

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

**Subject code: 734301****Date: 26-11-2013****Subject Name: Environmental Geotechnology****Time: 10:30 am – 13:00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Draw neat sketches with details where necessary.
3. Make suitable assumptions.
4. Figures to the right indicate full marks.

- Q.1** (a) Write about need to study geotechnical engineering from an environmental aspect. **10**  
(b) What is “TSD”? Give criteria for setting a TSD facility for hazardous waste. **04**
- Q.2** (a) Write a note on electrical double layer theory. How it changes physical and engineering properties of clay? **07**  
(b) What is waste? Give different types. **07**
- Q.3** (a) What is “NIMBY”? How it can be avoided? **07**  
(b) Explain the importance of “Environmental Geotechnology” from view point of human health and pollution. **07**
- Q.4** (a) Discuss various ground modification techniques in waste management. **07**  
(b) Differentiate diffusion from dispersion. With sketch describe dispersion in soil. **07**
- Q.5** (a) Draw neat sketch of typical “Double lined” landfill. **07**  
(b) Which are different stages involved in installation of monitoring well? Explain any one in detail **07**
- Q.6** (a) Give mechanism of soil – water interaction. **07**  
(b) How will you control landslides? Give remedial actions. **07**
- Q.7** Why and how soil is used in waste disposal practice to prevent the flow of liquid contaminants into environment? **14**

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