

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-I Regular Examination January / February 2011****Subject code: 711803N****Subject Name: Municipal and Hazardous solid waste Management****Date: 02 /02 /2011****Time: 02.30 pm – 05.00 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) Discuss in brief various types of solid waste. Give the composition of refuse for an Indian city. **07**
- (b) Describe how the refuse is collected, removed and transported. **07**
- Q.2** (a) Differentiate between garbage, rubbish, refuse and trash, based on their composition and source. **07**
- (b) Describe in brief post-closure care and use of old land filling. **07**
- OR**
- (b) Draw and explain sanitary land filling. **07**
- Q.3** (a) Write a detail note on 'composting'. **07**
- (b) Explain the effect of source-separation on the heating value of solid waste and on the potential for hazardous air pollution emissions. **07**
- OR**
- Q.3** (a) List two highly feasible methods of resource conservation and recovery in low technology and medium technology. **07**
- (b) Explain the application of GIS in locating landfill site. **07**
- Q.4** (a) Differentiate between waste minimization, waste exchange and recycling. **07**
- (b) List and explain four hazardous waste management techniques. **07**
- OR**
- Q.4** (a) Explain: Electrodialysis and Reverse osmosis for treatment of hazardous waste. **07**
- (b) Explain the difference between deep well injection and land treatment. **07**
- Q.5** (a) List the most important factors for proper incinerator design and operation. **07**
- (b) Define and explain toxicity and reactivity for hazardous waste **07**
- OR**
- Q.5** (a) Describe how the biomedical waste is collected, removed and transported. **07**
- (b) Enlist and explain in brief the methods of biomedical waste disposal. **07**
