

**M.Sc. 2nd Semester Examination, 2023**

**BOTANY**

PAPER— BOT-203.1 & 203.2

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

**PAPER — BOT 203.1**

*( Ecology )*

*[ Marks : 20 ]*

1. Answer any *two* of the following : 2 × 2
- (a) Write the differences between deep ecology and shallow ecology.
- (b) What is Gause's Competitive Exclusion principle ?

(c) Define food web.

(d) What is Lindeman's 10% law of energy flow?

2. Write short notes on any *two* of the following :

4 × 2

(a) Ecological pyramid

(b) Y-shaped energy flow model

(c) Characteristics of climax community

(d) Structure of forest ecosystem.

3. Answer any *one* of the following :

8 × 1

(a) What is primary productivity? Differentiate between Gross Primary production and Net Primary production. Briefly describe a method to measure primary production. 2 + 2 + 4

(b) Describe the different adaptive features found in xerophytes. Write the differences between true halophytes and xerohalophytes. 6 + 2

**PAPER – BOT 203.2**

( *Environmental Biology and Phytogeography* )

[ *Marks : 20* ]

4. Answer any *two* of the following : 2 × 2
- (a) Mention differences between alpha and beta -diversity.
  - (b) What is carrying capacity ?
  - (c) What are phytoindicators ? Give an example.
  - (d) Define eutrophication.
5. Write short notes on any *two* of the following : 4 × 2
- (a) Photochemical smog
  - (b) Ramsar convention
  - (c) Silent Valley Movement
  - (d) Major air pollutants.

6. Answer any *one* of the following : 8 × 1

(a) What is ozone hole ? Why is the ozone depletion predominant at the Antarctic region than Arctic region ? Discuss the role of different chemicals responsible for ozone depletion and their respective harms to life. 2 + 2 + 4

(b) Describe the major causes for the loss of biodiversity. Write the advantages and disadvantages of *ex-situ* conservation. Mention the activities of CBD. 4 + 3 + 1

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