

**BACHELOR OF SCIENCE (CBCS-2018 COURSE)**  
**F. Y. B. Sc. Sem-I : WINTER :- 2021**  
**SUBJECT: ZOOLOGY : ANIMAL SYSTEMATIC & FUNCTIONAL ANATOMY**  
**OF NON-CHORDATES-I**

Day : Tuesday  
Date 1/2/2022

W-18301-2021

Time : 10:00 AM-01:00 PM  
Max. Marks: 60

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**N.B.**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the **RIGHT** indicate **FULL** marks.
  - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
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**Q.1** Attempt **ANY TWO** of the following : (12)

- a) Describe external morphology of *Paramecium*.
- b) Describe cyclosis and process of digestion in *Paramecium*.
- c) What is binomial nomenclature? State its rules and the importance of binomial nomenclature.

**Q.2** Attempt **ANY TWO** of the following : (12)

- a) Describe digestive system of earthworm.
- b) Describe pre-clitellar circulatory system in earthworm.
- c) Describe male reproductive system of cockroach.

**Q.3** Attempt **ANY TWO** of the following : (12)

- a) Describe external morphology of earthworm.
- b) Give an account of the structure and physiology of the malpighian tubule in cockroach.
- c) Describe central nervous system of cockroach.

**Q.4** Attempt **ANY THREE** of the following : (12)

- a) Describe sexual dimorphism in cockroach.
- b) Sketch and label septal nephridium of earthworm.
- c) Explain salivary glands of cockroach.
- d) Describe female reproductive system of earthworm.

**Q.5** Attempt **ANY FOUR** of the following : (12)

- a) Write a note on binary fission in *Paramecium*.
- b) Sketch and label nervous system of earthworm.
- c) Give structure and function of gizzard in cockroach.
- d) Write a note on integumentary nephridia of earthworm.
- e) Write a note on contractile vacuoles in *Paramecium*.
- f) Write systematic position of cockroach.

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