

Code No: M0130

R07

Set No.1

IV B.Tech. I Semester Regular Examinations, November, 2011
GROUND IMPROVEMENT TECHNIQUES
(Civil Engineering)

Time: 3 Hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. a) Write a note on vibrocompaction technique for densification of cohesion less soils.
b) Explain the criterion for selection of fill material.
2. a) Explain how pre-loading technique is useful in improving the properties of the soil.
b) Write a note on types of grouting
3. a) Discuss the components of the reinforced earth wall with the help of neat sketch.
b) Write a note on various function of Geosynthetics.
4. a) Discuss in brief about the various properties and testing methods for Geotextile materials.
b) Explain the installations techniques of sand drains with the help of neat sketch.
5. a) Write a note on free swell method of determination of swelling pressure of soils.
b) Explain the factors affecting the cement stabilized soils.
6. a) Explain how Rothfutch's graphical method is used for proportioning the materials.
b) Explain the design procedure of soil-lime stabilization.
7. a) Briefly discuss the factors affecting the mechanical stabilization.
b) Write a note on lime – soil reactions.
8. Write short notes on the following
 - a) Construction methods of soil stabilization
 - b) Lime-fly ash Stabilization
 - c) Field Compaction

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Set No.2

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GROUND IMPROVEMENT TECHNIQUES
(Civil Engineering)

Time: 3 Hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. a) Write a note on deep well drainage technique for densification of soils.
b) Explain how electro-osmosis technique is effective in improving the behavior of expansive soils
2. a) Write a note on stage grouting.
b) Write a note on stabilization by cooling.
3. a) Explain how the stone columns are installed by Ramming technique with the help of neat sketch.
b) Describe the theory related to lime columns along with the applications.
4. a) Write a note on different applications of Grouting with the help of neat sketches.
b) Write a note on post grout test.
5. a) Write a note on factors affecting mechanical stabilization.
b) Explain how soil-bitumen mix is designed.
6. a) Write a note on method of blasting for densification of cohesion less soils.
b) Explain the design procedure of soil-cement stabilization.
7. a) Briefly discuss the applications of geosynthetics.
b) Write a note on tests for identification of expansive soils.
8. Write short notes on the following
 - a) Under Reamed Piles
 - b) Reinforced Earth with principles
 - c) Calcium Chloride – Sodium Silicate Stabilization

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Set No.3

IV B.Tech. I Semester Regular Examinations, November, 2011
GROUND IMPROVEMENT TECHNIQUES
(Civil Engineering)

Time: 3 Hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. a) Write a note on vacuum dewatering.
b) Explain the criterion for selection of fill material.
2. a) Explain how pre-wetting technique is useful in improving the properties of the soil.
b) Write a note on compaction control.
3. a) Write a note on properties of Geotextile.
b) Discuss the design steps of the reinforced earth wall.
4. a) Explain how the stone columns are installed using vibro-flotation technique.
b) Describe the theory related to lime slurry pressure injection.
5. a) Write a note on problems of expansive soils and remedies.
b) Explain the factors affecting the mechanical stabilized soils.
6. a) Explain how Rothfutch's graphical method is used for proportioning the materials.
b) Explain the design procedure of soil-lime stabilization.
7. a) Briefly discuss the factors affecting the calcium chloride stabilization.
b) Write a note on lime soil reactions.
8. Write short notes on the following
 - a) Differential free swell
 - b) Gypsum stabilization
 - c) Hydraulic Functioning in Soil.

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Set No.4

IV B.Tech. I Semester Regular Examinations, November, 2011
GROUND IMPROVEMENT TECHNIQUES
(Civil Engineering)

Time: 3 Hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. a) Explain how multi stage well point system is effective in improving the behavior of expansive soils
b) Write a note on methods of field compaction.
2. a) Explain how sand drains are effective in improving the properties of the soil.
b) Write a note on Applications of grouting
3. a) Write a note on various functions of Geosynthetics with the help of neat sketches.
b) Discuss the components of the reinforced earth wall.
4. a) Discuss how stone columns are effective in improving the properties of expansive soil.
b) Explain the soil replacement technique used for improving the problematic soils.
5. a) Write a note on problems of expansive of soils.
b) Explain the factors affecting the cement stabilized soils.
6. a) Explain how sand wicks are effective in the stabilization of soils.
b) Explain the design procedure of soil- cement stabilization.
7. a) Briefly discuss the IS method of determination of swell pressure of soils.
b) Write a note on post grout test.
8. Write short notes on the following
 - a) Under reamed piles
 - b) Thermal stabilisation
 - c) Geodrains