

**Parvatibai Chowgule College of Arts and Science  
Autonomous**

B.Sc. Semester End Examination, January/February 2022

Semester: V

Subject: Zoology

Title: Ecology and Ethology (elective)

Duration: 2 Hours

Max. Marks: 45

**Instructions:** 1. Figures to the right indicate full marks.  
2. Draw diagrams wherever necessary.  
3. All main questions are compulsory

**Q1) Answer ANY THREE of the following:** (09)

- Describe the sequence observed in courtship display.
- Write a brief note on age distribution in a population.
- With the help of an example, differentiate between instinct and learned behaviour.
- Explain the various branches of ecology.

**Q2) Answer ANY TWO of the following:** (12)

- Discuss the various methods used to study animals in wild.
- Write a note on the types of biological rhythms.
- With the help of a diagram, comment on survivorship curves.

**Q3) Answer ANY TWO of the questions given below:** (12)

- Enumerate the advantages of territoriality.
- Give an account on the characteristics of lotic environment.
- Explain the various factors that affect population size.

**Q4) Answer ANY ONE of the questions given below:** (12)

- A) The following zones were observed in the vertical stratification of a pond.  
Zone A – free of vegetation, less light penetration, decrease in oxygen concentration.  
Zone B – abundant dissolved oxygen, sunlight, nutrients and vegetation.

Identify the zones A and B. How do the zones A and B differ from the limnetic zone. Compare the zones A and B in pond stratification with respect to the biotic communities. Discuss the zonation of such a habitat if depth of sunlight penetration was to be taken into consideration. Comment on the environmental factors that determine the stratification?

**OR**

**P.T.O**