

# AMEV27 INDUSTRIAL WASTE MANAGEMENT

## UNIT-1 INTRODUCTION

- 1.1 Sources and characteristics of various industrial, process and wastes- Population equivalent
- 1.2 Effects of industrial effluents on streams, sewer, land, sewage treatment plants and on human health
- 1.3 Environmental legislations and standards related to prevention and control of industrial pollution and hazardous wastes.

## UNIT-2 CLEANER PRODUCTION

- 2.1 Volume reduction - Strength reduction
- 2.2 Material and process modifications Recycle, reuse and byproduct recovery
- 2.3 Applications- Waste minimization

## UNIT-3 TREATMENT TECHNOLOGIES

- 3.1 Equalisation- Neutralisation - Removal of suspended, floating and dissolved organic solids - Chemical oxidation- Adsorption
- 3.2 Removal of dissolved inorganic - Combined treatment of industrial and municipal wastes –
- 3.3 Residue management - Dewatering – Disposal.

## UNIT-4 POLLUTION FROM MAJOR INDUSTRIES

- 4.1 Sources- Characteristics - Waste treatment flow charts for selected industries such as Textiles
- 4.2 Tanneries- Pharmaceuticals
- 4.3 Electroplating industries- Dairy Sugar- Paper- distilleries - Steel plants
- 4.4 Refineries- Fertilizer - thermal power plants- Wastewater reclamation and reuse concepts.

## UNIT-5 HAZARDOUS WASTE MANAGEMENT

- 5.1 Hazardous wastes- Types- Sources - Collection
- 5.2 Physico chemical treatment – Solidification – Incineration – Secured landfills.

### Reference Books:

1. Shen T.T., “Industrial Pollution Prevention”, Springer, 1---.
2. Stephenson R.L and .Blackburn J.B, Jr.,“Industrial Wastewater Systems Hand book”, Lewis Publisher, New York, 1--8
3. Freeman H.M., “Industrial Pollution Prevention Hand Book”, McGraw Hill Inc., New Delhi, 1--5.