

B.Sc. BOTANY
III Year: Semester-V
Paper-1A: Biodiversity & Conservation

DSE-1A

Credits-4

Theory Syllabus

(60 hours)

Unit - I:

(15h)

1. Plant diversity and its scope: Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agrobiodiversity and cultivated plant taxa, wild taxa.
2. Values and uses of Biodiversity: Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, Uses of plants, Uses of microbes.

Unit-II:

(15h)

3. Loss of Biodiversity: Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agrobiodiversity, Projected scenario for biodiversity loss.
4. Management of Plant Biodiversity: Organizations associated with biodiversity, management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR.
5. Biodiversity legislation and conservation, Biodiversity information management and communication.

Unit-III:

(15h)

6. Conservation of Biodiversity: Conservation of genetic diversity, species diversity and ecosystem Diversity
7. Principles of conservation - *In situ* and *Ex situ* conservation. Sacred groove, Botanical garden, Biosphere reserves, Sanctuaries, National parks (*In situ*) and Tissue culture, Gene / seed / pollen banks and Cryopreservation (*Ex situ*).

Unit-IV:

(15h)

8. Role of plants in relation to Human Welfare; Importance of forestry their utilization and commercial aspects, Avenue trees, Ornamental plants of India.
9. Alcoholic beverages through ages. Fruits and nuts, Important fruit crops and their commercial importance. Wood and its uses.

References:

1. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi
2. Bharucha, E. 2005. Textbook of Environmental Studies for Undergraduate Courses. Universities Press (India) Private Limited, Hyderabad.
3. Odum, E. P. 1983. Basics of Ecology. Saunder's International Students Edition, Philadelphia
4. Sharma, P. D. 1989. Elements of Ecology. Rastogi Publications, Meerut.

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