

MODULE I

Industrial wastes & their sources: various industrial processes, sources and types of wastes- solid, liquid, gaseous, noise & radiation emissions. Sources for industrial water usages and various industrial processes requiring water use and water quality. processes responsible for deterioration in water quality, various waste water streams, Control and removal of specific pollutants in industrial wastewaters, e.g., oil and grease

MODULE II

Control of gaseous emissions: hood and ducts, tall stacks, particulate and gaseous pollutant control; Solid waste generation and disposal management; Hazardous wastes: definitions, concepts and management aspects; Noise & radiation: generation, control and management. Recent trends in industrial waste management, cradle to grave concept, life cycle analysis, clean technologies; Case studies of various industries, e.g., dairy, fertilizer, distillery, sugar, pulp and paper, iron and steel, metal plating, thermal power plants, etc.

MODULE III

Environmental audit: definitions and concepts, environmental audit versus accounts audit, compliance audit, relevant methodologies, various pollution regulations, Introduction to ISO and ISO 14000.

Text books:

1. *Wastewater Engineering: Treatment & Re-use.* Metcalf & Eddy, Tata Mc Graw-Hill.
2. *Industrial Pollution Prevention Handbook.* Shen, T.T., Springer-Verlag, Berlin.

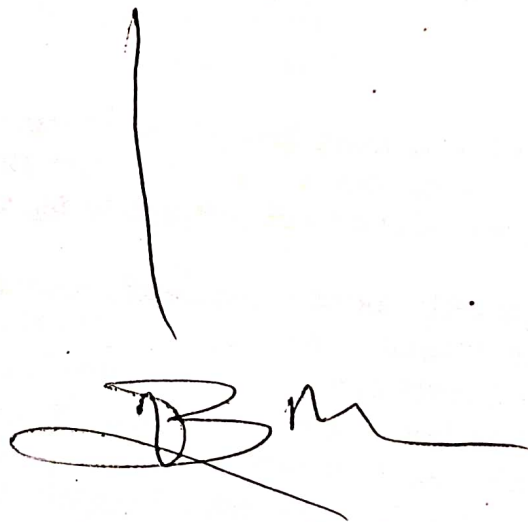
References:


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1. *Industrial Wastewater Management Handbook*, Azad, Hardom Singh, Editor-in-Chief, McGraw Hill, New York.
 2. *Wastewater Reuse and Recycling Technology-Pollution Technology Review-72*, Culp, Gordan, George Wasner, Robert Williams and Mark, V. Hughes Jr., Noyes Data Corporation, New Jersey
 3. *The Treatment of Industrial wastes*, Edmund, B. Besselleve P.E., McGraw Hill, New York.
 4. *Industrial Pollution Control Issues and Techniques*, Nancy, J. Sell, Van Nostrand Reinhold Co, NY.
 5. *Environmental Engineering*, Pandey, G.N. and Corney, G.C., Tata McGraw Hill, New Delhi
 6. *Environment (protection) Act- 1986*. Any authorized & recent publication on Government Acts.


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