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UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAM

BACHELOR OF SCIENCE IN AGRONOMY YEAR 2

COURSE CODE: CP203

TITLE OF PAPER: AGRICULTURAL ENTOMOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ALL QUESTIONS

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Part 1: Multiple Choices (50 Marks)

Put the question number and a capital letter of the correct answer in the answer book provided. Each question carries two marks.

1. What kind of organisms are insects?

- a) Harmful
- b) Beneficial
- c) Benign
- d) All
- e) None

2. An arthropodan character that is unique to insects is?

- a) Having segmented body
- b) Having one or two pairs of wings
- c) Having a tagmata
- d) Having a pair of antennae

3. An eight legged arthropod with two tagmata, a chelicerae and without an antennae is likely

- a) A chilopoda
- b) A crustacean
- c) An archnida
- d) An insect

4. One of the following is not true about Xiphosurans

- a) Have oval shell
- b) Have long spine like wings
- c) Have two compound lateral eyes
- d) They have five pairs of legs

5. One of the following is not the reason why we should study insects

- a) Their role as consumers
- b) Their role as primary producers

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- c) Their role as decomposers
- d) Their impact on our daily life

6. Possession of a cephalothorax is one of the features of

- a) An insect
- b) A centipede
- c) A spider
- d) A millipede

7. The position that the sclerotized head of a grasshopper assumes is

- a) Prognathus
- b) Opisthognathus
- c) Hypognathus
- d) endognathus

8. The appendage that arises from the fourth segment of the head is

- a) The Antennae
- b) The mandible
- c) The maxillae
- d) The labium

9. The ventral surface of the upper lip of an insect is called

- a) Epipharynx
- b) Legula
- c) Hypopharynx
- d) Lacinia

10. The proboscis of a house fly with a sponging type of mouth part is a modified

- a) Labrum
- b) Maxillae
- c) Labium
- d) Mandible

11. Which one of the following structure is unsegmented

- a) Pedicel of an antennae

- b) Palpi of a maxillae
- c) Tarsus of a leg
- d) Abdomen of an insect

12. Which of the following is not true about a thorax of an adult insect?

- a) Mesothorax supports the first pair of wings and the second pair of legs
- b) Some insects breath using their thorax
- c) The thorax is composed of the 6th, 7th and 8th segments of adult insects
- d) Each segment of the thorax has two legs

13. One of the following is not a modified fore leg

- a) The raptorial leg of a praying mantid
- b) The fossorial leg of a mole cricket
- c) Saltatorial leg of a grasshopper
- d) All are modified fore legs

14. The wing vein that does not get branched is

- a) costa
- b) radius
- c) media
- d) cubitus

15. A modified forewing with a thickened base and membraneous tip is called

- a) Elytra
- b) Halter
- c) Hemelytra
- d) Tegmina

16. The appendages of the 11th segment of the abdomen is

- a. Aedugus
- b. Cerci
- c. Spiracle
- d. Ovipositor

17. An egg shaped pupa of a house fly with the insect body encased within the hard exoskeleton is called:

- a) A Coarctate pupa
- b) An Obtect pupa

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- c) A Chrysalis
- d) An Exarate pupa

18. A cylindrical larva with short thoracic legs and fleshy abdominal prolegs is referred to as:

- a) a Grub
- b) a Caterpillar
- c) a Crawler
- d) a Maggot

19. The arthropods that do not belong to the subphylum mandibulata is

- a) Crustaceans
- b) Arachnids
- c) Insects
- d) Millipedes

20. One of the following is not the reason why insects are the most commonly used organisms in scientific researches

- a) Ease of culturing in a laboratory
- b) Rapid population turnover
- c) Availability of many individuals
- d) Their dominance in deep oceans

21. A naid is

- a) an egg
- b) A larva
- c) A nymph
- d) An adult

22. Decomposers are insects that feed on

- a) Dead or dying plants
- b) Dead or dying animals
- c) Excrements of other animals
- d) All

23. Insects which are parasitoids of another parasitoid are referred as

- a) Brood parasites
- b) hyperparasites

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- c) Autoparasites
- d) Social parasites

24. Insects' tactic of blending with their surroundings to escape detection by predator is called

- a) mimicry
- b) mimesis
- c) Crypsis
- d) Adhesion

25. Which one of the following sentences is true

- a) Insect feeding on crop plants could be considered beneficial
- b) Insect wings contain no muscles or tendons
- c) Adult insects possess no legs on the abdomen
- d) Growth in insect is a continuous process

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Part Two: Provide short answers

Write the answers to the questions in the answer book provided.

Question 1 (25 Marks)

- a) Define population dynamics (5 Marks)
- b) Name the four primary ecological events that influence the size of an insect population (8 Marks)
- c) Explain how the events you mentioned in Q1(b) influence the size of an insect populations (12 Marks)

Question 2 (25 Marks)

- a) Discuss the differences and similarities between the following
 - i. Moulting and Metamorphosis (4 Marks)
 - ii. Cuticle and exoskeleton (4 Marks)
 - iii. Segment and Tagmata (4 Marks)
 - iv. Instar and pharate (4 Marks)
 - v. Apolysis and Ecdysis (4 Marks)
 - vi. Ametabola and Holometabola (5 Marks)