

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2011

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

Invertebrates are a diverse group of animals which have significant impact on mankind and environment. Using named examples from the diversity of invertebrates studied in this course, enumerate their importance with regard to the following (answer in tabular form as shown):

Category	Specific roles/impacts	Example/s	
i. Agriculture			(7.5)
ii. Medical/scientific research			(7.5)
iii. Ecosystem function			(10)

[Total = 25 marks]

SECTION B

Answer any **three (3)** questions from this section.

Question 2

Using protozoans as an example, discuss the following:

- i. symplesiomorphies and autapomorphies (5)
- ii. heterotrophic nutrition (10)
- iii. reproduction (10)

[Total = 25 marks]

Question 3

- a. Define adaptive radiation and discuss the term with regard to the Bivalves (15)
- b. One of the primary concerns within marine ecosystem is coral bleaching. Explain how this arises and discuss why this is an environmental concern. (10)

[Total = 25 marks]

Question 4

- a. What has contributed to biological success in the phylum Arthropoda? (10)
- b. Describe the intertidal zone and enumerate the advantages and disadvantages of living in this area? (15)

[Total = 25 marks]

Question 5

- a. Distinguish between the following:
 - i. Trochophore and dipleurula larvae (3)

- ii. Schizocoely and enterocoely (3)
- iii. Lophophore and radiole (4)

b. Poriferans illustrate a number of body forms. Describe these and explain why this variation occurred. (15)

[Total = 25 marks]

Question 6

Write short notes on the evolutionary significance of the following phyla:

- i. Onychophora
- ii. Platyhelminthes

[Total = 25 marks]