

UNIVERSITY OF SWAZILAND

RE-SIT EXAMINATION PAPER 2018

TITLE OF PAPER : INVERTEBRATE ZOOLOGY

COURSE CODE : BIO251

TIME ALLOWED : THREE HOURS

- INSTRUCTIONS :**
- 1. ANSWER ANY FOUR (4) QUESTIONS**

 - 2. 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

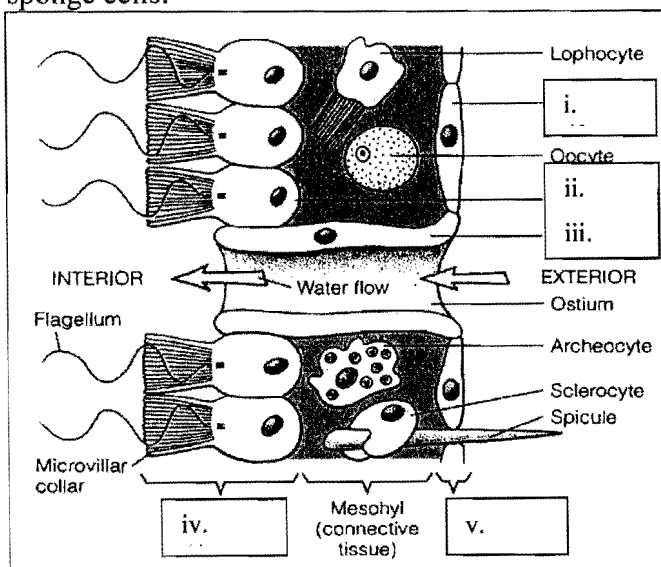
Invertebrates are a diverse group of animals which have significant impact on mankind and environment. Using named examples from the diversity of invertebrates studied in this course, enumerate their importance with regard to the following (answer in tabular form as shown):

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

[Total = 25 marks]

QUESTION 2

- a. The intertidal zone has a diverse invertebrate community. Name two of each of the following:
 - i. Disadvantages for invertebrates living in it. (2)
 - ii. Advantages for invertebrates living in it. (2)
 - iii. Adaptive strategies for survival in this area. (4)
- b. Give 4 human induced threats to coral reefs. (4)
- c. Give three reasons for the ecological importance of coral reefs. (3)
- d. Using named examples, differentiate between an osmoconformer and osmoregulator and identify habitats where each is likely to occur. (5)
- e. Label the following sponge cells:



(5)
[Total = 25 marks]

QUESTION 3

a. Illustrate the life cycle of *Plasmodium vivax* and identify the disease it causes. (15)

b. Using the parasite illustrated above, cite specific stages to explain
i. the advantage of multiple and mixed reproductive cycles
ii. ciliated larval stage

(10)

[Total = 25 marks]

QUESTION 4

a. Briefly discuss the advantages of the following:

i. isolecithal egg (4)

ii. hermaphroditism (3)

iii. alternation of generations (6)

b. Illustrate the Arthropod cuticle and briefly discuss the advantages of this feature. (12)

[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. Illustrate the echinoderm water vascular system and elaborate on what this system is used for. (15)

[Total = 25 marks]