

B.Sc. (Honours) Examination, 2019
Semester-IV (CBCS)
Botany
Paper: CC-9 (Core)
(Plant Ecology and Phytogeography)

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin

Answer question **No. 1** and *any two* from **Group-A**, *any three* from **Group-B** and *any one* from **Group-C**

1. Answer **any ten** of the following: 1×10=10
- a) Who is known as the Father of ecology?
 - b) Define autecology.
 - c) What is hypolimnion?
 - d) What is hail?
 - e) Name the most destructive type of forest fire.
 - f) What are windbreaks?
 - g) Name a complete parasitic plant.
 - h) Name the biotic interaction between epiphytes and their hosts.
 - i) Which type of speciation is the major mode of speciation?
 - j) What type of growth curve is shown by exponential population growth?
 - k) Which diversity expresses the change in number of species per unit change in habitat?
 - l) Which seral stage of hydrosere is also called amphibious stage?
 - m) What is GPP?
 - n) Give an example of *relic* endemic.
 - o) Which phytogeographical region has lack of endemism as its special feature?

Group-A (Ecological Factors)

2. Where does soil originate from? Name the three processes of pedogenesis. Discuss the importance of atmosphere. 0.5+1.5+3=5
3. How does duration of light exposure affect plant growth? Discuss the effect of temperature on physiological functions of plants. Mention any two adaptations in plants in response to fire. 1+3+1=5
4. Write brief notes on: 2.5×2=5
- a) Predation
 - b) Ecads and ecotypes

Group-B (Plant Ecology)

5. How is importance value index (IVI) determined? Differentiate between grazing and detritus food chain. 3+2=5

P.T.O.

(2)

6. Describe the seral stages in a xerosere. 5
7. How does biogeochemical cycle differ from energy flow? What is meant by sedimentary biogeochemical cycle? Draw an outline of global carbon cycle. $2+1+2=5$
8. Write brief notes on: $2.5 \times 2 = 5$
- a) Sympatric speciation
 - b) Population age structure

Group-C (Phytogeography)

9. Give any two evidences in support of continental drift theory. What are the two criteria for defining biological hotspots. Mention the names of biological hotspots in India. $2+1+2=5$
9. Write brief notes on: $2.5 \times 2 = 5$
- a) Age and area hypothesis
 - b) Tundra biome
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