

17 MAY 2022

[This question paper contains 6 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1500

Unique Paper Code : 42161201

Name of the Paper : Plant Ecology and Taxonomy

Name of the Course : B.Sc. Life Science

Semester : II

Duration : 3.5 Hours

Maximum Marks : 75



Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **Section A** and **Section B** on separate sheets. Question no.1 is compulsory from both sections.
3. In total, attempt **three** questions from **Section A** and **three** questions from **Section B** including question number 1 of both sections.

SECTION A : Plant Ecology

1. (a) Define the following (**Any Five**) : (1×5=5)

P.T.O.

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- (i) Food web
- (ii) Consumers
- (iii) Halophyte
- (iv) Phytogeography
- (v) Edge effect
- (vi) Capillary water

(b) Fill in the blanks (Any Five) : (0.5×5=2.5)

- (i) Pyramid of _____ is always upright.
- (ii) The plants, which colonize newly formed bare land are called _____
- (iii) Diameter of a clay particle is less than _____
- (iv) _____ is an example of a Xerophyte.
- (v) _____ is an instrument used to measure wind speed.

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- (vi) Partially decomposed, dark coloured organic matter present in the upper layer of soil is called _____

2. Write short notes on any **Three** of the following :
(3×5=15)

- (i) Age pyramids
- (ii) Raunkier's life form
- (iii) Analytical characters of a community
- (iv) Different kinds of survivorship curves

- 3. (a) Discuss various chemical and physical processes involved in the formation of soil. (8)
- (b) Discuss grazing and detritous food chains in nature. (7)
- 4. (a) Discuss in detail the carbon cycle and its significance. (8)
- (b) Describe in details a hydrosere. (7)

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SECTION B : Taxonomy

1. (a) Fill in the blank (Any five): (0.5×5=2.5)

(i) _____ is known as Father of Taxonomy

(ii) The taxonomic category indicated by the suffix '-phyta' is _____

(iii) _____ is an International botanical garden.

(iv) World's largest herbarium is located at _____

(v) Alternative name of Compositae is _____

(vi) _____ is the author of *Theorie elementaire de la botanique*.

(b) Define the following (Any five): (1×5=5)

(i) Flora

(ii) Holotype

(iii) Taxon

(iv) Tautonym

(v) OTUs

(vi) Apomorphy

2. Write short notes of the following (Any three): (3×5=15)

(i) Importance of herbarium

(ii) Typification

(iii) Principles of ICN

(iv) Taxonomic evidences from palynology

3. (a) Give a brief outline of Bentham and Hooker's classification of plants and also discuss the merits and demerits. (5+5=10)

(b) Identify the taxonomic rank of the following :

Liliopsida, *Ranunculus*, Parietales, Chenopodiaceae,
Rosoideae (5)

4. Differentiate between any three of the following :

(3×5=15)

- (i) Homology and Analogy
- (ii) Phenogram and Cladogram
- (iii) Parallelism and Convergence
- (iv) Artificial and Natural classification