MANONMANIAM SUNDARANAR UNIVERSITY TIRUNELVELI

UG COURSES – AFFILIATED COLLEGES

Part IV – Environmental Studies for the Academic Year 2023-2024 onwards

Syllabus (For all UG Courses)

III Semester

ENVIRONMENTAL STUDIES

Course Objectives:		
The main objectives of this course are:		
Enable the students to be aware of our natural resources, ecosystems and their linkages to society, livelihood, environment and conservation.		
Course	**:**	
Course title	**:**	Environmental Studies
Credits	**:**	2
Expected Course Outcome:		
Upon completion of this course, Students would have		
CO1	To have a basic knowledge of Natural resources its classification, concepts, and natural resources of India.	**K1**
CO2	To obtain knowledge on different types of ecosystem	**K2**
CO3	To understand the values of biodiversity and conservation on global, national, and local scales	**K3**
CO4	To gain knowledge on different types of pollution in the environment	**K4**
CO5	To introduce the students in the field of Law and Policies and Acts both at the national and international level relating to environment.	**K5**
K1- Remember; **K2**- Understand; **K3**- Apply; **K4**-Analyze; **K5**-Evaluate; **K6**- Create		

	Units
I	**Multidisciplinary Nature of Environmental Studies and Natural Resources**: Concept of Renewable and non-renewable resource, Natural resources and associated problems: Forest resources: Deforestation, Timber extraction, mining, dams and their effects. Water resources: Over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Land resources: Land degradation, man induced landslides, soil erosion and desertification.
II	**Ecosystem:** Concept of an Ecosystem, Structure and Functions of Ecosystem, Energy flow in the Ecosystem; Ecological Succession, Food Chains, Food webs and Ecological Pyramids, Characteristic Features of the following Ecosystem: Forest Ecosystem, Grassland Ecosystem and Desert Ecosystem, Aquatic Ecosystem (Ponds, Streams, Lakes, Rivers and Ocean Estuaries)

III	**Biodiversity and its Conservation**: Definition, levels and values of biodiversity; Threats to biodiversity- habitat loss, poaching of wildlife, man-wildlife conflicts, IUCN categories of threat; Terrestrial and marine hotspots of biodiversity in India; Conservation of Biodiversity - In-situ and Ex-situ conservation; Conservation schemes :Gir lion sanctuary project, Project tiger, Project elephant, Conservation of sea turtles in India. Ecotourism
IV	**Environment Pollution**: Types, causes, effects, and control - Air, Water, Soil and Noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measure of urban and industrial waste. Climate change global warming, ozone layer depletion, acid rain, and impacts on human communities and agriculture
V	**Social Issues and the Environment:** Sustainable Development, Water Conservation, Resettlement and rehabilitation of people. Disaster Management: Floods, earthquake, cyclone and landslides. Consumerism and waste products; Environment Protection Act; Air and water (Prevention and control of Pollution) Act; Wild life protection Act; Forest conservation Act; Environmental movements (Chipko, Silent valley, Bishnois of Rajasthan). Environmental ethics. Environmental communication and public awareness.

Reading list

1. Erach Bharucha, 2021, Textbook of Environmental Studies for Undergraduate Courses, Third Edition, Orient blackswan Pvt. Ltd., Hyderabad.
2. V. K. Ahluwalia, Environmental Studies (Second Edition), Ane books India, T-Nagar, Chennai.
3. Y.K. Singh, 2006, Environmental science, New Age International (P) Ltd., Publishers, New Delhi.
4. S. P. Misra, 2023, Essential Environmental Studies, 4th Edn, Ane Books Pvt. Ltd., New Delhi.
5. G.S. Vijayalakshmi, A.G.Murugesan and N.Sukumaran, 2006, Basics of Environmental Science, Manonmaniam Sundaranar University Publications, Tirunelveli.

Recommended texts

1. N. Arumugam and V. Kumaresan, 2014, Environmental studies, 4th edition, Saras Publication, Nagercoil, TamilNadu.
2. M. Basu, and S. Xavier, 2016, Fundamentals of Environmental Studies, Cambridge University Press.
3. A.K. Mitra and R. Chakraborty, 2016, Introduction to Environmental Studies, Book Syndicate.
4. J.S. Singh, S.P.Singh, and S.R. Gupta, 2014, Ecology, Environmental Scienceand Conservation. S. Chand Publishing, New Delhi.

Mapping with Programme Outcomes*										
Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**

CO1	M	M	M	M	M	S	M	S	M	M
CO2	M	S	S	M	S	S	M	M	M	S
CO3	M	S	S	S	S	S	S	S	S	M
CO4	M	M	S	S	S	M	S	S	S	M
CO5	M	S	S	S	S	S	M	M	S	M

*S-Strong; M-Medium; L-Low