

## Syllabus for Junior Environment Engineer

	Name of the Subject	Topic Name
a)	Environmental knowledge General	<ul style="list-style-type: none"> <li>National / International events related to the environment and common understanding of environmental processes, NGT Act, Pollution Indices.</li> <li>Abiotic and biotic environment, Non-renewable resources, Health hazards due to Environmental Pollution.</li> </ul>
b)	Water / Waste Water / Industrial Waste Water Engineering	<ul style="list-style-type: none"> <li>Estimating sewage discharge, quantity of sewage per capita and its relationship per capita water supplied, design periods.</li> <li>Unit processes / Operations related to water and waste water treatment, namely Equalization Coagulation; Flocculation; Settling; filtration; Disinfection; Aeration; Adsorption etc.</li> <li>Physical, chemical and biological characteristics of water and sewage; Activated sludge process and its modifications; treatment ponds and aerated lagoons; Trickling filters; Rotating biological contactors; Sequencing Batch reactor and Membrane Batch Reactor.</li> <li>Anaerobic digestion; Anaerobic filter and UASB, Nitrification &amp; De-nitrification.</li> <li>Types of pumps required for pumping sewage such as, centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts.</li> <li>Characteristics and treatment of waste from Textile, Tannery, Dairy, Distillery, Cement Industry.</li> </ul>
c)	Water / Waste Water / Industrial Waste Water Analysis	<ul style="list-style-type: none"> <li>Physical, chemical, and biological characteristics of water, and sewage, performance evaluation of the wastewater treatment system.</li> </ul>
d)	Environmental Assessment Impact	<ul style="list-style-type: none"> <li>Basic concept of Environmental Impact Assessment, Environmental Impact statement, and Environment Management Plan.</li> <li>Prediction and assessment of impacts on air, water, biota, noise, cultural, and socio-economic environment.</li> <li>Rapid and comprehensive Environmental Impact Assessment.</li> <li>Use of GIS in making EIA reports for industries and remote sensing and other software use in EIA studies.</li> </ul>
e)	Environmental Legislations in India	<ul style="list-style-type: none"> <li>Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein.</li> <li>Environmental Impact Assessment notification, 2006-salient features.</li> <li>Water (Prevention &amp; Control of Pollution) Act, 1974, Air (Prevention &amp; Control of Pollution) Act 1981.</li> </ul>
f)	Environmental Audit and Safety Audit in Industrial units	<ul style="list-style-type: none"> <li>Environmental Audit and Safety Audit in Industrial units.</li> <li>On site and off site emergency plan, Disastrous management plan.</li> </ul>

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