



DEPARTMENT OF CHEMISTRY
NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR

Subject: Environmental Studies (Code-CYL-101)	Syllabus for B.Tech.-1stYear (Common for all branches)		Total Course Credit:3		
Mid-Term	Class Assessment	Final-Term	L	T	P
30 (Marks)	10 (Marks)	60 (Marks)	2	1	0

Course Objective: To impart the knowledge and awareness for the environmental protection for real-time contribution during an execution of engineering practices in the society.

Course Outcomes (COs):

- CO1:** To understand the basic concepts of environmental studies and natural resources.
- CO2:** To learn about the various eco-systems of nature.
- CO3:** To gain knowledge about different types of environmental pollutions and their control measures.
- CO4:** To acquire the knowledge about the various social aspects related to the environment.

UNIT-I	Environmental studies and Natural Resources: [10L] Definition, scope and importance of environmental studies. Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems; (a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people. (b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems. (c) Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources. (d) Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers-pesticides problems, water logging, salinity. (e) Energy Resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
UNIT-II	Eco Systems: [10 L] Concept of an eco-system, Structure and function of an eco-system, Producers, consumers, decomposers, Energy flow in the ecosystems, Ecological

	<p>succession, Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystems: (a) Forest ecosystem (b) Grass land ecosystem (c) Desert ecosystem. (d) Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)</p>
UNIT-III	<p>Environmental Pollution: [10 L] Definition, Causes, effects and control measures of; (a) Air pollution (b) Soil pollution (c) Marine pollution (d) Noise pollution (e) Nuclear hazards Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Disaster management: Floods, earth quake, cyclone and landslides.</p>
UNIT-IV	<p>Social issues and the Environment: [10 L] From unsustainable to sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, watershed management, Environmental ethics: issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Environment protection Act, Air (prevention and control of pollution)Act, Water (prevention and control of pollution)Act, Wildlife protection Act, Forest conservation Act, Issues involved in enforcement of environmental legislations.</p>

Recommended Books:

1. Textbook of Environmental studies, Erach Bharucha, UGC.
2. Fundamental concepts in Environmental Studies, D. D. Mishra, S Chand & CoLtd.