

**M.Sc. (Zoology) Semester - 3 (CBCS) Examination****Oct/Nov-2022 (NEW COURSE)****Structure And Functions In Invertebrates And Vertebrates, Phylogeny (Core (New))****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

**SECTION-1****Que. 1 Answer the Following. (Two short Questions)**

- (A) Describe strategies and evolutionary significance of larval forms. (7)  
(B) Write classification, organization and general characters of amphibia. (7)

**OR****Que. 1 Answer the Following. (One long Question) (14)**

Write a detail note on larval forms found in invertebrates.

**Que. 2 Answer the Following. (Two short Questions)**

- (A) Describe parasites and pathogens. (7)  
(B) Explain locomotory organs in Arthropoda and Mollusca. (7)

**OR****Que. 2 Answer the Following. (One long Question) (14)**

Take a few examples of invertebrates and explain reproduction in them.

**Que. 3 Answer any seven out of eight. (07)**

- (1) Comment on relation of larval forms and evolution.
- (2) Take any animal as example and, compare the changes in larva and adult in short.
- (3) Draw life cycle of *Tenia solium*.
- (4) Write about Shannon-Weinner index.
- (5) What is the function of maxilla?
- (6) Draw classification chart of Platyhelminthes.
- (7) Write about flame cells and its functions.
- (8) Which animal have sexual as well as asexual mode of reproduction? Explain in brief.

**SECTION-2****Que. 4 Answer the Following. (Two short Questions) (7)**

- (A) Explain evolution in tetrapod. (7)  
(B) Describe geological time scale. (7)

**OR****Que. 4 Answer the Following. (One long Question) (14)**

Explain Zoogeographical realms in detail.

**Que. 5 Answer the Following. (Two short Questions) (7)**

- (A) Which species are better for sericulture? Describe. (7)  
(B) Write about insect pest management. (7)

**OR****Que. 5 Answer the Following. (One long Question) (14)**

Explain do's and don'ts for applying biological control in detail with examples.

**Que. 6 Answer any seven out of eight. (07)**

- (1) What is speciation?
- (2) Explain evolution.
- (3) What challenges did tetrapods face with terrestrial life?
- (4) Write a few hypotheses for "Why tetrapod evolved (arose?)"
- (5) What are Amniotes?
- (6) Why chemical control is so effective?
- (7) Explain integrated pest management.
- (8) Describe damage is caused wheat weevil.

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