

B.Sc. (Part-I) (Semester-II) Examination
ENVIRONMENTAL SCIENCE
(Ecology and Environment)

Time : Three Hours]

[Maximum Marks : 80

Note :—All questions are compulsory.

1. (A) Fill in the blanks :-
- (i) ___ is a biotic factor. ½
 - (ii) ___ is a sedimentary biogeochemical cycle. ½
 - (iii) ___ is a negative interspecific relationship. ½
 - (iv) Community studied by ___ method. ½
- (B) Choose the correct alternative and rewrite the following sentences :-
- (i) ___ is an indication of average rainfall.
(a) Funaria (Moss) (b) Soil
(c) Light (d) Temperature. ½
 - (ii) ___ is a terrestrial ecosystem.
(a) Forest ecosystem (b) Pond ecosystem
(c) Ocean (d) River. ½
 - (iii) ___ is a biotic component.
(a) Light (b) Temperature
(c) Water (d) Plant. ½
 - (iv) ___ is a synthetic character of community ecology.
(a) Presence (b) Frequency
(c) Density (d) Dominance. ½
- (C) Answer in one sentence each :-
- (i) Define quadrat. 1
 - (ii) Define phenology. 1
 - (iii) Define species diversity. 1
 - (iv) Define biogeochemical cycle. 1
2. Explain in brief :-
- (a) Significance of 'S' cycle. 4
 - (b) Soil as a topographic factor. 4
 - (c) Graphic sketch of 'O' cycle. 4

OR

- (d) Principles of ecology. 4
- (e) Graphic sketch of 'C' cycle. 4
- (f) Significance of Nitrogen cycle. 4
- 3. Describe positive and negative interspecific relationship with suitable example. 12

OR

- Describe the characteristic feature of population ecology. 12
- 4. Describe the analytical characters of community ecology. 12

OR

- Describe the synthetic characters of community structure. 12
- 5. Explain in brief :-

- (g) Significance of ecological pyramid in forests ecosystem. 4
- (h) Significance of grassland ecosystem. 4
- (i) 'Y' shaped energy flow diagram. 4

OR

- (j) Significance of cropland ecosystem. 4
- (k) Grazing food chain. 4
- (l) Biotic components of forest ecosystem. 4

- 6. Describe in brief :-
- (m) Concept of productivity. 4
- (n) Causes of succession. 4
- (o) Ecotone significance and concept. 4

OR

- (p) Ecological succession and its importance. 4
- (q) Concept of biomass. 4
- (r) Productivity measurement by chlorophyll method. 4

- 7. Explain in brief :-
- (s) Biological indicators of soil. 4
- (t) Indian hotspots of biodiversity (list only). 4
- (u) Reasons for loss of biodiversity. 4

OR

- (v) Indicator of climatic conditions. 4
- (w) India as a mega diversity nation. 4
- (x) Significance of biological indicators. 4