M.E. Second Semester (Civil Engineering (Geotechnical Engineering)) (Full Time) (C.G.S.- New)

13052 : Elective-I : Geoenvironmental Engineering : 2 SFGE 4

P. Pages : 1 | **AW - 3650**

Time : Three Hours | Max. Marks : 80

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Notes :
1. All question carry equal marks.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Solve **any five** questions out of six.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

1.	a)	Explain in detail the characteristic of hazardous and non hazardous waste.	**8**
	b)	What are the importance mechanism of soil waste interaction ?	**8**
2.	a)	Explain the phenomenon of subsurface contaminant transport in detail and discuss the various factors affecting it.	**8**
	b)	Explain the significance of cation exchange reactions and method of its determination.	**8**
3.	a)	Explain in detail leachate detection, collection and removal system.	**8**
	b)	Enlist the various disposal methods for waste management ? Explain any three in detail along with their suitability.	**8**
4.	a)	Explain in detail various types of landfills with neat sketches.	**8**
	b)	Discuss in detail the planning and design aspect of waste disposal in landfills.	**8**
5.	a)	How to detect the subsurface containment in landfills. Also explain the control measures adopted to minimize the subsurface containment.	**8**
	b)	What are the engineering properties and geotechnical reuse of waste ?	**8**
6.	a)	What are the application of geosynthetics in waste disposal ?	**8**
	b)	Discuss in detail the construction quality and performance monitoring in landfills.	**8**

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