



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
- (a) What is a *k*-selected organism?
 - (b) State Liebig's law of minimum.
 - (c) Give scientific names of two Schedule-I (according to Indian Wildlife Protection Act) animals found in Sundarban.
 - (d) What is carrying capacity?
 - (e) Name a (- / -) and a (+ / -) biotic interactions.
 - (f) How species diversity is related to species evenness and dominance?
 - (g) What do you mean by allelopathy?
 - (h) Why an aquarium is not considered as ecosystem?
 - (i) If $N_t = 100$ and $R_0 = 0.5$, what is the value of N_{t+1} ?
 - (j) What is meant by stenothermal animal? Give example.

Group-B

2. Answer any **three** questions from the following: 3×3 = 9
- (a) What is the main difference between static and cohort life table? Which one is more accurate? 2+1
 - (b) Mention the effects of light on three different kinds of living organisms.
 - (c) 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

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