

LESSON PLAN

Semester: 6th		Year: 3rd	Course: B.Tech
		Sub: Ground Improvement Techniques	Total Credit:03
Branch : CE		Sub Code :	
Name of the Faculty:		Bal Gopal Guru	
Designation :		Assistant Professor	
Department :		Civil Engineering	
Session		2024-25	
Recommended Books		Text book:	
		1 Grond improvement techniques by P.P.Raj, Laxmi Publications	
		2 Foundation Design and Construction, M.J. Tomlinson	
		Reference Books:	
		1 Foundation Engineering, G.A. Leonard, Tata McGraw Hill	
		2 Modern Geotechnical Engineering, Alam Singh, IBT Publishers	
Sl. No.	Lecture No.	Topics to be covered	No. of Classes
MODULE-1			
1	Lecture-01	Introduction	4
2	Lecture-02	Necessity of ground improvement	
3	Lecture-03	Selection of ground improvement techniques	
4	Lecture-04	Stabilization of expansive soil	
MODULE-2			
5	Lecture-05	Dewatering, Well points-Vacuum / electro osmotic methods	7
6	Lecture-06	Analysis of seepage, Two Dimensional Flow	
7	Lecture-07	Heat treatment, ground freezing	
8	Lecture-08	Analysis and design of dewatering systems.	
9	Lecture-09	Grouting types, Properties	
10	Lecture-10	Method of grouting	
11	Lecture-11	Ground selection and control	
MODULE-3			
12	Lecture-12	Compaction, Methods of compaction	6
13	Lecture-13	Engineering properties of compacted soil	
14	Lecture-14	Field compaction and its control. dynamic compaction	
15	Lecture-15	Vibro flotation, Compaction piles, Consolidation	
16	Lecture-16	Sand drains, Preloading, Stone columns	
17	Lecture-17	Construction methods, Merits and demerits of various techniques	
MODULE-4			
18	Lecture-18	Soil stabilization	3
19	Lecture-19	Use of chemical additives	
MODULE-5			
20	Lecture-20	Reinforced earth	4
21	Lecture-21	Concept, Materials	
22	Lecture-22	Application and design	
23	Lecture-23	Use of geo-synthetics and geocells in construction work	

Signature of Faculty Member

Signature of HOD

PRINCIPAL