

Course Code	UES20AE1T	Course Name	ENVIRONMENTAL STUDIES	Course Category	AE	Ability Enhancement Courses	L	T	P	C
							3	0	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Applications	Data Book / Codes/Standards			Nil

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
----------------------------------	--	----------	---------------------------------

CLR-1 :	To teach the importance of environment	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-2 :	To impart the knowledge about ecosystem																		
CLR-3 :	To teach about Biodiversity																		
CLR-4 :	To create awareness about environmental pollution																		
CLR-5 :	To understand about Environment Protection																		
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	ICT Skills	Professional Behavior	Life Long Learning
CLO-1 :	To gain knowledge on the importance of natural resources and energy	2	75	60	H	H	H	-	-	-	-	-	-	-	-	-	-	-	-
CLO-2 :	To understand the structure and function of an ecosystem	2	80	70	-	H	-	H	-	-	-	-	-	-	-	-	-	-	-
CLO-3 :	To imbibe an aesthetic value with respect to biodiversity, understand the threats and its conservation and appreciate the concept of interdependence	2	70	65	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLO-4 :	To understand the causes of types of pollution and disaster management	2	70	70	H	-	H	H	H	-	-	-	-	-	-	-	-	-	-
CLO-5 :	To observe and discover the surrounding environment through field work	2	80	70	-	H	-	H	-	-	-	-	-	-	-	-	-	-	-

Duration (hour)	9	9	9	9	9
S-1	SLO-1	Environmental Studies- Concept	Concept of an ecosystem	Biodiversity at Global, National And Local Levels	Causes, Effects and Control Measures of Nuclear hazards
	SLO-2	Scope and Importance of Environmental Studies	Ecosystem degradation and Resource utilization	India as a Mega Diversity Nation	Need for equitable utilization
S-2	SLO-1	Need for public awareness.	Structure and Functions of an ecosystem	Threats to biodiversity: habitat loss, poaching of wildlife	Equity – Disparity
	SLO-2	Institutions in Environment	Producers, consumers and decomposers	man-wildlife conflicts	Urban – rural equity issues
S-3	SLO-1	People in Environment	Energy flow in the ecosystem	Endangered species of India	The need for Gender Equity
	SLO-2	Awareness about Environmental Studies	The water cycle , The Carbon cycle , The Oxygen cycle , The Nitrogen cycle , The energy	Endemic species of India	Preserving resources for future generations
				Role of Individuals In Pollution Prevention	The rights of animals

			cycle and, Integration of cycles in nature			
S-4	SLO-1	Introduction to natural resources- Associated Problems	Ecological succession	Environmental Pollution- Definition	Disaster management- Nature Floods, Earthquakes	The ethical basis of environment education and awareness
	SLO-2	Renewable and Nonrenewable resources	Food chains, Food webs and Ecological pyramids			
S-5	SLO-1	Forest resources	Ecosystem, Introduction, Types, Characteristic features, Structure and functions	Causes, Effects and Control Measures of Air Pollution	Cyclones Landslides	The conservation ethic and traditional value systems of India
	SLO-2	Water Resources	Forest ecosystem			
S-6	SLO-1	Mineral Resources	Grassland ecosystem	Causes, Effects and Control Measures of Water Pollution	Social Issues and the Environment From Unsustainable to Sustainable Development	Wasteland Reclamation
	SLO-2	Food Resources	Desert ecosystem			
S-7	SLO-1	Energy Resources	Aquatic ecosystems (ponds, lakes, streams)	Causes, Effects and Control Measures of Soil Pollution	Water Conservation	Climate change & Global warming
	SLO-2	Land Resources	Aquatic ecosystems (rivers, estuaries, oceans)			
S-8	SLO-1	Renewable and non-renewable resources- Wind	Value Of Biodiversity	Causes, Effects and Control Measures of Marine pollution	Rain Water Harvesting Watershed	Acid rain & Ozone layer depletion
	SLO-2	Renewable and non-renewable resources- geothermal	Consumptive Value And Productive Value			
S-9	SLO-1	Renewable and non-renewable resources- Solar	Social Value and Ethical Value	Causes, Effects and Control Measures of Noise Pollution	Environmental Ethics: Issues and Possible Solutions	Nuclear Accidents and Nuclear Holocaust
	SLO-2	Renewable and non-renewable resources- Biomass	Aesthetic Value and Option Value	Causes, Effects and Control Measures of Thermal Pollution	Resource consumption patterns	

Learning Resources	Theory:		1. Bharucha Erach, (2013), Textbook of Environmental Studies for Undergraduate Courses (Second edition). Telangana, India: Orient BlackSwan.
			2. Basu Mahua, Savarimuthu Xavier, (2017), SJ Fundamentals of Environmental Studies. Cambridge, United Kingdom: Cambridge University Press
			3. Dr.R.Jeyalakshmi.2014.,Text book of Environmental Studies, Devi publications, Chennai
			4. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad – 380013, India, Email:mapin@icenet.net (R)

Learning Assessment											
Level	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4 (10%)#		Theory	Practice
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice		
Level 1	Remember	40%	-	40%	-	40%	-	40%	-	40%	-
	Understand										

Level 2	Apply	30%	-	30%	-	30%	-	30%	-	30%	-
	Analyze										
Level 3	Evaluate	30%	-	30%	-	30%	-	30%	-	30%	-
	Create										
	Total	100 %		100 %		100 %		100 %		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
Experts from Industry	Experts from Academic	Internal Experts
1. Mr. Suresh S, Program Head, Hello FM	1. Dr. G Balasubramania Raja, Prof & Head, Manonmaniam Sundranar University Mail- gbs_raja@yahoo.com	1. Dr. Rajesh R, Head, SRM IST
		2. Dr. S. Albert Antony Raj, Associate Professor and Head, SRMIST