

AMEV26 HAZARDOUS WASTE MANAGEMENT

UNIT-1 WASTE IDENTIFICATION AND CHARACTERISATION

- 1.1 Hazardous waste definition- Physical and Health hazards wastes
- 1.2 Hazardous Waste Management and Handling Rules
- 1.3 Characterization of hazardous wastes- Analytical- Analytical methods- Hazardous waste inventory- Source reduction of hazardous wastes

UNIT-2 STORAGE, TRANSPORT AND PROCESSING OF WASTES

- 2.1 Handling and storage of Hazardous wastes
- 2.2 Waste Compatibility Chart- Hazardous Waste Transport- Manifest system
- 2.3 Transboundary movement of wastes- Basal Convention
- 2.4 Hazardous waste treatment technologies - Physical, chemical and thermal treatment of hazardous waste- Solidification- Chemical fixation- Encapsulation - Incineration

UNIT-3 SECURE LANDFILLS

- 3.1 Hazardous waste landfills- Site selections- landfill design and operation
- 3.2 Regulatory aspects- Liner System- Cover system
- 3.3 Leachate Collection and Management
- 3.4 Environmental Monitoring System- Landfill Closure and post closure care

UNIT-4 REMEDIATION OF CONTAMINATED SITES

- 4.1 Contaminated sites- Site Assessment- Remediation Technologies
- 4.2 Onsite and offsite remediation techniques - Bioremediation- Phytoremediation- Physico-chemical techniques, Soil flushing
- 4.3 Pump and treat systems- restoration of remediated sites

UNIT-5 SPECIAL HAZARDOUS WASTES

- 5.1 Biomedical waste- Definition- Sources- Classification- Collection- Segregation Treatment and disposal
- 5.2 National Regulatory framework Radioactive waste: Definition- Sources- Low level and high level radioactive wastes and their management
- 5.3 Radiation standard by ICRP and AERB.
- 5.4 National Regulatory framework Electronic Wastes : Waste characteristics - Generation –
- 5.5 Collection - Recycling and disposal-National Regulatory framework Lead Acid Batteries :
- 5.6 Generation, impacts and management - National Regulatory framework

Reference Books:

1. Hazardous Waste (Management and Transboundary Movement) Rules, Ministry of Environment and Forests, Government of India, New Delhi, 1-8
2. Biomedical Waste (Management and Handling) Rules, Ministry of Environment and Forests, Government of India, New Delhi, 1—8