

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-IV(NEW) EXAMINATION – SUMMER - 2017

Subject Code: 2744302**Date:03/05/2017****Subject Name: ENVIRONMENTAL GEOTECHNOLOGY****Time:02:30 pm to 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) What are the controlling and remedial measures to reduce subsurface contamination? **07**
 (b) Discuss the multidisciplinary nature of geo environmental engineering **07**
- Q.2** (a) Draw neat sketch showing various components of a typical double lined landfill. Discuss how leachate is collected and removed from the landfill. **07**
 (b) Explain in detail load factor and environmental load factor design criteria in geo technology. **07**
- OR**
- (b) Bring out the difference between a natural attenuation landfill and an engineered landfill. **07**
- Q.3** (a) Explain the important details required for deciding landfill site **07**
 (b) Discuss in detail the multi criteria method for landfill site selection. **07**
- OR**
- Q.3** (a) Write in detail important properties of clay minerals **07**
 (b) What are the sources of subsurface contamination? **07**
- Q.4** (a) With a neat figure, explain a conceptual liner and cover in landfill. **07**
 (b) Write note on stability of landfills **07**
- OR**
- Q.4** (a) Write short note on vertical barriers for containments. **07**
 (b) What is the importance of waste characterization? **07**
- Q.5** Write brief note on **14**
 (i) Hazardous waste control and disposal facilities
 (ii) Hydrological aspects for selection of waste disposal site
- OR**
- Q.5** (a) Write note on engineering properties of waste used for geotechnical application. **07**
 (b) Write note on use of waste in Geotechnical application and waste characteristics for soil replacement. **07**
