

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2007

TITLE OF PAPER : INVERTEBRATE ZOOLOGY

COURSE CODE : B204

TIME ALLOWED : THREE HOURS

INSTRUCTIONS :

- 1. THIS PAPER HAS SIX (6) QUESTIONS**
- 2. ANSWER ANY FOUR (4) QUESTIONS**
- 3. 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**

QUESTION 1

Using illustrations and named examples, briefly describe the structure and function of the following:

- i. Cnidocyte (5)
- ii. Nephridia (10)
- iii. Cuticle (10)

[Total marks = 25]

QUESTION 2

Plasmodium spp., *Ancylostoma duodenale* and *Schistosoma mansoni* are causes of three of the world's scourges. Illustrate their life-cycles and explain how each is adapted for its lifestyle.

[Total marks = 25]

QUESTION 3

Using the coleoids as an example, discuss how the molluscan "bauplan" has been modified. Give reasons for these modifications.

[Total = 25 marks]

QUESTION 4

a. Discuss, in detail, the various types of feeding strategies observed in invertebrates. (15)

b. Using the platyhelminthes as an example, illustrate how feeding strategies are generally dependant on the lifestyle of the animal concerned. (10)

[Total = 25 marks]

QUESTION 5

An invertebrate group is known to produce very high numbers of free-spawned isolecithal ova. What can you predict about its cleavage pattern, blastula and gastrula, presence or absence of a larval stage, type of larva, adult lifestyle and type of ecological settings in which such a sequence would be advantageous?

[Total = 25 marks]

QUESTION 6

Discuss the concept of adaptive radiation as observed in the bivalves.

[Total = 25 marks]