

## PECI 5411 **GROUND IMPROVEMENT TECHNIQUES** (3-0-0)

### **Module – I**

Introduction, Necessity of ground improvement, Dewatering, methods, Analysis and design of dewatering systems.

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

### **Module – II**

Compaction, Methods of compaction, Engineering properties of compacted soil, Field compaction and its control.

### **Module – III**

Soil stabilization, Use of chemical additives, Stone columns, Principle, design and method of installation. Reinforced earth, Concept, Materials, Application and design, Use of geosynthetics and geo-cells in construction work.

### **Reference Books:**

1. Ground 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\