

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2014****Subject code: 734301****Date: 25-11-2014****Subject Name: Environmental Geo-technology****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)** Explain in brief, how subsurface contamination takes place, transported and affect human health. **10**
- (b)** Explain terms: 'Environmental Geo-technology' and 'Geo-environmental Engineering'. **04**
- Q.2 (a)** Give important details required for deciding landfill site. **07**
- (b)** Write a note on Ground modification techniques in waste. **07**
- OR**
- (b)** Explain use of waste in Geotechnical application and waste characteristics for soil replacement **07**
- Q.3 (a)** Explain the importance of "Environmental Geo-technology" from view point of human health and pollution. **07**
- (b)** How slurry wastes are produced and handled in practice? **07**
- OR**
- Q.3 (a)** Discuss in detail about Soil Bentonite Slurry Trench Wall and Cement Bentonite Slurry trench walls. **07**
- (b)** Differentiate diffusion from dispersion. With sketch describe dispersion in soil. **07**
- Q.4 (a)** State various components of landfills and its importance. **07**
- (b)** What is the importance of waste characterization? **07**
- OR**
- Q.4 (a)** Give mechanism of soil – water interaction. **07**
- (b)** How will you control landslides? Give remedial actions. **07**
- Q.5 (a)** Write short note on vertical barriers for containments. **07**
- (b)** What are the factors influencing leachate quality and quantity? **07**
- OR**
- Q.5 (a)** Explain difference between a natural attenuation landfill and an engineered landfill. **07**
- (b)** Explain operation of pond used to treat slurry waste with neat sketch. **07**
