

11. Ground Improvement Techniques (Cr = 04)

Principles of ground improvement. Mechanical modification, properties of compacted soil, compaction control tests. Hydraulic modification, dewatering systems, filtration, drainage and seepage control with geosynthetics, preloading and vertical drains, Electri-kinetic dewatering, chemical modification. Modification by admixtures, stabilization using industrial wastes, grouting, modification by inclusion and confinement, soil reinforcement, flexible geosynthetic sheet reinforcement, anchorage. Reinforcement techniques, bearing capacity improvement, slope stability, retaining walls and pavements.

References

1. Hausmann, M.R., *Engineering Principles of Ground Modification*, McGraw Hill, 1990.
2. Jones, C.J.E.P., *Reinforcement and Soil Structures*, Butterworth Publications, 1996.
3. Koerner, R.M., *Designing with Geosynthetics*, Prentice Hall Inc. 1998.