

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2005

TITLE OF PAPER : INTRODUCTORY ZOOLOGY

COURSE CODE : B112

TIME ALLOWED : THREE HOURS

INSTRUCTIONS :

1. ANSWER ANY TWO (2) QUESTIONS FROM EACH SECTION
2. USE ONE (1) ANSWER BOOKLET FOR EACH SECTION
3. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS
4. WHEREVER POSSIBLE ILLUSTRATE YOUR ANSWERS WITH LARGE CLEARLY LABELLED DIAGRAMS

SPECIAL REQUIREMENTS: NONE

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN
GRANTED BY THE INVIGILATORS**

SECTION A

QUESTION 1.

Write notes on the following:

- i) Proximal convoluted tubule (8 Marks)
- ii) Functions of the liver (8 Marks)
- iii) Coronary arteries (5 Marks)
- iv) Hepatic portal vein (4 Marks)

[Total Marks = 25]

QUESTION 2.

- (a) Make labelled sketches of the following:
 - (i) A fish heart (3 Marks)
 - (ii) An amphibian heart (4 Marks)
 - (iii) A mammalian heart (9 Marks)
- (b) List five (5) functions of blood in humans (5 Marks)
- (c) What is an open circulatory system? Give an example of a class of animals with such a circulatory system (4 Marks)

[Total Marks = 25]

QUESTION 3.

Write one or two words that apply to EACH of the following: (2.5 marks each)

- (i) Organ of excretion in insects
- (ii) Product of starch digestion in the human mouth
- (iii) Fertilized egg
- (iv) Digestive enzyme that breaks down fats
- (v) Muscle controlling entry into the stomach
- (vi) Where sperms enter uterus
- (vii) Hormone involved in female puberty
- (viii) Fatty material that covers axon
- (ix) Number of chambers in an amphibian heart
- (x) Feeds only on parts of other animals

[Total Marks = 25]

SECTION B

QUESTION 1 (Compulsory)

1. The simplest level of organization in living organisms is the _____ level.
2. In the absence of limiting factors, an organism is capable of occupying its _____ niche.
3. Individuals of the same species in the same habitat make up a _____
4. Organisms which are dependant on others nutrition are known as _____
5. In taxonomy, the largest and most inclusive taxon is the _____
6. Classification of Protozoans is based on their mode of _____
7. In ciliates, which nucleus is responsible for conjugation? _____
8. The intermediate host for the bilharzia causing parasites is the _____
9. In cnidarians, the _____ body form is free-swimming;
10. Roundworms need to _____ their cuticle in order to allow growth.
11. Sessile animals usually illustrate _____ symmetry. _____
12. Snails use the _____ as a rasping organ.
13. How do leeches manage to keep blood from their hosts flowing during feeding? _____
14. Name one organ system lacking from the starfish _____
15. Name one function of the water vascular system _____

16. _____ results when individuals choose mates on the basis of phenotype
17. Which was the first fully terrestrial class of animals? _____
18. Name one adaptation for flight observed in birds. _____
- _____
19. All life on earth is contained within the _____
20. Terrestrial habitats covering large areas with identical climatic conditions are known as _____
21. The use of chemicals by an organism to harm another organism is known as _____
- _____
22. Who is the "father" of natural selection? _____
23. State the law of independent assortment. _____
- _____
24. Name one non-genetic factor which may influence the expression of genes. _____
- _____
25. Name one factor which may result in changes in gene frequency. _____
- _____

[Total marks = 25]

QUESTION 2

- a. Compare and contrast sponges and cnidarians with respect to their basic body forms. (15)
- b. Draw a table similar to the one shown below in your booklet and fill it up.

Structure	Organism where observed	Function
i. Exoskeleton		
ii. Diaphragm		
iii. Flagellum		
iv. Nematocysts		
v. Swim bladder		

(10)

[Total marks = 25]

QUESTION 3

- a) What features characterise the arthropods? (10)
- b) Use examples to differentiate between the following:
- i. moulting and metamorphosis
 - ii. mutation and gene flow
 - iii. predation and allelopathy (15)

[Total = 25 marks]