PCI7J002 GROUND IMPROVEMENT TECHNIQUES 3-0-0

Module – I

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

Module-II

Dewatering, Well points-Vaccum / electro osmatic 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

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 column, Construction methods, Merits and demerits of various techniques

Module – IV

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

Reference Books:

1. Grond improvement techniques by P.P.Raj, Laxmi Publications. 2.Foundation Design and Construction, M.J. Tomlinson

2. Foundation Engineering, G.A. Leonard, Tata McGraw Hill

3. Modern Geotechnical Engineering, Alam Singh, IBT Publishers

4.GeotechnicalEngineering.ShashKGulhati&ManojDatta,TataMc-GrawHil