UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER 2007

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 TWO QUESTIONS.
4. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS
5. 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

Question1 **(Compulsory)**

1. Phytophagous means _____
2. What is the biosphere? _____
3. Name one factor which contributed to arthropod success. _____

_____

4. Which group of protozoans lack locomotory organelles in their adult stage? _____
5. The _____ is a buoyancy device in bony fishes.
6. The first fully terrestrial vertebrates belong to the class _____
7. Name one factor which contributed to mammalian success. _____

_____

8. In prokaryotic cells, all genetic material is stored in the _____
9. Name one component of the cytoskeleton. _____
10. Alternate forms of genes are called _____
11. State the Law of independent assortment _____

_____

12*. What are the two types of mutation? _____

_____

13. _____skeletons provide support from outside the body.
14. The _____ is the part of the earth which supports life.
15. A _____ shows the flow food nutrients between organisms.
16. _____ is an interaction where both organisms benefit in a non-compulsory relationship.
17. Self-feeders which convert light energy to chemical energy are known as _____

18. In biogeochemical cycles, introduction of elements into the biotic environments requires _____

19. Change in population density per unit time is known as the population's _____

20. Name one factor characteristic of *k*-selected organisms _____

_____

21. In heterozygotes, the full expression of both alleles is due to _____

22. _____ is the random exchange of alleles between populations.

23. _____ is the first step towards speciation.

24. Give an example of a pre-zygotic barrier which prevents reproduction between species. _____

[Total = 25 marks]

QUESTION 2

a. In man, an allele for the ability to taste phenylthiocarbamide (A) is dominant to that for inability (a). The brown eye gene (B) is dominant to the blue (b).

i. What proportion of the offspring of two parents each of genotype AaBb would be blue-eyed tasters?
ii. What proportion of the offspring would be blue-eyed non-tasters?

(15)

b. Humans are chordates yet lack the main characteristics typical of chordates. Explain. (10)

[Total = 25 marks]

QUESTION 3

a. Describe the amniotic egg and explain how this contributed to occupation of terrestrial habitats. (10)

b. Using the amoeba, ciliates and flagellates as examples, discuss the structural and functional diversity observed in the protists. (15)

[Total = 25 marks]

SECTION B

QUESTION 4.

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

[Total Marks = 25]

QUESTION 5.

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]

QUESTION 6.

Describe and compare the structure and function of arteries, capillaries and veins

[Total Marks = 25]