

Code No: **R41016**

**R10**

**Set No. 1**

**IV B.Tech I Semester Supplementary Examinations, March - 2017**

**GROUND IMPROVEMENT TECHNIQUES**

**(Civil Engineering)**

**Time: 3 hours**

**Max. Marks: 75**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. a) Describe with neat sketches about the dewatering by Eductor System? What are the advantages and disadvantages?  
b) Describe with neat sketches about the dewatering by Sumps and Ditches? What are its advantages and disadvantages?
2. a) What are the different types of Grouts available and what are its properties?  
b) What is the role of grouting in ground improvement?  
c) Distinguish between suspension grouts and solution grout.
3. a) Explain the ground modification by heavy tamping.  
b) Explain the Impact at the ground surface method of densification and also list out its advantages and disadvantages.
4. a) Compare the working of sand drains and sand witch geo-drains in ground improvement.  
b) Explain the preloading method and also list out its advantages and disadvantages.
5. a) Explain the phenomenon of soil bitumen stabilization.  
b) What are the different types of limes? Discuss the various factors that affect the soil lime stabilization.
6. a) Explain the advantages and disadvantages of reinforced earth walls over the traditional retaining walls.  
b) Explain the various modes of failure of a reinforced earth walls and the methods of calculating the factors of safety against them.
7. a) Explain the principle behind the use of Geotextiles as separator between Granular soil and soft clay.  
b) Describe the different forms of Geogrids and state their functions in the stabilization of soils.
8. a) What are the engineering tests usually conducted to evaluate the swelling potential of an expansive soil? Discuss any one in detail.  
b) Discuss the principle and functioning of under-reamed piles.