

UG  
Course Code: CH206  
Credit: 3  
Version: 1  
Prerequisite Course: Nil

Department: **Chemical Engineering**  
Course Name: **Industrial Pollution Abatement**  
L-T-P: **3-0-0**  
Approved on:

### Introduction

**Wastewater Treatment:** Characterization of Industrial wastewater, primary, secondary and tertiary treatment, segregation, screening, equalization, coagulation, flocculation, precipitation, flotation, sedimentation, aerobic treatment, anaerobic treatment, absorption, ion exchange, membrane filtration, electrodialysis, sludge dewatering and disposal methods.

**Air Pollution Control:** Sources and classification of air pollutants, nature and characteristics of gaseous and particulate pollutants, pollutants from automobiles. Air pollution meteorology, plume and its behavior and atmospheric dispersion, control of particulate emissions by gravity settling chamber, cyclones, wet scrubbers, bag filters and electrostatic precipitators. Control of gaseous emissions by absorption, adsorption, chemical transformation and combustion.

**Solid Waste Management:** Hazardous and non-hazardous waste, methods of treatment and disposal, land filling, leachate treatment and incineration of solid wastes.

### *Legislation, standards for water and air.*

### *Books*

1. Metcalf & Eddy, Inc., “*Wastewater Engineering: Treatment and Reuse*”, 4<sup>th</sup> ed., Tata McGraw Hill, New Delhi, 2003.
2. Modi, P. N., “*Sewage Treatment and Disposal and Waste Water Engineering*,” Vol. II, Standard Book House, Delhi , 2001.
3. Peavy, H. S., Rowe, D. R. , Tchobanoglous, G. , “*Environmental Engineering*” ; McGraw Hill, 1995.
4. De Nevers, N., “*Air Pollution Control Engineering*”, 2<sup>nd</sup> ed., McGraw-Hill, 2000.
5. Bhatia, S.C., “*Environmental Pollution and Control in Chemical Process Industries*,” Khanna Publishers, Delhi, 2001.
6. Mahajan, S. P., “*Pollution Control in Process Industries*,” Tata McGraw-Hill, New Delhi, 1998.