19ES5501D-ENVIRONMENT AND ECOLOGY

Course Category:	Program Core	**Credits:**	3
Course Type:	Theory	**Lecture-Tutorial-Practical:**	3-0-0
Prerequisites:	19MC1301 - Environmental Science 19CE4702E – Environmental Impact Assessment	**Continuous Evaluation:**	30
		Semester End Evaluation:	70
		Total Marks:	100

Upon successful completion of the course, the student will be able to:

CO1	To develop an awareness, knowledge, and appreciation for the natural environment.
CO2	To determining different types of conventional sources exist in nature.
CO3	To articulate the environmental pollution and their effects.
CO4	To distinguishing the different laws on environmental protection.
CO5	To know the global environmental problems.

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3					2	3	1	2			3	3	
CO2	3					2	3	1	2			3	3	
CO3	3					2	3	1	2			3	3	
CO4	3					2	3	1	2			3	3	
CO5	3					2	3	1	2			3	3	

1- Low **2-Medium** **3-High**

Course Content

UNIT-1	Definition, Scope & Importance, Need For Public Awareness- Environment Definition, Ecosystem Human Activities – Food, Shelter, Economic and Social Security. Effects of human activities on environment-Agriculture, Housing, Industry, Mining and Transportation activities, Basics of Environmental Impact Assessment. Sustainable Development.	CO1
UNIT-2	Natural Resources- Water Resources- Availability and Quality aspects. Water borne diseases, Water induced diseases, Fluoride problem in drinking water. Mineral Resources, Forest Wealth, Carbon Cycles, Oxygen cycles, Nitrogen Cycles. Energy – Different types of energy, Conventional and Non-Conventional sources –Hydro Electric, Fossil Fuel based Nuclear, Solar, Biomass and Biogas.	CO2.
UNIT-3	Environmental Pollution and their effects. Water pollution, Land pollution. Noise Pollution, Public Health Aspects, Air Pollution, Deforestation, Major Causes of Deforestation and consequences of deforestation, Solid Waste Management. Current Environmental Issues of Importance: Population Growth, Climate Change and Global warming-Effects, Urbanization, Automobile pollution. Ozone Layer depletion, Acid Rain, impact of Acid rain.	CO3
UNIT-4	Environmental Protection- Role of Government, Air Act, Water Act, Wild life Act, Environmental Act. Initiatives by Non-governmental Organizations, (NGO), Environmental Education, Women Education.	CO4
UNIT-5	Evidence of Global warming, consequences of climatic change, consequences of climate change in India. Biodiversity and Legislation, Earth Summit, the Montréal protocol, Kyoto protocol on climatic change.	CO5

Learning Resources

Text Books	1.Text book of Environmental Science & Technology – M. Anji Reddy – BS Publication. 2. S. V. S. Rana, Essentials of Ecology and Environmental Science, Prentice Hall India, New Delhi, 2011. 3. Environmental Studies – Benny Joseph – Tata McGraw Hill-2005
Reference Books	1. Principles of Environmental Science and Engineering – P. Venugopalan Rao, Prentice Hall of India. 2. Environmental Science and Engineering – Meenakshi, Prentice Hall India.
e-Resources & other digital material	