

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 153703****Date: 02y-12-2013****Subject Name: 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) What are the sources and types of solid waste in a community? **07**
(b) List out the methods of disposal of solid waste? Explain in detail any two of them. **07**
- Q.2** (a) Write a short note on Biomedical waste and its management. **07**
(b) Explain hierarchy of integrated solid waste management. **07**
- OR**
- (b) Explain the physical properties of municipal solid waste in detail. **07**
- Q.3** (a) Explain the planning process of solid waste management. **07**
(b) Write a short note on Pyrolysis. **07**
- OR**
- Q.3** (a) What is waste minimisation? Give the classification of Waste Minimisation (WM) Techniques and discuss them briefly. **07**
(b) Define Hazardous waste and explain its characteristics. **07**
- Q.4** (a) Give a well labelled diagram of a sanitary landfill. Explain the metabolism in a landfill. **07**
(b) What are the landfill site design objectives and considerations? **07**
- OR**
- Q.4** (a) What are the various incineration devices? Give the overview of Rotary kiln incinerator. **07**
(b) (i) Determine the waste retention time for a rotary kiln operating at 0.9 r/min with a kiln length of 5 m, a diameter of 2.2 m, and a slope of 0.1 m/m. **07**
(ii) If the desired retention time is actually to be 7.5 min, what should the rotational velocity be adjusted to?
- Q.5** (a) What is the current status of waste sorting in India? **07**
(b) Write a short note on the impact of solid waste on the environment. **07**
- OR**
- Q.5** (a) What are the important components for recycling of waste? What are the benefits of recycling paper and ferrous metals? **07**
(b) Explain the management of Agriculture waste. **07**
