

Department of Botany
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Your Roll No

M.Sc. BOTANY
III SEMESTER EXAMINATION DECEMBER 2024

Paper Name: **Plant Ecology and Biodiversity**

Paper Code: **MBO-CC302**

Time: **2:30 hours**

Maximum Marks: **60**

Note: This paper has 3 sections A, B, and C.

Section A: Answer all the questions. **Section B:** Attempt any 5 out of 6.

Section C: Attempt any 2 out of 3.

Abbreviations used:

CLO-Course Learning Outcomes

CLO 1: explain the various environmental factors and their interactions, develop concept of habitat and niche and population and community (understand)

CLO 2: analyze the major terrestrial biomes and phytogeographical division of India (analyze)

CLO 3: evaluate energy sources of ecological systems (evaluate); and

CLO 4: analyze importance and explain conservation and management of biodiversity (analyze and evaluate).

BTL-Bloom's Taxonomy Levels

1- Remembering, 2-Understanding, 3-Applying, 4-Analyzing, 5-Evaluating, 6-Creating

SECTION A

Very Short Type Question (15 questions)

15 x 1 = 15 marks

Q.No.	Questions	Marks	CLO	BTL
1	Which biome is characterized by "Permafrost" ?	1	2	1
2	Mention the year of initiation of "Project Tiger".	1	4	1
3	What is meant by cryopreservation ?	1	4	2
4	Define allochthonous food chain.	1	3	1
5	What are guild species ?	1	4	1
6	What is the role of a flagship species ?	1	4	3
7	Name the terrestrial biome with highest net primary productivity.	1	2	1
8	Define trophic level.	1	3	1
9	How can primary productivity be expressed in terms of unit ?	1	3	4
10	Where is the headquarter of BSI located ?	1	4	1
	Differentiate between the following.			
11	Primary and secondary succession.	1	1	4
12	Xerosere and psammosere	1	1	4
13	Sere and serule	1	1	4
14	Epilemion-Metalimnion and hypolimnion.	1	1	4
15	Megatherms and microtherms plant	1	1	4

Please turn over

SECTION B

Short Type Question. (Attempt any **FOUR** out of six)

5 x 5 = 25 marks

Q.No.	Question	Marks	CLO	BTL
1	Compare and contrast wildlife sanctuaries and national parks.	5	4	4
2	Give an example of “circadian rhythm” in a typical plant.	5	1	2
3	Elaborate food chain and its types. Why are food chains relatively short ?	5	3	2
4	What is meant by nutrient cycling ? Give a general model of sulphur cycle on the earth.	5	3	2,6
5	Describe the two main theories about the control of ecosystem functioning.	5	3	1
6	Discuss the functioning and role of biosphere reserves in conserving biodiversity.	5	4	2

SECTION C

Long type Question (Attempt any **TWO** out of three)

2 x 12½ = 25 marks

Q.No.	Question	Marks	CLO	BTL
1	Discuss in brief about the principles of relationship among organisms and their environment.	12½	1	2
2	What is ecological efficiency or transfer efficiency ? Give a detailed account of consumption efficiency, assimilation efficiency and production efficiency.	12½	3	1
3	How do energy enters and flow in an ecosystem ? Explain.	12½	3	4