

# **AMLT08 ENVIRONMENTAL SCIENCE OF TANNERY EFFLUENT**

## **UNIT-1 WATER POLLUTION IN GENERAL**

- 1.1 Principal industries attributed for water pollution.
- 1.2 Types of water pollution- physical, chemical & biological pollution.
- 1.3 Hazardous effects of water pollution on land, ground water, surface water, aquatic life and sea.
- 1.4 Ecological system and water pollution.

## **UNIT-2 TANNERY EFFLUENT**

- 2.1 Types of tannery effluent, characteristics of effluent from beam house processes,
- 2.2 Tan yard processes and finishing processes, their nature and pre-treatment before disposal,
- 2.3 Most toxic ingredients- hazards of tannery effluent,
- 2.4 Principals involved in removing their toxic effect from tannery effluent.
- 2.5 Principles for estimation of DO, COD, BOD, Sulphides, chromium and no biodegradable aromatic substances in waste water.

## **UNIT-3 PRIMARY TREATMENT**

- 3.1 Main objects of primary treatment- Primary Treatment units
- 3.2 Collection system of discharged waste water in tanneries
- 3.3 Screening- equalization of waste water.

## **UNIT-4 SECONDARY TREATMENT**

- 4.1 Principles of secondary treatment-
- 4.2 Different processes involved in secondary treatment system
- 4.3 Lagoon treatment- aeration system- trickling filter- systematic design of these systems- bio-technology in effluent treatment.

## **UNIT-5 STANDARDS AND SPECIFICATIONS**

- 5.1 Indian standards- international standards specifications for industrial effluent discharge
- 5.2 Types of effluent disposal.

## **UNIT-6 RECOVERY OF WASTE WATER**

- 6.1 Different processes in recovery and reuse of wastewater in tanning industry
- 6.2 Economic feasibility of different processes.

### **Reference Books:**

1. Environment & Tannery- M.C.C. Carre et.al. Center technique du cuir, Lyon, France.
2. Waste water engineering, treatment, disposal reuse- Metcalf & Eddy- Tata Mcgraw Hill Publishing Co. Ltd. New Delhi.