

21PCM109T					Environmental Studies					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hours/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
2	0	0	2	2	25	50	25	--	--	100

COURSE OBJECTIVES

- Overall understanding of the natural resources
- Basic understanding of the ecosystem and its diversity
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities
- understanding of the environmental impact of developmental activities
- Awareness on the social issues and environmental legislation and global treaties

UNIT I NATURE OF ENVIRONMENTAL STUDIES AND RESOURCES

7 Hrs.

Definition, Scope and Importance, Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information Technology in Environment and human health. Natural resources and associated problems. Forest resources, Water resources, Mineral resources, Food resources and Energy resources. Role of an individual in conservation of natural resources.

UNIT II ECOSYSTEMS, BIODIVERSITY AND ITS CONSERVATION

7 Hrs.

Concept of an ecosystem. Structure and function of an ecosystem. Energy flow in the ecosystem, ecological succession. Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystems. Definition: genetic, species and ecosystem diversity classification, Value of biodiversity: consumptive use, productive use, social and aesthetic use. Biodiversity at national and local levels. India as a mega-diversity nation Hot-spots of biodiversity. Threats to biodiversity: habitat loss, man-wildlife conflicts - endangered and endemic species of India. Conservation of biodiversity: In-situ and ex-situ measures.

UNIT III ENVIRONMENTAL POLLUTION AND SOLID WASTE MANAGEMENT

7 Hrs.

Definition, cause, effects and control measures of air pollution, water pollution, soil pollution, noise pollution, nuclear hazards. Role of an individual in prevention of pollution - carbon trade - pollution case studies. Sources, classification, effects and control measures of urban and industrial solid wastes. Sanitary landfilling, composting, Incineration. Consumerism and waste products.

UNIT IV SOCIAL ISSUES AND ENVIRONMENTAL MANAGEMENT

7 Hrs.

Urban problems related to energy -water conservation, rain water harvesting - resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental protection act - air (Prevention and control of pollution) act. Water (Prevention and control of pollution) act. Wildlife protection act. Forest conservation ac. Issues involved in enforcement of environmental legislation - Public awareness. Environmental impact assessment and its significance, various stages of EIA, preparation of EMP and EIS. Environmental audit. Ecotourism.

Max. 28 Hrs.

COURSE OUTCOMES

On completion of the course, student will be able to

- CO1: Recognize the importance of environmental studies and the measure to be taken to overcome global environmental challenges and natural resources and their importance for the sustenance of the life and the need to conserve them
- CO2: Able to know the concepts of the ecosystem and its function in the environment and the need for protecting the producers and consumers in various ecosystems and their role in the food web
- CO3: Analyse various biodiversity's of India and the threats to biodiversity and conservation practices to protect the biodiversity
- CO4: Evaluate various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices

CO5: Understand social issues both rural and urban environment and the possible means to combat the challenges

CO6: Gain and analyse environmental legislations of India and the first global initiatives towards sustainable development

TEXT/REFERENCE BOOKS

1. Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
2. A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi.
3. Environmental Studies, P.N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani, Pearson Education, Chennai.
4. Text Book of Environmental Studies, Deeshita Dave & P. Udaya Bhaskar, Cengage Learning.
5. Environmental Studies, K.V.S.G. Murali Krishna, VGS Publishers, Vijayawada.
6. Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi.
7. Environmental Studies, Piyush Malaviya, Pratibha Singh, Anoop singh: Acme Learning, New Delhi.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100

Part A: 3 Questions from each unit, each carrying 3 marks

Part B: 2 Questions from each unit, each carrying 8 marks

Exam Duration: 3 Hrs.

36 Marks

64 Marks