



WEST BENGAL STATE UNIVERSITY  
B.Sc. Honours 1st semester Examination, 2018

ZOOACOR02T-ZOOLOGY (CC2)

ECOLOGY

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance*

### Group-A

1. Answer any *eight* questions from the following: 2 × 8 = 16
- What is a *k*-selected organism?
  - State Liebig's law of minimum.
  - Give scientific names of two Schedule-I (according to Indian Wildlife Protection Act) animals found in Sundarban.
  - What is carrying capacity?
  - Name a (+ / -) and a (+ / +) biotic interactions.
  - How species diversity is related to species evenness and dominance?
  - What do you mean by allelopathy?
  - Why an aquarium is not considered as ecosystem?
  - If  $N_t = 100$  and  $R_t = 0.5$ , what is the value of  $N_{t+1}$ ?
  - What is meant by stenothermal animal? Give example.

### Group-B

2. Answer any *three* questions from the following: 3 × 3 = 9
- What is the main difference between static and cohort life table? Which one is more accurate? 2+1
  - Mention the effects of light on three different kinds of living organisms.
  - Explain three types of survivorship curves followed by different organisms.

- (d) Briefly describe the vertical stratification in a tropical pond community.
- (e) Define the competitive exclusion principle. In the Lotka-Volterra competition model, what is implied if  $\alpha = \beta$ ? 1+2

### Group-C

3. Answer any *three* questions from the following: 5×3 = 15
- (a) What is ecotone? How edge effect is important in conservation of wildlife? 2+3
- (b) What is ecological succession? What do you mean by a climax community? Give one example of secondary succession. 2+2+1
- (c) What is Universal energy flow model? Why do food chain in real ecosystem hardly include more than 4-5 trophic levels? 2+3
- (d) Discuss *ex-situ* and *in-situ* modes of conservation with proper examples. 2.5+2.5
- (e) Differentiate between grazing and detritus food chain with suitable examples. No two species can coexist if they occupy the same niche. Explain with reasons. 2.5+2.5