



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

B.Sc. Honours Examination 2021

(CBCS)

4th Semester

BOTANY

PAPER—C9T & C9P

PLANT ECOLOGY AND PHYTOGEOGRAPHY

Full Marks : 60

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

THEORY : C9T

Group – A

Answer any *two* questions.

2×15

1. What is age area hypothesis? Discuss endemism in India mentioning some important endemic species. Give an account of certain factors responsible for endemism. 2+8+5
2. Discuss about the origin and formation of soil. What is meant by biogeochemical cycle? Explain the carbon cycle. 8+2+5

3. What are analytical and synthetic characters? Write a brief note on ecological amplitude. Draw a phenogram with example. What are the different types of life forms? 3+4+3+5
4. Briefly enumerate the different phytogeographical regions of India as proposed by D. Chatterjee. Explain the model for energy flow in an ecosystem. 10+5

Group - B

Answer any *one* question. 1×10

5. What are the main attributes of plant succession? Write the process of plant succession. What are autogenic and allogenic successions? 3+4+3
6. Write notes on i) Ecological Niche ii) Ecotone and edge effect iii) Food web iv) Soil profile. 2.5×4

PRACTICAL : C9P

Answer any *one* question. 1×20

1. (a) How to determine the minimum size of quadrat of a herbaceous vegetation for ecological study? Write down the procedure, expected result and inference from the study. 5+4+1
- (b) Write down the morpho-adaptive features of a hydrophyte and a xerophyte you have studied. 5+5
2. How to determine quantitatively the density, abundance and frequency of a herbaceous vegetation? Write down the significance of field visit for ecological studies. 15+5
3. (a) Write down the requirements and procedure to determine organic carbon of soil by Walkley & Black rapid titration method. 4+6
- (b) Write the biotic interference of *Cuscuta reflexa* as a parasite and Orchid plant as an epiphyte. 5+5