

6th Semester	RCI6D003	Environmental Geo Techniques	L-T-P 3-0-0	3 Credits
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Module- I**8 HOURS**

Introduction: Scope, importance, waste generation, subsurface contamination,
Geosynthetics: Types, functions, applications.

Module- II**8 HOURS**

Forms of waste and their properties: Municipal waste, mineral waste, industrial waste,
hazardous waste, index properties, strength, compressibility and permeability of municipal
and mineral waste.

Module- III**8 HOURS**

Selection of waste disposal sites, factors affecting site selection, Landfills for municipal and
hazardous waste: components of landfills, layouts, dailycells, base lining systems.

Module- IV**6HOURS**

Ash ponds and mine tailing impoundments: slurry deposition of mine tailing and coal ash in
impoundments, layouts, components, design of tailing dam/ash dykes.

Module- V**6HOURS**

Remediation: Principle of remediation: Planning, source control, soil gas extraction, soil
washing, and bio-remediation.

Books:

1. Geotechnology of waste management, I. S. Oweis and R. P. Khera, Butterwarths, London.
2. Engineering with geosynthetics, Ed. G. V. Rao and G.V.S.S. Raju, Tata McGraw Hill
3. Geotechnical practice for waste disposal, D. E. Daniel, Chapman and Hall, London.

Digital Learning Resources:

Course Name	ENVIRONMENTAL GEOTECHNICS
Course Link	https://nptel.ac.in/courses/105/101/105101196/
Course Instructor	PROF. D. N. SINGH, Department of Civil Engineering, IIT Bombay