

Code: 9A01804

**R09**

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations June/July 2016

**GROUND IMPROVEMENT TECHNIQUES**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 Explain the methods of dewatering by single stage and multi stage well point operations.
- 2 (a) Explain the method of grouting from bottom.  
(b) What are the objectives of grouting?
- 3 Explain the densification method in granular soils by vibration at the ground surface and at depth.
- 4 (a) Explain the installation and working of sand drains with neat sketch.  
(b) What are the different thermal methods of densification of cohesive soils?
- 5 Explain the methods of stabilization by cement and bituminous stabilization.
- 6 (a) Explain in detail the components of reinforced earth.  
(b) What are the factors governing the design of reinforced earth walls?
- 7 (a) Explain the functions and applications of geomembranes.  
(b) What are geogrids? Explain in brief.
- 8 (a) Explain any one method of determination of swell pressure.  
(b) What are the problems of expansive soils?

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