

NIRMA UNIVERSITY
Institute of Technology
School of Engineering
Bachelor of Technology - Civil Engineering
Open Electives (all branches except Civil and Chemical Eng.)

L	T	P	C
3	0	0	3

Course Code	2CLOE27
Course Title	Environmental Pollution and Legislation

Course Outcomes:

At the end of the course, students will be able to

1. asses environmental issues using performance indices
2. recommend remedies of environmental pollution
3. identify the risk due to toxic substances and pollutants
4. interpret Indian legislations for environmental pollution
5. outline international environmental laws.

Syllabus:

Teaching Hours: 45

Unit 1: Introduction to Pollution

Hours: 06

Environmental Pollution, Global scenario and global environmental health, environmental performance index.

Unit 2: Environmental Pollution

Hours: 12

Types of environmental pollutants, their sources and effects; Water pollution and control, indoor pollution, air pollution: sources, effects and control; Solid wastes: generation, collection, processing and disposal; Noise pollution and control; Industrial wastes and their treatment.

Unit 3: Toxicity and Risk

Hours: 07

Toxic substances, sources of contaminants, toxicity and its prediction, bioaccumulation and bio magnification, risk assessment of environmental pollution.

Unit 4: Environmental Legislations in India

Hours: 15

Introduction of environmental acts and national laws. Water (prevention and control of pollution) act/rules, constitution of central and state boards; Environment (protection) act rules, prevention, control and abatement of environmental pollution, hazardous wastes management and handling rules, pollution abatement policy; Municipal and solid waste management and handling rules, biomedical waste rules, chemical accidents rules; National environmental policy; National environmental tribunal act and appellate authority; Environment audit.

Unit 5: International Laws

Hours: 05

Introduction of environmental acts and laws, International global environmental concepts like global warming and its impact on natural resources; international protocol, treaties and conventions; Stock-holm and Basal convention, Copenhagen conference, Rio-Earth summit.

Self-Study:

The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

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Suggested Readings:

1. Peavy H.S., Rowe, D., & Tchobanoglous, G. *Environmental Engineering*, McGraw-Hill.
2. Rao C.S., *Environmental Pollution Control Engineering*, New Age International.
3. Eckenfelder W.W., *Industrial Water Pollution*, McGraw-Hill International.
4. The National Green Tribunal Act, Ministry of Law and Justice (Legislative Department), Government of India, New Delhi.
5. *Manual on Municipal Solid Waste Management*, CPHEEO, Ministry of Urban Development, Government of India, New Delhi.
6. *Electronic Waste Management Rules*, Ministry of Environment, Forest and Climate Change, Government of India, New Delhi.
7. *Plastic Waste Management Rules*, Ministry of Environment, Forest and Climate Change, Government of India, New Delhi.
8. *Hazardous Waste Management Rules*, Ministry of Environment, Forest and Climate Change, Government of India, New Delhi

L= Lecture, T= Tutorial, P= Practical, C= Credit

w.e.f. academic year 2020-21 and onwards