

3203
THIRD YEAR B.Sc. Botany

**ENVIRONMENTAL BIOLOGY AND
PHYTOGEOGRAPHY**

Unit-1

Definition, scope and aims of ecological studies, relation with other sciences; factors affecting plant growth and distribution - climatic, edaphic, biotic and topographic.

-10 hours

Unit-2

Plant population - natality, mortality, age and sex ratio, growth rate, biotic potential. Plant Community - concept and characters (qualitative and quantitative characters); Plant succession - xerosere, hydrosere. Ecosystem concept - structure and function : food chain, food web, trophic levels, ecological pyramids, energy flow and biogeochemical cycles.

-10 hours

Unit-3

Pollution : air, water, land, noise and their control. Conservation and management of natural resources, endangered plants and their conservation; biosphere reserves, National Parks and sanctuaries; Chipko movement.

-10 hours

Unit-4

Biodiversity and its Conservation; Hotspots in India. Morphological, Anatomical and Physiological adaptations of hydrophytes, xerophytes and halophytes; natural vegetation of Rajasthan. Plant indicators.

-10 hours

Unit-5

Phytogeography - definition, aims, objectives, scope and relation with other disciplines; phytogeographical regions of world and India; continuous and discontinuous distributions, endemism, continental drift theory, land bridges, age and area hypothesis, migration.

-10 hours

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A-** 10 questions, **Section B-** 10 questions and **Section C-** 4 questions) from the 5 units of

each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A:** 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks : **05**
- **Section B:** 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**