

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER DECEMBER 2009

TITLE OF PAPER : INVERTEBRATE ZOOLOGY

COURSE CODE : B204

TIME ALLOWED : THREE HOURS

INSTRUCTIONS :

1. THIS PAPER HAS TWO SECTIONS, A AND B
2. SECTION A IS COMPULSORY
3. ANSWER ANY THREE (3) QUESTIONS FROM SECTION B
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 (Compulsory)

QUESTION 1

Using animal bauplan concept and named phyla, describe the various character traits for each of the following:

- i. Symmetry (12)
- ii. Locomotory organelles (11)
- iii. Blood pumping mechanisms (8)
- iv. Nitrogenous wastes (9)

[Total = 40 marks]

SECTION B

Answer any **three (3)** questions.

QUESTION 2

Discuss in detail the ecological and economic importance of coral reefs.

[Total = 25 marks]

QUESTION 3

Use diagrams to compare and contrast the feeding and the digestive processes in ciliates and poriferans.

[Total marks = 25]

QUESTION 4

a. Copy and fill in the table below.

Character	Ancestral mollusc	Chiton	Snail	Bivalve	Squid
Location of shell					
No. of shells					
Foot morphology					
Hard mouthparts					

(20)

b. Using examples, explain the advantages of asexual reproduction.

(5)

[Total = 25 marks]

QUESTION 5

i. Briefly examine why cephalopod evolution has been limited. (9)

ii. Distinguish between the following:

- Trochophore and diopleurula larvae
- Sympleiomorphy and synapomorphy
- Metamorphosis and paedomorphosis
- Lophophore and radiole

(16)

[Total = 25 marks]

QUESTION 6

a. Invertebrates illustrate different types of life cycles. Define indirect development and using named examples, critically assess the various stages and alternatives an organism undergoing this type of development may have. (20)

b. Which invertebrate lifestyles are likely to have indirect development? (5)

[Total = 25 marks]