

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2025

SECOND YEAR [BATCH 2022-25]

ZOOLOGY

Paper : 4ZOOMIC1

Date : 13/05/2025

Time : 11 am – 1 pm

Full Marks : 50

1. Answer **any five** questions : [5×2]
  - a) What is radula? State its function.
  - b) What are prostomium and pygidium?
  - c) Mention the phyla of *Paramoecium* and *Euglena*.
  - d) State four reptilian characters of Monotremata.
  - e) What do you mean by metagenesis?
  - f) What are remiges and rectrices?
  - g) Mention the major differences between the ‘annuli’ of a worm lizard and an earthworm.
  - h) What are the identifying characters of the Sub Order Anseriformes?
  
2. Answer **any four** questions : [4×2.5]
  - a) Mention the distinctive features of phylum Cnidaria. Give an example.
  - b) Explain the physiology of malpighian tubule.
  - c) Name the different types of scales found in fishes. How are the scale of fishes different from the scale of reptiles?
  - d) Name one salamander found in West Bengal. Compare between Apoda and Urodela.
  - e) State the importance of pinacocytes and porocytes in the body of a sponge.
  - f) Justify why arthropods are considered as nature’s masterpiece.
  - g) Name the six segments which are fused to form head in insects.
  
3. Answer **any six** questions : [6×5]
  - a) Describe different types of gills found in prawn.
  - b) What is peptic nephridium? [4+1]
  
4. Classify class Reptilia upto living subclass with distinctive features and example of each subclass. 5
  
5. Illustrate the structure of a flame cell of *Taenia* with a labelled diagram.
  
6. Describe the air sacs of *Columba*. Mention its function. [3+2]
  
7. Describe the nervous system of *Pila* with a suitable diagram. [3+2]
  
8. a) *Opalina* and *Nosema* belong to phyla \_\_\_\_\_ & \_\_\_\_\_ respectively.  
What are cytostome and cytoproct?  
b) How can you identify copepods?  
c) Why the names ‘Trilobita’ and ‘Chelicerata’ are applicable to respective groups of arthropods? [2+1+2]
  
9. Distinguish between cilia and flagella. Mention the importance of nexin links between successive microtubule doublets. [2.5+2.5]

10. a) Name the methods of holozoic nutrition in protists.  
b) What is Autogamy?  
c) Enumerate the important features of Conjugation in protozoans. [1.5+1.5+2]
11. Mention the functions of the 10<sup>th</sup> and 12<sup>th</sup> Cranial nerves in *Cavia*. Name the valves which are found in the heart of a toad. [3+2]

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