M.E. First Semester (Civil Engg. (Geotechnical Engg.)) (Full Time) (C.G.S.- New)

13042 : Ground Improvement Techniques : 1 SFGE 1

P. Pages : 1
Time : Three Hours

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AW - 3913
Max. Marks : 80

Notes : 1. All question carry equal marks.
2. Illustrate your answer necessary with the help of neat sketches.
3. Solve **any five.**

1.	a)	Explain clay mineral formation using building blocks with neat sketch. Also write short note on clay water relations.	**8**
	b)	Explain with the help of neat sketch the structure and characteristics of main clay.	**8**
2.	a)	Explain in brief various admixtures. Which are used in stabilization of various soil deposits.	**8**
	b)	Draw a neat sketch of grouting plant and equipments with their working procedure.	**8**
3.	a)	Discuss dewatering method of electro – osmosis drainage system. Discuss the Scotl's equation of velocity of flow – in electro Osmosis.	**8**
	b)	Discuss the thermal and electro-kinetic stabilization and their suitability.	**8**
4.	a)	Discuss the vibro-float technique of compaction for granular soils.	**8**
	b)	Discuss the determination of bearing capacity of single lime column and lime column group.	**8**
5.	a)	Explain sand drain for Consolidation with the help of neat sketch.	**8**
	b)	What is meant by grouting, state its purpose? Discuss different types of grout and their suitability.	**8**
6.	a)	Explain ground improvement in loose sand adopting blasting technique. Where is this method most suitable? Also state advantages and disadvantages.	**8**
	b)	Discuss the applications of lime column method with the help of neat sketch.	**8**

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