

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FIRST SEMESTER EXAMINATION, DECEMBER 2019

FIRST YEAR (BATCH 2019-22)

ZOOLOGY (Honours)

Paper : I (CC1)

Date : 11/12/2019

Time : 11 am – 1 pm

Full Marks : 50

Answer any five questions:

[5×2]

1. a) *Opalina* and *Nosema* belong to phyla _____ & _____ respectively.
- b) What is a blepharoplast? State its function. [1+1]
- c) Define Metagenesis.
- d) Distinguish between lateral heart and latero-oesophageal heart in earthworm.
- e) Compare Trematoda with Monogenea.
- f) What is Atoll? Give example. [1+1]
- g) Differentiate between holometabolous and hemimetabolous insects.
- h) Mention the role of ctenidium in *Pila* sp.

2. Answer any four questions:

[4×10]

- i) Mention two identifying characters of phylum Labyrinthomorpha. State the importance of diverse types of spongiome in protozoans. What are prosopyle and apopyle? Why are amoebocytes and choanocytes significant in sponges? [2+3+2+(1½+1½)]
- ii) Mention the steps of conjugation in *Paramoecium* sp. with a flow chart. Distinguish between 'looping' and 'somersaulting' movement in *Hydra* sp. Describe the 'sol-gel theory' of Mast explaining amoeboid movement in *Amoeba* sp. Mention the different steps of holozoic nutrition in Protozoa. [3+2+3+2]
- iii) Mention the microscopic structure of actin filaments present in contractile bundle and parallel bundle respectively. Distinguish between Hexacorallia and Octacorallia. State the advancements of Medusa over Polyp citing the example of *Obelia* sp. Mention the significances of conjugation. [3+2+3+2]
- iv) Name the free-swimming larval stage of *Fasciola* sp. Mention the salient features of that stage. What is Rhabditiform larvae? Briefly describe the larval migration of *Ascaris* sp. [1+3+2+4]
- v) "Arthropods are most successfully selected by nature in course of evolution" – justify. Name one arthropod which is an ectoparasite to fish. State two identifying characters of class Malacostraca. How can you identify copepods? Why the names 'Trilobita' and 'Chelicerata' are applicable to respective groups of animals? [3+1+2+2+2]
- vi) Describe the mechanism of tracheal respiration in cockroach. What is Book-lung? Briefly discuss the role of haemocyanin. [5+2+3]
- vii) What do you mean by torsion and detorsion? Explain with suitable example and diagram. Write a short note on green gland. Mention the role of JH and ecdysone in moulting and metamorphosis of insects. (2+2)+3+(1.5+1.5)

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