



# C. U. SHAH UNIVERSITY

**FACULTY OF:** Computer Science  
**DEPARTMENT OF:** M.Sc(CA & IT)  
**SEMESTER :** I  
**CODE:** 4CS01ENV1  
**NAME:** Environment Science

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester						Total Mark
			TH	TU	PR	TOTAL		Theory			Practical			
								Sessional Exam		University Exam	Sessional Exam		University Exam	
			Marks	Hrs	Marks	Marks		Hrs	Total Marks					
1	4CS01ENV1	Environment Science	5	0	0	5	5	30	1.5	70	30	20	50	150

**Objectives: -**

The primary objective of this course is to make people aware of the importance of environment on health of every individual and the society as a whole.

**Prerequisites:-**

Basic understanding of concepts related to environment and awareness about the harmful effects of pollution are required to understand the concept better.

Sr.No	Course Contents	Total Hrs.
1	<b>Introduction to Environment, Ecology and Ecosystem:</b> Definition, scope and importance Need for public awareness. Definition and Inter-relationships amongst and between them Components of Environment, Relationship between different components Man-Environment relationship Impact of Technology on the environment Environmental Degradation:	05
2	<b>Ecology &amp; Ecosystems</b> Introduction: Ecology- Objectives and Classification Concepts of an ecosystem- structure & function of ecosystem Components of ecosystem- Producers, Consumers, Decomposers Bio-Geo- Chemical Cycles- Hydrological Cycle, carbon cycle, Oxygen Cycle, Nitrogen Cycle, Sulfur Cycle Energy Flow in Ecosystem Food Chains: Grazing, Detritus, & Food webs Ecological Pyramids Major Ecosystems: Forest Ecosystem, Grassland Ecosystem, Desert Ecosystem, Aquatic Ecosystem, Estuarine Ecosystem	05
3	<b>Natural Resources Renewable &amp; Non-renewable Resources:</b> Renewable Resources, Non-renewable Resources, Destruction versus Conservation. Water Resources: Water Resources-Indian Scenario, Water Sources- Surface & Ground Water Sources, Uses & overuses of water resources, problems due to Overexploitation of Water Resources Forest Resources : Forest Resources - Indian Scenario , Importance of forests- Ecologically & Economically, Uses of forest products, Forest Types, Deforestations-Causes and effects, Forest Degradation in India Energy Resources : Energy Resources - Indian Scenario , Conventional Energy Sources & its problems, non-conventional energy sources- Advantages & its limitations , Problems due to Overexploitation of Energy Resources.	10



4	<b>Environmental Pollution</b> Types of Environmental Pollution Water Pollution: Introduction – Water Quality Standards, Sources of Water Pollution, Classification of water pollutants, Effects of water pollutants, Eutrophication. Air Pollution : Composition of air , Structure of atmosphere, Ambient Air Quality Standards, Classification of air pollutants, Sources of common air pollutants like SPM, SO <sub>2</sub> , NO <sub>x</sub> Land & Noise Pollution: Introduction- Lithosphere, Land Uses, Causes of land Degradation, Sources of Noise Pollution, and Effects of noise pollution Current Environmental Global Issues: Global Warming & Green Houses Effects, Acid Rain, Depletion of Ozone Layer.	06
5	<b>Conservation of Environment</b> The concepts of conservation and sustainable development, why to conserve, aims and objectives of conservation, policies of conservation, conservation of life support systems – soil, water, air, wildlife, forests.	04

**Learning Outcomes:-**

- The course provides knowledge regarding conservation of environment which is very crucial in the present day scenario.

**Books Recommended:**

1. ‘Introduction to Environmental Engineering and Science’, Masters, G.M., Prentice –Hall of India Pvt. Ltd.
2. ‘Environmental Science’, Nebel, B.J., Prentice –Hall Inc.
3. ‘Ecology: The Link between the natural and social sciences’, Odum, E.P., IBH Publishing Com., Delhi.
4. ‘Environmental Studies’, Snehal Popli, Mahajan Publication.
5. ‘Environmental Studies’, R. Rajagopalan, Oxford University Press.
6. ‘Environmental Pollution: Causes, Effects & Control’, K.C. Agrawal.

**E-Resources:**

1. [en.wikipedia.org/wiki/Environmental\\_science](http://en.wikipedia.org/wiki/Environmental_science)
2. [www.iisc.ernet.in/ug/environmentalscience.htm](http://www.iisc.ernet.in/ug/environmentalscience.htm)
3. [www.sciencedaily.com/gallery/earth\\_climate/environmental\\_science/](http://www.sciencedaily.com/gallery/earth_climate/environmental_science/)
4. [environment.nationalgeographic.co.in](http://environment.nationalgeographic.co.in)