

UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER 2013

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

a. Differentiate between the following:

- i. Incomplete dominance and co-dominance (3)
- ii. r -selected and K -selected organisms (3)
- iii. Notochord and hollow, dorsal nerve chord (3)
- iv. Hydrosphere and atmosphere (3)
- v. Ecosystem and community (3)

b. What modifications occurred in birds to enhance efficiency for flight? (10)

[Total marks = 25]

QUESTION 2

a. How do the following contribute to changes in a population's gene pool

- i. Mutations
- ii. Gene flow
- iii. Genetic drift
- iv. Non-random mating (16)

b. What is competition? Using examples, explain which is more intense between inter-specific and intra-specific competition (9)

[Total marks = 25]

QUESTION 3

a. What evidence is used for evolution? (15)

b. Distinguish between three groups of mammals, i.e. monotremes, marsupials and placentals, in terms of how their young develop. (10)

[Total marks = 25]

SECTION B

QUESTION 4

- (a) What is an omnivore? _____.
- (b) _____ are the only group of mammals without oestrous.
- (c) Where digestion occurs outside cells it is called _____ digestion.
- (d) Bubble-like structure of alveoli is maintained by means of substances called _____.
- (e) The tracheal system of insects opens to the outside through _____.
- (f) Give one (2) functions of blood _____.
- (g) What artery carries deoxygenated blood? _____.
- (h) The _____ has more than 5 hearts.
- (i) Excretory organs have a role in _____ and _____.
- (j) How do spiders feed? _____.
- (k) Antennal glands are found in _____.
- (l) In the _____ of the nephron all the glucose, 2/3 water, salt (NaCl) are reabsorbed.
- (m) Name two (2) organs that involved in the control of respiration in terrestrial vertebrates _____.
- (n) What is an osmoconformer? _____.
- (o) What is special about kangaroo rats? _____.
- (p) What three (3) parts do all neurons have in common? _____.
- (q) The _____ becomes congested with blood causing its length and diameter to increase greatly (erection).
- (r) _____ is the expulsion of semen from the penis through the urethra.
- (s) The principal male reproductive hormone is _____.
- (t) What is menopause? _____.

(u) The vagina opens into the uterus at the _____.

[Total Marks = 25]

QUESTION 5

Describe and discuss the process of reproduction in humans.

[Total Marks = 25]

QUESTION 6

- (a) List any two (2) hormones involved in homeostasis. (2 marks)
- (b) What role do the hormones you named above play in homeostasis. (14 marks)
- (c) Make a well labelled sketch of a neuron. (9 marks)

[Total Marks = 25]