

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 711803N**Date:** 03-01-2014**Subject Name:** Municipal and Hazardous Solid Waste Management**Time:** 10.30 am – 01.00 pm**Total Marks:** 70**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Enlist and explain the factors affecting the Municipal solid waste generation rates. **07**
(b) Describe the action plan for effective disposal of MSW for Restaurants and Hotels. **07**

- Q.2** (a) Explain the components of municipal solid waste **07**
(b) Draw the flow diagram for rear end system for processing and recovery of solid waste and explain it in detail. **07**

OR

- (b) Write a short note on “Application of GIS in Solid Waste Management”. **07**

- Q.3** (a) Explain knock off criteria for site selection of landfills. **07**
(b) Enlist solid waste estimation methods and explain any one in detail. **07**

OR

- Q.3** (a) Draw a neat sketch of Double layered composite landfill site. **07**
(b) What is the principle of industrial ecology? What is a waste exchange centre? **07**

- Q.4** (a) How is hazardous waste defined in India Law? Give Legal Definition of Hazardous waste. **07**
(b) Explain any the following terms. **07**
(i) Toxicity (v) Bioaccumulation
(ii) Reactivity (vi) Explosivity
(iii) Corrosivity (vii) Infectiousness
(iv) Radioactivity

OR

- Q.4** (a) Explain the concept of waste minimization? What is the concept of 4R? **07**
Q.4 (b) What are the design objectives, design consideration and design standards in hazardous waste landfill site? **07**

- Q.5** (a) Explain the various steps in biomedical waste management? **07**
(b) Enlist the categories of biomedical waste. Explain any two. **07**

OR

- Q.5** (a) Write a short note on landfilling methods with diagram. **07**
(b) Enlist various reagents and chemicals for stabilization and solidification of hazardous waste and explain its working mechanisms with sketch. **07**