

**B.Sc. ZOOLOGY**  
**SECOND SEMESTER (REPEAT)**  
**NON-CHORDATES-II: ANNELIDA TO ECHINODERMATA**  
**BSZ-201**

**SET**  
**A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

1 × 20 = 20

Choose the correct answer from the following:

- Book-lungs are respiratory organs, which are found in:  
a. Onychophores                      b. Arachnids  
c. Insects                                d. Crustaceans
- Basic unit of insect eye is:  
a. Retina                                 b. Rhabdome  
c. Corneal facet                        d. Ommatidium
- The freshwater species of Echinodermata is:  
a. Brittle star                            b. Star-fish  
c. Sea lily                                 d. None of these
- Respiratory tree is found in:  
a. Sea cucumber                        b. Sea Lily  
c. Starfish                                 d. Feather star
- Echinodermata are:  
a. Protostome                            b. Schizocoelous  
c. Deuterostome                        d. All of the above
- The total number of oesophageal pouches in a Globosa snail is:  
a. 1                                         b. 2  
c. 3                                         d. 4
- The ctenidium lamellae is made up of \_\_\_\_\_ layers of epithelium.  
a. 2                                         b. 3  
c. 4                                         d. 5
- Overlapping shell like a knight's armour plates, the following specimen of mollusc can be found:  
a. Unio                                      b. Murex  
c. Pila                                        d. Chiton
- The pharyngeal nephridia in Earthworm is present in:  
a. 3-4-5 segment                        b. 4-5-6 segment  
c. 5-6-7 segment                        d. 6-7-8 segment
- Dissimilar segments in different organs is a part of:  
a. Homonomous                         b. Heteronomous  
c. Complete                                d. External

11. 'Hexapoda' is another name of:  
 a. Crustacea  
 b. Arachnida  
 c. Insecta  
 d. All of the above
12. Animals of which set belongs to same phylum?  
 a. Scorpion, cockroach, prawn  
 b. Leech, oyster, scorpion  
 c. Scorpion, cockroach, earthworm  
 d. Earthworm, leech, cancer
13. Fossil arthropods are:  
 a. Trilobites  
 b. Chelicerata  
 c. Tardigrades  
 d. Crustacea
14. Sea stars feed by:  
 a. Injecting poison that digests the prey  
 b. Everting their stomach to digest prey  
 c. Chewing their prey with jaws and teeth  
 d. Squeezing their prey until it dies
15. In which class of Echinodermata stalk is found for attachment with substratum?  
 a. Asteroidea  
 b. Crinoidea  
 c. Ophiroidea  
 d. Echinoidea
16. A cavity with elevation in Apple snail is called:  
 a. Odontophore  
 b. Retractor cavity  
 c. Buccal mass  
 d. Ctenidium
17. Mucus in saliva of Apple snail does not help in:  
 a. Digestion of starch  
 b. Transport of food  
 c. Protection of inner layer  
 d. Protection of radula
18. The siphon during pulmonary respiration opens up into the following layer for better facilitation of respiration:  
 a. Below water surface  
 b. Above water surface  
 c. Horizontally along the body axis  
 d. Anteriorly inside the body
19. Torsion has a rotational axis of:  
 a. 90  
 b. 120  
 c. 180  
 d. 360
20. Which among these is not a part of coelomic cavities for metamerism?  
 a. Mesocoel  
 b. Metacoel  
 c. Mirocoel  
 d. Protoceol

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**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

[ Answer question no.1 & any four (4) from the rest ]

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|--|--------|
| 1. What is metamorphosis? Explain the different types of metamorphosis found in insects.                           | 2+8=10 |
| 2. Describe water vascular systems of starfish with labeled diagram.   | 5+5=10 |
| 3. Write six important characters of phylum Echinodermata. Classify Phylum Echinodermata up to class with example. | 3+7=10 |
| 4. Write six different features of <i>Hirudinaria</i> . Also explain the parasitic adaptation of leech.            | 6+4=10 |
| 5. Explain the complete respiratory system of <i>Pila globosa</i> .  | 10     |
| 6. Explain the process of torsion with diagrammatic representation.  | 10     |
| 7. What is metamerism? Describe all the theories associated with this phenomenon.                                  | 2+8=10 |
| 8. Write short notes on:   | 5+5=10 |
| a) Social organization of honey bee.   |        |
| b) Piercing and sucking mouth parts of insect.   |        |

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