6th Semester	RCI6D002	Ground Improvement Techniques.	L-T-P 3-0-0	3 Credits

Module – I **8 HOURS**

Introduction, Necessity of ground improvement, selection of ground improvement techniques, stabilization ofexpansive soil.

Module-II **8 HOURS**

Dewatering, Well points-Vacuum / electro osmotic methods, Analysis of seepage, Two Dimensional Flow, heattreatment, ground freezing., Analysis and design of dewatering systems.

Grouting types, Properties, Method of grouting, Ground selection and control.

Module – III **8 HOURS**

Compaction, Methods of compaction, Engineering properties of compacted soil, Field compaction and its control. dynamic compaction, Vibro flotation, Compaction piles, Consolidation, Sand drains, Preloading, Stone columns, Construction methods, Merits and demerits of various techniques

Module – IV **6 HOURS**

Soil stabilization, Use of chemical additives,

Module – V **6 HOURS**

Reinforced earth, Concept, Materials, Application and design, Use of geo-synthetics and geo-cells in construction work.

Books:

1.Grond improvement techniques by P.P.Raj, Laxmi Publications.
2.Foundation Design and Construction, M.J. Tomlinson
3. Foundation Engineering, G.A. Leonard, Tata McGraw Hill
4. Modern Geotechnical Engineering, Alam Singh, IBT Publishers
5.GeotechnicalEngineering.ShashKGulati&ManojDatta,TataMc-GrawHill

Digital Learning Resources:

Course Name	Ground Improvement Techniques - Video course
Course Link	https://nptel.ac.in/courses/105/108/105108075/
Course Instructor	Dr. G.L. Sivakumar Babu Department of Civil Engineering, IISc Bangalore