Seat No.:	Enrolment No.

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

Date: 03-01-2014

Subject code: 711803N Subject Name: Municipal and Hazardous Solid Waste Management **Total Marks: 70** Time: 10.30 am - 01.00 pm**Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 0.1 (a) Enlist and explain the factors affecting the Municipal solid waste 07 generation rates. (b) Describe the action plan for effective disposal of MSW for Restaurants and 07 Hotels. 0.2 (a) Explain the components of municipal solid waste **07** (b) Draw the flow diagram for rear end system for processing and recovery of 07 solid waste and explain it in detail. 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 07 Q.3(a) Draw a neat sketch of Double layered composite landfill site. **(b)** What is the principle of industrial ecology? What is a waste exchange **07** centre? **Q.4** (a) How is hazardous waste defined in India Law? Give Legal Definition of 07 Hazardous waste. **(b)** Explain any the following terms. 07 (i) Toxicity (v) Bioaccumulation (ii) Reactivity (vi) Explosivity (iii) Corrosivity (vii) Infectiousness (iv)Radioactivity OR (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 **Q.4** 07 in hazardous waste landfill site? **Q.5** (a) Explain the various steps in biomedical waste management? 07 (b) Enlist the categories of biomedical waste. Explain any two. 07 (a) Write a short note on landfilling methods with diagram. **Q.5** 07 (b) Enlist various reagents and chemicals for stabilization and solidification of 07 hazardous waste and explain its working mechanisms with sketch.
