UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2006

TITLE OF PAPER : **INTRODUCTORY ZOOLOGY**

COURSE CODE : **B112**

TIME ALLOWED : **THREE HOURS**

INSTRUCTIONS :

1. **THIS PAPER HAS TWO SECTIONS, A AND B**
2. **USE ONE (1) ANSWER BOOKLET FOR EACH SECTION**
3. **IN SECTION A, ANSWER QUESTION 1 (COMPULSORY) PLUS ANY OTHER QUESTION; IN SECTION B, ANSWER QUESTION 4 (COMPULSORY) PLUS ANY OTHER QUESTION.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 (COMPULSORY)

1. What does polymorphic mean? _____

2. Give one reason why classification is important. _____

_____

3. Cephalised organisms tend to have _____ symmetry.

4. Specialised cells with a common function form _____

5. Populations of organisms interact to form _____

6. *K*-selected species prefer keeping their populations near their _____

7. The earth's crust is formed by the _____

8. The northernmost terrestrial biomes are the _____

9. _____ use light or chemical energy to manufacture food.

10. _____ is not recycled and thus needs constant input from the sun.

11. Name an interaction where both organisms benefit _____

12. Using the binomial system of nomenclature, name human beings _____

_____

13. Name one function of the cytoskeleton. _____

14. Name one mode of locomotion observed in the protozoans. _____

15. Animals with _____ symmetry are able to sense stimuli from all directions.

16. Animals with two germ layers are said to be _____

17. What is a hermaphrodite? _____

18. Bony fish use _____ to remain stationary at any depth.

19. The highest and most inclusive taxon in classification is the _____

20. The medusa and _____ are two body forms observed in cnidarians.

21. _____ is the ability to regulate and maintain a constant body temperature.

22. What is non-random mating? _____

_____

23. _____ is the first step towards speciation.

24. Give an example of a vestigial structure in human beings. _____

25. In maximising their reproductive success, males are limited by _____

_____

[Total marks = 25]

QUESTION 2

a. All life on earth is contained within the biosphere. Briefly discuss components of the biosphere. (15)

b. Briefly discuss distinguishing features which characterise the arthropods. (10)

[Total marks = 25]

QUESTION 3

a) Describe sexual reproduction in ciliates. (10)

b) Write short notes on the following:

i. Ecological niches
ii. Body symmetry
iii. Mutations (15)

[Total = 25 marks]

SECTION B

QUESTION 4 (COMPULSORY)

(a) What is a nerve impulse? _____.

(b) _____ can swallow food and breathe simultaneously.

(c) The _____ is the point where a neuron makes contact with another neuron.

(d) The knee-jerk is an example of a _____ action.

(e) Complete the following table.

Animal	Length of gestation period (days)
Human	
	280
Sheep	
	337
Dogs	
Cats	
	22

(f) A cow is a _____ fermentor.

(g) A substance released from a well defined/specific organ and has a specific effect on some other well defined structure/function is called a _____.

(h) The _____apparatus is employed by insects to concentrate their urine and maximize water saving.

(i) What gland controls the master gland? _____.

(j) _____ is the hormone of lactation in mammals.

(k) Two hormones from the pancreas are _____

(l) The hormone of 'fight or flight' in mammals is _____

(m) Name two (2) respiratory pigments. _____

_____

(n) The male gamete is the _____ and the female gamete is the _____ in mammals.

(o) What is the length of the average human menstrual cycle? _____ days.

(p) The _____ is the organ used for mechanical digestion in birds.

[Total = 25 marks]

QUESTION 5

(a) Differentiate between nutritional and dietary requirements. (10 Marks)

(b) Describe and discuss osmoregulation in terrestrial animals. (15 Marks)

[Total = 25 marks]

QUESTION 6

Employing appropriate sketches, describe the structure and function of the insect respiratory system.

[Total = 25 marks]