 marks)**

5. Apart from rodents and birds, there are other vertebrate pests that affect agricultural plants in the field. **Name a vertebrate animal pest other than birds and rodents and discuss the following:**
- (i) Systematic position of the vertebrate animal (2 marks)**
 - (ii) Distribution of the vertebrate animal (2 marks)**
 - (iii) Host Range of the vertebrate animal (2 marks)**
 - (iv) Two vertebrate management tactics (4 marks)**
6. Phytophagous mites cause great losses in agriculture. You were approached by your unit lecturer to present on phytophagous mites to Yr 13 students of Suva High School. **You are to prepare your discussions on the below:**
- i) Systematic position of mites (2 marks)**
 - ii) Life cycle of mites (4 marks)**
 - iii) Two management tactics of mites (4 marks)**

Bachelor of Science in Agriculture Second Year Third Trimester Final Examination- 2017**ENT 704: Non Insect Pest Management****I. Objective Type Questions - Answer Sheet****Total Marks: 40**

A.	1.		
	2.		
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B.	21.		
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	30.		
C.	31.		
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	38.		
	39.		
	40.		

The End