



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 4th Semester Examination, 2023

BOTACOR09T-BOTANY (CC9)
PLANT ECOLOGY AND PHYTOGEOGRAPHY

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.*

1. Answer the following questions: 1×6 = 6
- (a) Define plant ecology.
(b) What is an ecotype?
(c) What is speciation?
(d) Define standing crop.
(e) Write the name of an endemic plant.
(f) Give an example of tropical rainforest.
2. Answer any *eight* questions from the following: 3×8 = 24
- (a) What are the chemical and biological components of the soil? 1 $\frac{1}{2}$ + 1 $\frac{1}{2}$
(b) What do you mean by 'water table'? Define aquifer. 2+1
(c) Mention the adaptations of plants to temperature and wind factors. 1 $\frac{1}{2}$ + 1 $\frac{1}{2}$
(d) What are the various states of water in the environment?
(e) Explain the ecological trophic organisation.
(f) Differentiate between food chain and food web.
(g) Differentiate between 'r' and 'k' selection of the population with examples.
(h) Define the term niche. Explain what is fundamental niche. 1+2
(i) Distinguish between symbiosis and parasitism with an example for each. 1 $\frac{1}{2}$ + 1 $\frac{1}{2}$
(j) Explain Shelford's law of tolerance with diagram.
(k) Explain exponential and logistic growth patterns.
(l) Explain biogeochemical cycle in the atmosphere.
3. Answer any *two* questions from the following: 5×2 = 10
- (a) Explain the process of plant succession with proper diagram. 3+2
(b) Explain the ecotone and mention the importance of edge effect. 2+3
(c) With suitable diagram, briefly discuss the Carbon Cycle.
(d) Write a note on the phytogeographical divisions of India as given by BSI (1996).

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