



UNIVERSITY OF ESWATINI
FINAL EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR 1

COURSE CODE: CPR101

TITLE OF PAPER: INTRODUCTORY TO AGRICULTURAL ENTOMOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ALL QUESTIONS

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PART ONE: Short Answers**Question 1**

Complete the table below by filling your answers in the empty boxes (each box carries one Mark)

Insect name	Insect order	Type of metamorphosis	Type of mouth part	Unique feature of its wing	Common name of the immature
Mosquito					
Honey Bee					
Butterfly					
Grasshopper					
Lady Beetle					

(25 Marks)

Question 2

- What is a Tagmosis? (2 Marks)
- Name Tagmatas in an adult insect and describe their function (9 Marks)
- For each function mentioned in Q 2 (b) name the appendage that is responsible (10 Marks)
- On which Tagmata do you find insects' organ for breathing? (4 Marks)

(25 Marks)

Question 3

- a) Describe the meaning of the following terms and outline features of insects classified under each category
- i. Apterygota (5 Marks)
 - ii. Paleoptera (5 Marks)
 - iii. Endopterygota (5 Marks)
- b) Discuss the differences and similarities between Hexapoda and Insecta (10 Marks)
- (25 Marks)

PART TWO: Multiple Choices

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

1. One of the following is not the reason why biologists study insects?
 - a) Because insects multiply very fast
 - b) Because insects are abundant
 - c) Because insects are difficult to culture in a laboratory
 - d) Because they are diverse
2. An arthropodan character that is unique to adult Xiphosura is?
 - a) Having segmented body
 - b) Having one or two pairs of wings
 - c) Lack of Antennae
 - d) Having a long spinelike tail
3. Which one of the following Arthropodan characters is unique to insects?
 - a) Possession of wing
 - b) Ventral nerve cord
 - c) Bilaterally symmetrical body
 - d) Divided body
4. An arthropod with two tagmata, a mandibulate mouth part and with two pairs of antennae is likely
 - a) A chilopoda
 - b) A crustacean
 - c) A Xiphosura
 - d) An insect
5. Which one of the following arthropod is distantly related to Crustaceans
 - a) An insect
 - b) A centipede
 - c) A spider
 - d) A millipede
6. The process of replacing the rigid exoskeleton with a new and bigger one is called
 - a) Ecdysis
 - b) Apolysis
 - c) Metamorphosis
 - d) Moulting

7. An insect in the process of shedding its exoskeleton is called
- a) Pharate
 - b) Pupa
 - c) Instar
 - d) nymph
8. In the process of shedding of the exoskeleton, sclerotization happens immediately after
- a) The release of moulting enzyme
 - b) Cuticle expansion
 - c) Procuticle production
 - d) Detachment of the old cuticle from the epidermis
9. Which of the following terms has a different meaning to others
- a) Incomplete metamorphosis
 - b) Complete metamorphosis
 - c) Simple metamorphosis
 - d) Gradual metamorphosis
10. An aquatic larvae of a mosquitoes is called
- a) Wigglers
 - b) a Caterpillars
 - c) Crawlers
 - d) Maggots
11. The opening in the pre-oral cavity of an insect that leads to the alimentary canal is called:
- a) Cibarium
 - b) Salivarium
 - c) crop
 - d) illum
12. Peritrophic membrane is located in
- a) Mesentron
 - b) Ventriculus
 - c) midgut
 - d) All
13. Insects breath using their
- a) Antennae
 - b) Tympanum
 - c) Spiracle
 - d) Compound eye

14. Which one of the following is not true about the insects' digestive system?

- a) Foregut is a site for ingestion, storage grinding and transportation of food
- b) Midgut is the chief centre for production of enzymes
- c) Mesenteron is lined with exoskeleton
- d) The gut Epithelium is one cell thick

15. The arrangement of a grasshopper malpighian tubule is

- a) Cryptonephridial arrangement
- b) Hidden kidney arrangement
- c) Gymnonephridial arrangement
- d) Crypto-Gymnonephridial arrangement

16. One of the following is not true about insects' excretory system

- a) Salivary glands could be excretory organs
- b) Some insects may not have malpighian tubules
- c) Urea is the major nitrogenous waste product in terrestrial insects
- d) Fat bodies are involved in storage excretion

17. The process whereby insects' blood cell membrane folds around and ingests a foreign substance is called

- a) Encapsulation
- b) Endocytosis
- c) Nodule formation
- d) Coagulation

18. Insect blood cells that produce other blood cells are called

- a) Prohemocytes
- b) Plasmotocytes
- c) Granulocytes
- d) Coagulocytes

19. Unipolar nerve cells that conduct signals away from the central nervous system and stimulate responses in muscles are called

- a) Sensory neurons
- b) Motor neurons
- c) Association neurons
- d) Neurosecretory cells

20. A chemical secreted by insect and released into the environment to trigger a response in members of the same species is called

- a) Hormone
- b) Pheromone
- c) Allomone
- d) Kairomone

21. Hierarchical series of organisms each dependent on the next as a source of food and showing all possible paths of energy called

- a) Food web
- b) Food chain
- c) Trophic level
- d) Ecology

22. An insect feeding on or utilizing a single kind of food is called

- a) Monophagus
- b) Parasitoid
- c) Herbivore
- d) Predator

23. An insect species in which the females feed on males to obtain a nutritional advantage is called

- a) Carnivore
- b) Hyperparasite
- c) Autoparasite
- d) Parasitoid

24. Which one of the following is not a primary ecological event?

- a) Birth
- b) Temperature
- c) Migration
- d) Death

25. The tactics of insects to blend in with their surroundings to escape detection by their enemies are called

- a) Cryptic coloration
- b) Mimicry
- c) Mimesis
- d) Warning color

(25 Marks)