7CE163 Solid Waste Management

L-T-P-Cr: 3-0-0-3

Objective: To impart knowledge and skill for solid waste identification, classification and Components of solid waste, and their management. Theory: 1. Solid wastes-Sources, nature and characteristics, and Quantities, Rates of generation and factors affecting them. 7 Lectures 2. Potential of diseases, nuisances and other problems due to solid wastes. 2 Lectures

3. Changing nature of solid wastes and its impact on solid waste management. 3 Lectures

4. Solid wastes management- Generation, on-site storage, collection, separation, processing and disposal, On-site storage methods-containers, their type, size and location. 8 Lectures

5. Collection systems-Vehicles, routing, route balancing and transfer stations. 7 Lectures

6. Processing methods, recovery and reuse of materials and energy. 5 Lectures

7. Disposal methods such as sanitary landfill biological digestion etc. 4 Lectures

8. Industrial and Hazardous solid waste management, Urban solid waste management and its modeling. 6 Lectures

Text Books: 1. Tchobanoglous, George; Theisen, Hilary; Vigil, Samuel “Integrated Solid Waste Management: Engineering Principles and Management Issues” 2nd Edition, TMH 2. Michael D. LaGrega, Philip L. Buckingham, Jeffery C. Evans, HAZARDOUS WASTE MANAGEMENT Second Edition, TMH 3. McBean, Rovers & Farquhar “Solid Waste Landfill Engineering and Design” Prentice Hall Reference Books: 1. Mackenzie L. Davis, and David A. “INTRODUCTION TO ENVIRONMENTAL ENGINEERING” Fourth Edition, TMH End Semester Examination: The duration of the Examination will be 3 hrs. The questions will be comprehensive, i.e. from the entire unit, may have subsections with both theoretical and (or) numerical exercises.

Expected Outcome: The students would be able to classify and manage the different types of solid waste and also able to minimizing the solid waste production.