



# V.V.VANNIAPERUMAL COLLEGE FOR WOMEN

(Belonging to Virudhunagar Hindu Nadars)

An Autonomous Institution Affiliated to Madurai Kamaraj University, Madurai

Reaccredited with 'A++' Grade (4<sup>th</sup> Cycle) by NAAC

**VIRUDHUNAGAR**

**Quality Education with Wisdom and Values**

## ENVIRONMENTAL STUDIES (2024-2025 onwards)

Semester III & IV	<b>ENVIRONMENTAL STUDIES</b>	Hours/Week: Semester III: 1 Semester IV: 1	
PART IV		Credits: 2	
Course Code 24UGES41		Internal 100	External -

### Course Outcomes

On completion of the course, students will be able to

- CO1: identify the different kinds of ecosystems and associated biotic and abiotic components. [K1]
- CO2: understand the importance and functions of ecosystems and their needs for the sustenance of human beings and sustainable environment. [K1]
- CO3: describe the cause, effect and preventive measures of environmental degradation. [K2]
- CO4: explain the preservation and conservation of natural resources along with the environment to meet the demand for future generation. [K2]
- CO5: apply the knowledge in solving the environmental problems of global issues. [K3]

### UNIT I

#### INTRODUCTION AND COMPONENTS OF ENVIRONMENT

Importance of Environmental Studies, Scope, Multidisciplinary Approach for Environmental Studies, Components of Environment - Structure of Ecosystem - Pond Ecosystem, Functions of Ecosystem - Food Chain and Food Web, Role of Individual in Conservation of Ecosystem. (6 Hours)

### UNIT II

#### BIODIVERSITY AND CONSERVATION

Introduction, Types, Values of Biodiversity, India as a Mega Diversity Nation, Hotspots in India - Western Ghats, Biosphere Reserve in India - Gulf of Mannar Marine Biosphere Reserve, Threats to Biodiversity - Man and Wildlife conflicts and Biological Invasions, Conservation of Biodiversity - Sacred groves, National Parks and Sanctuaries, Biological Diversity Protection Acts. (6 Hours)

### **UNIT III**

#### **NATURAL RESOURCES AND CONSERVATION**

Introduction, Types, Forest Resources - uses - Threats - Deforestation - Conservation and Management - Afforestation Programme, Water Resources - Conflicts over Water, Rain Water Harvesting, Energy Resources - Renewable Energy Resource - Solar Energy, Non Renewable Energy - fossil fuels, Role of Individual in conservation of energy resources. (6 Hours)

### **UNIT IV**

#### **POLLUTION AND MANAGEMENT**

Definition, Types, Causes of Pollution, Effects of Pollution - Global Warming, Greenhouse Effect, Minamata Disease, Bombay High Oil Slick, Microplastics, Prevention and Control of Pollution, Role of Individual in Control of Pollution. (6 Hours)

### **UNIT V**

#### **ENVIRONMENTAL SUSTAINABILITY**

Introduction, Concepts of Sustainable Development, Brundtland Commission, Environmental Protection - Economic Growth and Social Equity, Threats to Sustainable Development, Ecocity and Ecotourism, Role of MoEF&CC, Role of Individual in Environmental Sustainability, The Environmental Protection Act (1986), Sustainable Development Goals (SDGs). (6 Hours)

#### **Assignment**

List of activities:

1. The components of any ecosystem.
2. The problems disturbing the biotic components of any ecosystem.
3. Role of an individual in preventing ecosystem imbalance.
4. Different kinds of plant and animal resources used by the local community.
5. List out the species present in the land/water ecosystem of your locality.
6. Classification of the level of species availability( abundance/common/rare/very rare)
7. Role of your participation in creating awareness on environmental protection to the public.
8. Posters creation on the topic 'Any three hotspots in India'.
9. Role of an individual in promoting green campus in your institution.
10. Meme making on the topic 'Man & Wildlife conflicts'.
11. Identification and documentation of the plants and animals present in nearby sacred groove.
12. List of the national parks and sanctuaries in Tamil Nadu with any 10 pictures.

**Report of these activities can be submitted in any one of the forms:**

- i. Photos/Album
- ii. Project report
- iii. Models
- iv. Posters

Students can choose any three assignments according to their interest.

**TEXT BOOK**

Tamilselvi, M., Sreebha, R., and Aruna Devi, A. (2024). Textbook of Environmental Studies, (in Press).

**REFERENCE BOOKS**

1. Erach Bharucha (2021). Textbook of Environmental Studies for Undergraduate Courses, 3<sup>rd</sup> Edition, Universities Press (India) Pvt.Ltd., Hyderabad-500 029, 266p.
2. Reeta Khosla and Zahid H.Siddiqui (2017). Basics of Environmental Studies, Narosha Publishing House Pvt.Ltd., New Delhi, 240p.
3. Anuj Kumar Rana and Manoj Kumar Rana (2015). Environment and Ecology: A Scientific Approach, second edition, Global Academic Publishers & Distributers, New Delhi 110002, pp319.
4. Pandey S.N., and S.P. Misra (2011). Environment and Ecology, Ane Books Pvt.Ltd., New Delhi, 718p.
5. Arumugam N., and Kumaresan (2005), Environmental Studies, First Edition, Saras Publications, Nagercoil, 436p.

Course Code 24UGES41	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	3	3	1	-	3
CO2	3	3	3	3	1	-	3
CO3	3	3	3	3	1	-	3
CO4	3	3	3	3	1	3	3
CO5	3	3	3	3	1	3	3

Strong - 3

Medium – 2

Low – 1

Dr.B.Karunai Selvi  
Head of the Department

Dr.M.Tamilselvi  
Dr. CMA A.Aruna Devi  
Dr.R.Sreebha  
Course Designers