



FIJI NATIONAL UNIVERSITY
College of Agriculture, Fisheries & Forestry
School of Agricultural Sciences and Forestry
Department of Entomology and Plant pathology
Trade Diploma in Agriculture– Year 1
Final Examination
Semester 1 - 2019
ENT 411: Basic Agricultural Biology

Writing Time: 3:00 hours

Reading Time: extra 10 minutes allowed at the beginning of the exam

Total Marks: 100

INSTRUCTIONS:

1. This paper consists of eleven pages.
2. Please check to see that all your paper is complete.
3. All questions are compulsory. Answer all 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 section appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Three Section

Section A: Multiple Choice

(40 Marks)

Section B: Short answer

(40 Marks)

Section C: Essay

(20 Marks)

Section A: Multiple Choice**(40 Marks)**

1. In classification, the term..... is closely associated with Phylum

A.	arthropod	B.	animalia
C.	insecta	D.	order

2. In classification, the term..... is closely associated with Kingdom

A.	arthropod	B.	animalia
C.	insecta	D.	order

3. In classification, the term..... is closely associated with Class

A.	arthropod	B.	animalia
C.	insecta	D.	order

4. are those insects that occur most frequently on a crop and such insects have close association with a particular crop.

A	Regular pest	B	Seasonal pest
C	Sporadic pest	D	Persistent pest

5. assume pest status occasionally in certain years in a few isolated localities.

A	Regular pest	B	Seasonal pest
C	Sporadic pest	D	Persistent pest

6. are those insects which occur mostly during a particular part of the year.

A	Regular pest	B	Seasonal pest
C	Sporadic pest	D	Persistent pest

7. Insects which occur on a crop almost throughout the year are known as

A	Regular pest	B	Seasonal pest
C	Sporadic pest	D	Persistent pest

8. The Biosecurity office in Fiji is legally guided by the

A.	Biosecurity Promulgation 2008	B.	Animal Quarantine Act
C.	Plant Quarantine Act	D.	'Laws of Fiji

9. The missionaries introduced to Fiji

A.	Honeybees	B.	<i>Plutella xylostella</i>
C.	<i>Helicoverpa armigera</i>	D.	Moths

10. The order Hymenoptera contains about different kinds of bees

A.	2000	B.	200,000
C.	20000	D.	2,000,000

11. The is main honey producing family.

A.	Apidae	B.	Meliponidae
C.	Bombidae	D.	Plasidae

12. The is an European species which is introduced in every country of World due to its good honey gathering quality.

A.	<i>Apis florea</i>	B.	<i>Apis dorsata</i>
C.	<i>Apis indica</i>	D.	<i>Apis mellifera</i>

13. Hymenoptera is an order of insects which belongs to.

A.	Honeybees	B.	<i>Plutella xylostella</i>
C.	<i>Helicoverpa armigera</i>	D.	Moths

14. A honeybee colony consists of castes.

A.	drones	B.	three
C.	workers	D.	queens

15. Any sprayer which is carried on the back of the operator is called a

A.	Mist blower	B.	Pest Atomizer
C.	knapsack sprayer	D.	Power duster

16. is an invasive species that has not established its population in Taveuni.

A.	Giant African Snail	B.	Fruit Flies
C.	Taro Beetle	D.	Asian Subterranean Termite

17. is an invasive species that affects taro plants in Viti Levu.

A.	Giant African Snail	B.	African tulip
C.	Taro Beetle	D.	Asian Subterranean Termite

18 is an invasive species that has established itself in Lautoka, western Fiji.

A.	Giant African Snail	B.	African tulip
C.	Taro Beetle	D.	Asian Subterranean Termite

19 There are species of fruit flies found Rotuma that are not present in other parts of Fiji.

A.	Two	B.	Five
C.	Seven	D.	Three

20 The Biosecurity Promulgation 2008 is made up of sections

A.	13	B.	30
C.	12	D.	15

21 The is best described by the smallest number of insects (amount of injury) that will cause yield losses equal to the insect management costs.

A.	Economic Injury Level	B.	Losses
C.	Economic Action	D.	Economic Threshold

22. Theis best described by pest density at which management action should be taken to prevent economic losses.

A.	Economic Injury Level	B.	Losses
C.	Economic Action	D.	Economic Threshold

23. Which of these alien species is not present in Fiji?

A.	African Tulip	B.	Giant African Snail
C.	Asian Subterranean Termites	D.	Taro Beetle

24. The taro beetle is not present in

A.	Tailevu	B.	Namosi
C.	Taveuni	D.	Ovalau

25. There are Species of fruit flies that are found in Viti Levu.

A.	Five	B.	Two
C.	Seven	D.	Three

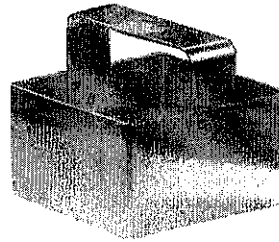
26. The is the second most deadliest species in the world.

A.	Asian Subterranean Termite	B.	Giant African Snail
C.	American Iguana	D.	Asian Gypsy Moth

27. There are species of fruit flies commonly found in Viti Levu.

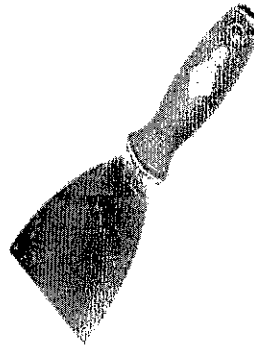
A.	Five	B.	Two
C.	Seven	D.	Three

28. The apiculture tool below is known as the



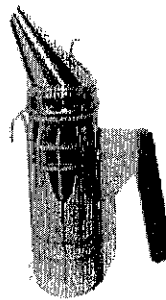
A.	Comb cutter	B.	Smoker
C.	Scraper	D.	Wire embedder

29. The apiculture tool below is known as the



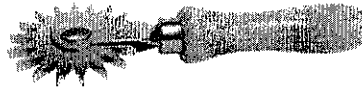
A.	Comb cutter	B.	Smoker
C.	Scraper	D.	Wire embedder

30 The apiculture tool below is known as the



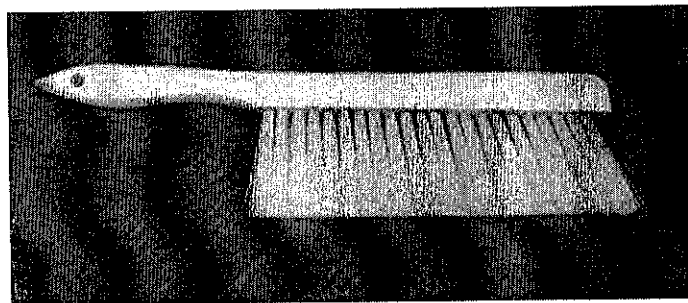
A.	Comb cutter	B.	Smoker
C.	Scraper	D.	Wire embedder

31 The apiculture tool below is known as the



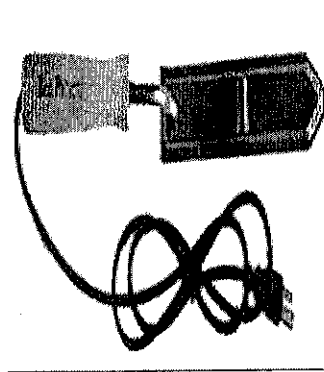
A.	Comb cutter	B.	Smoker
C.	Scraper	D.	Wire embedder

32 The apiculture tool below is known as the



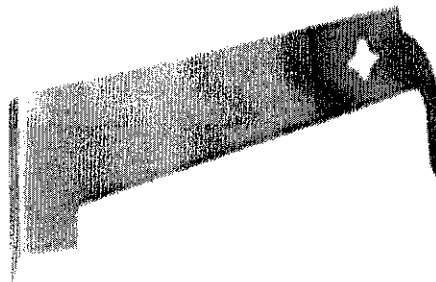
A.	Cold uncapping knife	B.	Beehive
C.	Hive tool	D.	Bee brush

33 The apiculture tool below is known as the



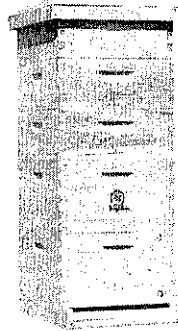
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34 The apiculture tool below is known as the



A.	Cold uncapping knife	B.	Beehive
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35 The apiculture tool below is known as the



A.	Cold uncapping knife	B.	Beehive
C.	Hive tool	D.	Bee brush

36 The fourth life stage of an insect that goes through complete metamorphosis is

A.	Nymph	B.	Pupa
C.	Adult	D.	Larva

37 The second life stage of an insect that goes through incomplete metamorphosis is

A.	Nymph	B.	Pupa
C.	Adult	D.	Larva

38 The third life stage of an insect that goes through complete metamorphosis is

A.	Nymph	B.	Pupa
C.	Adult	D.	Larva

39 The science of insect in relation to their environment.....

A.	Insect ecology	B.	Ecosystem
C.	Habitat ecology	D.	Biotic balance

40 The study of a group of organism which are found as a unit is known as.....

A.	Insect ecology	B.	Ecosystem
C.	Habitat ecology	D.	Biotic balance

Section B: Short answer

(40 Marks)

1. **List** five characteristics of an arthropod that makes them unique to other phylums? **(5 marks)**
2. **List** five precautionary measures that a person should observe when transporting pesticides in a vehicle? **(5 marks)**
3. **Draw and Label** the complete life cycle of an insect? **(5 marks)**
4. **List** five rules that should be followed when storing pesticides? **(5 marks)**
5. **List** five reasons why we should worry about invasive species in our ecology? **(5 marks)**
6. **List** five reasons why invasive species is of concern to agriculture? **(5 marks)**
7. **List** five care and maintenance measures that a farmer should observe with his mist sprayer? **(5 marks)**
8. **List** five important dates and events associated with Integrated Pest Management (IPM)? **(5 marks)**

Section C: Essay**(20 Marks)**

1. Insect Pest Categories are important in agriculture. In the field of agriculture these categories are important to farmers. You may name and explain any five categories of insect pests. **(10 marks)**
2. You took part in a group assignment where you were to present on characteristics of living organisms. As the group leader, you will lead your group presentation. You are to name and discuss five characteristics that are common to all living organisms. **(10 marks)**