

SOLID WASTE MANAGEMENT

MODULE I

Solid waste management: Objectives, Functional elements, Environmental impact of mismanagement. Solid waste: Sources, Types, Composition, Quantities, Physical, Chemical and Biological properties. Solid waste generation rate: Definition, Typical values for Indian cities, Factors affecting. Storage and collection: General considerations for waste storage at source, Types of collection systems. Transfer station: Meaning, Necessity, Location, Economic analysis. Transportation of solid waste: Means and methods, Routing of vehicles.

MODULE II

Sorting and material recovery: Objectives, Stages of sorting, sorting operations, Guidelines for sorting for material recovery, typical material recovery facility for a commingled solid waste. Composting of solid waste: Principles, Methods, Factors affecting, Properties of compost, Vermicomposting. Energy recovery from solid waste: Parameters affecting, Biomethanation, Fundamentals of thermal processing, Pyrolysis, Incineration, Advantages and disadvantages of various technological options.

MODULE III

Landfills: Definition, Essential components, Site selection, Land filling methods, Leachate and landfill gas management. Biomedical Waste: Generation, identification, storage, collection, transport, treatment, common treatment and disposal, occupational hazards and safety measures. Biomedical waste legislation in India

MODULE IV

Indian scenario: Present scenario and measures to improve system for different functional elements of solid waste management system. Elements of financial management plan for solid waste system. 7 hr

References

- 1) Manual on municipal solid waste management – Government of India publication.
- 2) Integrated solid waste management – George Tchobanoglous.
- 3) Solid waste management – A. D. Bhide.
- 4) Solid waste management handbook– Pavoni.