



STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)
Address : Chapel Road, Abids ,Hyderabad

CE 222

ENVIRONMENTAL STUDIES
(Common to all Branches)

Course objective:

- To study the sources of water, floods and its impact on environment.
- To know about the ecosystem and energy resource system.
- To understand the biodiversity concepts and its advantages.
- To study different types of pollution and its impact on environment.
- To know the social and environment related issues and their preventive measures.

UNIT-I

Environmental studies: Definition, scope and importance, need for public awareness. Natural resources: Water resources; use and over utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems. Effects of modern agriculture, fertilizer-pesticide problems, water logging salinity. Energy resources, growing energy needs, renewable and non-renewable energy sources. Land Resources, land as a resource, land degradation, soil erosion and desertification.

UNIT-II

Ecosystems: Concepts of an ecosystem, structure and functions of an ecosystem, producers, consumers and decomposers, energy flow in ecosystem, food chains, ecological pyramids, aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries).

UNIT-III

Biodiversity: Genetic species and ecosystem diversity, bio-geographical classification of India. Value of biodiversity, threats to biodiversity, endangered and endemic species of India, conservation of biodiversity.

UNIT-IV

Environmental Pollution: Causes, effects and control measures of air pollution, water pollution, soil pollution, noise pollution, thermal pollution and solid waste management.

Environment Protection Act: Air, water, forest and wild life acts, issues involved in enforcement of environmental legislation.

UNIT-V

Social Aspects and the Environment: Water conservation, watershed management, and environmental ethics. Climate change, global warming, acid rain, ozone layer depletion. Environmental protection act, population explosion.

Disaster Management: Types of disasters, impact of disasters on environment, infrastructure and development. Basic principles of disaster mitigation, disaster management, and methodology, disaster management cycle, and disaster management in India.

Suggested Reading :

1.A. K. De, *Environmental Chemistry*, New Age Publications, 2002.

2.E. P. Odum, *Fundamentals of Ecology*, W.B. Saunders Co., USA.

3.GL. Karia and R.A. Christian, *Waste Water Treatment, Concepts and Design Approach*, Prentice Hall of India, 2005.

4.Benny Joseph, *Environmental Studies*, TataMcGraw-Hill, 2005

5.V. K. Sharma, *Disaster Management*, National Centre for Disaster Management, IPE, Delhi,