

Semester Lecture Plan

**Name of the college:** Government College of Arts, Science & Commerce, Sanquelim Goa

**Name of Faculty:** Mr. Stephen Fernandes

**Subject:** VAC Environmental Studies I

**Paper code:** VAC100

**Program/Course:** FYBA

**Division:** C

**Academic year:** 2025- 2026

**Semester:** I

**Total Lectures:** 30

**Course Objectives:**

**The Course aims to:**

- Familiarise the Students with the multidisciplinary nature of environmental studies and Natural Resources.
- Impart Knowledge of Ecosystems, Biodiversity and its conservation.

**Student Learning Outcome:**

- Define and explain various concepts in Environmental Studies.
- Discuss Global Environmental Issues and their impact on Environment and Humans.
- Apply various environmental concepts in improving the quality of environment and promoting sustainable development.
- Develop values and attitude in addressing environmental issues at a personal and community level

| Month | Lectures<br>From: To: |            | No. of<br>lectures<br>allotted | Topic, Subtopic to be covered | Exercises/<br>Assignment                                    | ICT Tools                                       | Reference books                                                                                                               |
|-------|-----------------------|------------|--------------------------------|-------------------------------|-------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| June  | 23/06/2025            | 28/06/2025 | 01                             | Concept of an ecosystem       | Explaining the<br>various concepts of<br>ecology/ecosystems | Power point<br>presentation,<br><br>White Board | Textbook of Environmental<br>Studies: E. Bharucha,<br>Fundamentals of<br>Environmental Studies by<br>Mahua Basu,<br>S. Xavier |

|        |            |            |    |                                                                                                  |                                                                   |                                                      |                                                                                                                |
|--------|------------|------------|----|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| June   | 30/06/2025 | 05/07/2025 | 01 | <b>Structure and functions of ecosystems</b>                                                     | Discussion on different components of Ecosystems and their role   | Power point presentation, White Board                | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| July   | 07/07/2025 | 12/07/2025 | 01 | <b>Producers, consumers and decomposers, energy flow in the ecosystem, ecological succession</b> | Ecological Pyramids and applying it to real world                 | Power point presentation, White Board Youtube Videos | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| July   | 14/07/2025 | 19/07/2025 | 01 | <b>Food chains, food webs and ecological pyramids</b>                                            | Classifying various natural resources                             | Power point presentation, White Board                | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| July   | 21/07/2025 | 26/07/2025 | 01 | <b>Forest ecosystem</b>                                                                          | Classifying various natural resources                             | Power point presentation, White Board                | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| July   | 28/07/2025 | 02/08/2025 | 01 | <b>Grassland ecosystem, desert ecosystem</b>                                                     | Find out various ways to conserve Grassland and Desert Ecosystems | Power point presentation, White Board                | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| August | 04/08/2025 | 09/08/2025 | 01 | <b>Aquatic ecosystem (ponds, streams, lakes, rivers)</b>                                         | Draw the biotic structure of aquatic ecosystem                    | Power point presentation, White Board                | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |

|           |            |            |    |                                                                                                                                  |                                                               |                                          |                                                                                                                |
|-----------|------------|------------|----|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| August    | 11/08/2025 | 16/08/2025 | 01 | <b>Oceans, Coastal zone, Estuaries</b>                                                                                           | Explore the life in marine ecosystems                         | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| August    | 18/08/2025 | 25/08/2025 | 01 | <b>Introduction, definition, genetic, species and ecosystem diversity</b>                                                        | Describe the concept of biodiversity, its types               | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| September | 01/09/2025 | 06/09/2025 | 01 | <b>Bio-geographical classification of India</b>                                                                                  | Highlighting map of Biogeographic Zones in India              | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| September | 08/09/2025 | 13/09/2025 | 01 | <b>Value of biodiversity - consumptive use, productive use, social, ethical, aesthetic and option values;</b>                    | List down the various products made from biological resources | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| September | 15/09/2025 | 20/09/2025 | 01 | <b>Biodiversity at global, national, regional and local levels; India as a mega-diversity nation; hotspots of biodiversity</b>   | Hotspots of Biodiversity                                      | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| September | 22/09/2025 | 27/09/2025 | 01 | <b>Threats to biodiversity - habitat loss, poaching of wildlife, man-wildlife conflicts, bio-invasion, and over exploitation</b> | Summarize the Man Wildlife Conflicts in India and Goa         | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| October   | 29/09/2025 | 04/10/2025 | 01 | <b>Endangered and endemic species of India (at least 5 examples of animals and plants each)</b>                                  | List out critically endangered species in India               | Power point presentation,<br>White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of                                                |

|         |            |            |    |                                                                       |                                                                               |                                       |                                                                                                                |
|---------|------------|------------|----|-----------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------|
|         |            |            |    |                                                                       |                                                                               |                                       | Environmental Studies by Mahua Basu, S. Xavier                                                                 |
| October | 06/10/2025 | 11/10/2025 | 01 | <b>Conservation of biodiversity- in-situ and ex-situ conservation</b> | Write a detailed Note on Protected Area Network in Goa                        | Power point presentation, White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |
| October | 13/10/2025 | 18/10/2025 | 01 | <b>Role of biotechnology in conservation of biodiversity</b>          | Suggest the biotechnological applications in protection of endangered species | Power point presentation, White Board | Textbook of Environmental Studies: E. Bharucha, Fundamentals of Environmental Studies by Mahua Basu, S. Xavier |

**Assessment Rubrics**

| Component         | Max Marks |
|-------------------|-----------|
| ISA 1             | 05        |
| ISA 2             | 05        |
| ISA 3             | 05        |
| Semester End Exam | 40        |