

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

Time : Three Hours]

[Maximum Marks : 80

Note :—(1) All questions are compulsory.

(2) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks with appropriate words :—

- (i) Group of population in a particular area is considered as _____ ½
- (ii) Western ghats is the biodiversity _____ of India. ½
- (iii) Complete network of food chain is called as _____. ½
- (iv) *Cuscuta* is the example of _____ relation. ½

(B) Choose the correct alternative and rewrite the following sentences :—

- (i) Which of the following is secondary consumer ? ½
- (a) Carnivores (b) Herbivores
- (c) Plant (d) All of these
- (ii) The term ecosystem was coined by : ½
- (a) Odum (b) Element
- (c) A.G. Tansley (d) Ellon
- (iii) Which of the following is the community study method ? ½
- (a) Quadrat (b) Transect
- (c) Point (d) All
- (iv) Birth rate is denoted by : ½
- (a) Mortality (b) Natality
- (c) Grow rate (d) Age structure

(C) Answer in **one** sentence :—

- (i) Which are the three levels of biodiversity ? 1
- (ii) What do you mean by food chain ? 1
- (iii) Define population ecology. 1
- (iv) What are the different methods used in productivity measurement ? 1

2. Explain the following :—

- (a) Effects of light on plants. 4
- (b) Principles and scope of ecology. 4
- (c) Carbon cycle. 4

OR

- (d) Effects of temperature on animals. 4
- (e) Directions of mountain and valleys as a topographic factor. 4
- (f) Phosphorus cycle. 4

3. Define population ecology. Describe dispersal, population size and density, biotic potential and life tables as population characteristics. 12

OR

What is negative interspecific interrelationship ? Describe with examples parasitism and predation. 12

4. Explain the following :—

- (g) Growth form as a community characteristic. 4
- (h) Density and basal area as an analytical characteristic. 4
- (i) Presence and constance as synthetic characters. 4

OR

- (j) Structure and dominance as community characteristics. 4
- (k) Phytognomy and phenology as quantitative characters. 4
- (l) Quadrat method of study of community. 4

5. Explain the following :—
- (m) Structure of ecosystem. 4
 - (n) Food chain. 4
 - (o) Forest ecosystem. 4

OR

- (p) Components of ecosystem. 4
 - (q) Food web. 4
 - (r) Marine ecosystem. 4
6. Explain in short :—
- (s) Concept of productivity. 4
 - (t) Chlorophyll method of measurement of productivity. 4
 - (u) Types of succession. 4

OR

- (v) Secondary productivity. 4
 - (w) Concept of biomass. 4
 - (x) Ecotone. 4
7. Define biodiversity. Describe in detail types and losses of biodiversity. 12

OR

Describe in detail soil and pollution bio indicators and their role in the environment. 12

