PES INSTITUTIONS	PESIT-BSC Department of Science & Humanities	Document Title : LESSON PLAN		
		Format No. PES-SH		

LESSON PLAN

17CIV18/28ENVIRONMENTAL STUDIES

Course objectives:

1. To Recognize major concepts in environmental sciences and demonstrate in-depth understanding of the environment.
2. To Develop analytical skills, critical thinking, and demonstrate problem-solving skills using scientific techniques.
3. To Demonstrate the knowledge and training for entering graduate or professional schools, or the job market.
4. To Understand the principles of ecology and environmental issues that apply to air, land and water issues on a global scale,
5. To Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment,
6. To Demonstrate ecology knowledge of a complex relationship between predators, prey,and the plant community,
7. To Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues

Subject Code: 15CIV18/15CIV28 Total no. of Hours: 25

Number of Hours/week: 02

Name of Faculty:Mr.PRADEEPRAJA K P/ Mrs.SONIKA.M **Credits: 01**

lass No.	Module / Ref. Text	Topic to be covered (in detail)	% of portion covered		Course Outcomes coveredd
1.	MODULE1:	Introduction: Environment - Components of Environment Ecosystem: Types & Structure of Ecosystem,	Chapter wise	Cumulative	CO1
2.		Balanced ecosystem Human Activities – Food, Shelter, Economic & Social Security,	20	20	
3.		Impacts of Agriculture & Housing Impacts of Industry			
4.		Mining & Transportation Environmental Impact Assessment,			
5.		Sustainable Development			

6.	**MODULE2**	Natural Resources, Water resources – Availability & Quality aspects, Water borne diseases & water induced diseases	20	40	CO2
7.		Fluoride problem in drinking water Mineral resources, Forest Wealth, Material Cycles – Carbon Cycle, Nitrogen Cycle & Sulphur Cycle			
8.		Energy – Different types of energy, Conventional sources & Non-Conventional sources of energy			
9.		Solar energy, Hydro electric energy, Wind Energy, Nuclear energy,			
10.		Biomass & Biogas Fossil Fuels, Hydrogen as an alternative energy			
11.	**MODULE 3**	Environmental Pollution – Water Pollution, Noise pollution,	20	60	CO3
12.		Land Pollution, Public Health Aspects			
13.		Global Environmental Issues : Population Growth, Urbanization,			
14.		Land Management,			
15.		Water & Waste Water Management			
16.	**MODULE4**	Air Pollution & Automobile Pollution: Definition, Effects –	20	80	CO4
17.		Global Warming, Acid rain			
18.		Ozone layer depletion, Controlling measures			
19.		Solid Waste Management, E - Waste Management			
20.		Biomedical Waste Management - Sources,Characteristics & Disposal methods.			
21.	**MODULE 5**	Introduction to GIS & Remote sensing,	20	100	CO5
22.		Applications of GIS & Remote Sensing in Environmental Engineering Practices			
23.		Environmental Acts & Regulations,			
24.		Role of government, Legal aspects, Role of Nongovernmental Organizations (NGOs) ,			
25.		Environmental Education & Women Education			

Literature:

Book Type	Code	Publication information
Text	T1	Benny Joseph (2005), "Environmental Studies", Tata McGraw – Hill Publishing Company Limited.
Text	T2	R.J.Ranjit Daniels and JagadishKrishnaswamy, (2009), "Environmental Studies", Wiley India Private Ltd., New Delhi.
Text	T3	R Rajagopalan, "Environmental Studies – From Crisis to Cure", Oxford University Press, 2005,
Text	T4	Aloka Debi, "Environmental Science and Engineering", Universities Press (India) Pvt.Ltd. 2012.
Supplementary	S	Class Notes
Reference	R1	Raman Sivakumar, "Principals of Environmental Science and Engineering", Second Edition, Cengage learning Singapore, 2005
Reference	R2	P. Meenakshi, "Elements of Environmental Science and Engineering", Prentice Hall of India Private Limited, New Delhi, 2006

Course Outcomes:

On Completion of this course, students are able to:

CO1: Demonstrate ecology knowledge of a complex relationship between predators,prey, and the plant community,

CO2: Develop critical thinking and/or observation skills, and apply them to the analysisof a problem or question related to the environment,

CO3: Understand the principles of ecology and environmental issues that apply to air,land, and water issues on a global scale,

CO4: Apply their ecological knowledge to illustrate and graph a problem and describethe realities that managers face when dealing with complex issues

CO5: Understand environmental laws