

UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE GENERAL DEGREE LEVEL I
(SEMESTER II) EXAMINATION – JANUARY 2022

Subject : Zoology

Course Unit : ZOO 1202 – Invertebrate Diversity II

Time: 01½ hours

Index No :

Answer the **Part A** and **any two** questions from **Part B**.
Illegible handwriting would be penalized.

Question No.	Marks	
Part A	1	
	2	
	3	
	4	
Part B	1	
	2	
	3	
	4	
Assessment		
Total		
Percentage		

Part A : Answer all. (40 minutes)

1. (i). (a). Mention the type of the coelom seen in molluscs?

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(b). Explain the difference between direct and indirect development of molluscs using annotated labeled diagram/s only.

(ii). Mention **one** function each of the following body parts of molluscs.

- (a). Head:.....
- (b). Foot:.....
- (c). Visceral mass:.....
- (d). Mantle:.....

(iii). (a). List **three** feeding mechanisms that can be observed in molluscs. Give **one** example of molluscs showing each of the feeding mechanism mentioned.

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(b). What is the main function of the radula?.....

.....

(c). Name the class/s of molluscs having a radula structure?.....

.....

(iv). List **one unique** characteristic feature each of the following molluscs classes.

- (a). Class Polyplacophora.....
- (b). Class Scaphopoda -
- (c). Class Bivalvia -
- (d). Class Gastropoda.....
- (e). Class Cephalopoda -

(v). State **one** locomotor mechanism for the following molluscs?

- (a). Neopilina sp. -
- (b). Chiton sp. -
- (c). Dentalium sp. -
- (d). Scallops -
- (e). Squid -

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(10 marks)

2. (i). Write **two** different organs found in following systems in Arthropods
- (a). Respiratory system
 - (b). Excretory system
 - (c). Sensory system
 - (d). Reproductive system.....
- (ii). Name **two** functions each of the following body parts of arthropods
- (a). Head
 - (b). Thorax
 - (c). Abdomen
 - (d). Haemoceol.....
- (iii). Write **one** function each of following structures found in Arthropods
- (a). Chelicerae
 - (b). Mandibles
 - (c). Antennae
 - (d). Labium
- (iv). Draw a sketch diagram of a typical **pterygote insect** and **label** the main body parts.

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- (v). Write **one** ecological/economic importance of each of the following arthropods
- (a). Copepods
 - (b). Horse shoe crabs
 - (c). Millipedes
 - (d). Ticks

(10 marks)

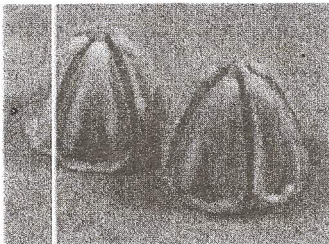
3. (i). Name **two** respiratory organs/structures observed in Echinodermata

- (a).....
- (b).....

(ii). Name **one** Echinodermata each showing the following feeding habits

- (a). Suspension feeders.....
- (b). Predators
- (c). Grazers
- (d). Scavengers.....

(iii). Identify the structure given below. Name an echinoderm having this structure and mention two of its functions.



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.....

(iv). Briefly explain the ecological relationship between the pearlfish and sea cucumber

.....
.....

(v). Mention two economic importance of Echinodermata.

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(10 marks)

4. (i). What are the functions of the following structures found in protochordates?

(a). Endostyle:.....

(b). Pyloric gland:.....

(ii). Mention two colonial types found in Ascidians and give one example for each type

(a).....

(b).....

(iii). What is **neoteny**? Explain briefly.

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.....

(iv). Fill the following table.

Name	Class	Microhabitat
1. <i>Ectalanoglossus</i>		
2. <i>Clavelina</i> sp.		
3. <i>Oikopleura</i>		
4. <i>Amphioxus</i>		

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(v). Name two daughter zooids of *Doliolum* and mention the role of them.

- (a).....
.....
- (b).....
.....

(10 marks)

Part B : Answer any two questions only. (50 minutes)

- 1. Briefly explain the **economic** importance of Molluscs.
(25 minutes) (15 marks)

- 2. (i). What are the main features used in classification of insects?
(ii). Comment on the role of insects in the maintenance of the stability of the environment.
(25 minutes) (15 marks)

- 3. Briefly explain the defensive mechanisms of Echinodermata.
(25 minutes) (15 marks)

- 4. Write an account on retrogressive metamorphosis found in Ascidians.
(25 minutes) (15marks)

 **For the assessment** (30 marks)

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