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	7E4037	
	B.Tech. VII Semester (Main/Back) Examination - 2013	
	Civil Engg.	
7CE6.2 Ground Improvement Techniques		

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **five** questions, selecting **one** question from each **unit**. All questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)*

Unit - I

1. a) State and discuss different types of transported soil. (8)
- b) Discuss collapsible soil with sketch. What do you mean by active zone in expansive soil? (8)

OR

1. a) Discuss objectives of ground improvement. (8)
- b) Discuss different types of rollers for field compaction and their suitability. (8)

Unit - II

2. Discuss with sketch vibro compaction method of compaction of granular soil. (16)

OR

2. Discuss with sketch, Dynamic method of compaction of granular soil and fine grained soil. (16)

Unit - III

3. a) What do you mean by Preloading? What are different types of drains used in Precompression? (8)
- b) How will you determine time period 't' of loading if additional surcharge to be loaded is given? (8)

OR

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(1)

[Contd....]

3. a) What do you mean by rate of consolidation? How it is determined? (8)
 b) Discuss design principles of stone column. (8)

Unit - IV

4. What are different methods of grouting? Explain them. (16)

OR

4. Check the reinforced earth wall shown in fig-1 for stability against

- a) sliding
 b) Overturning and
 c) bearing failure. (16)

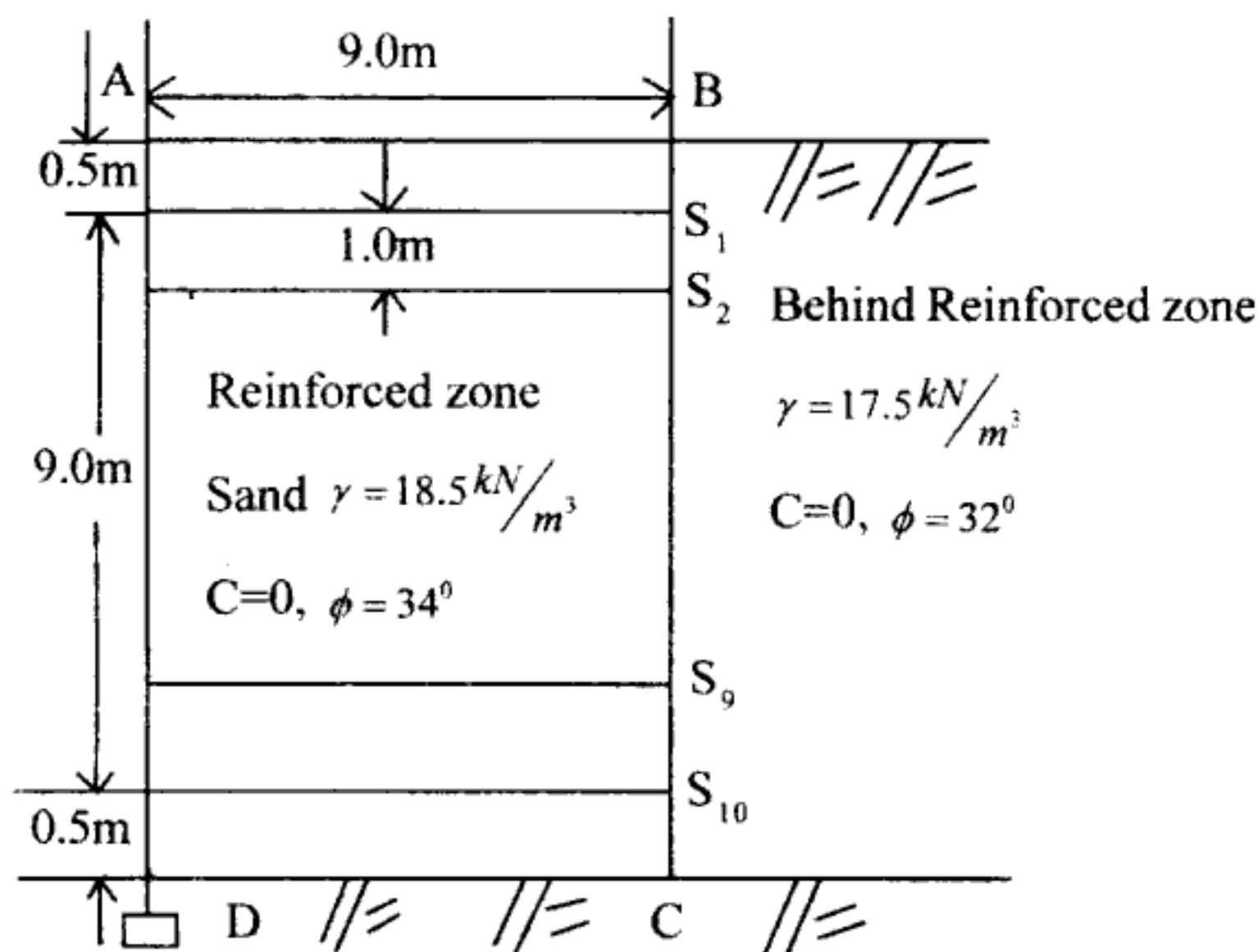


Fig.1

Unit - V

5. a) What do you mean by Base Exchange? Explain with example. (8)
 b) Discuss design of foundation on lime column. (8)

OR

5. a) What are different methods of soil-bitumen stabilization? Explain them. (8)
 b) Discuss soil-cement stabilization in brief. (8)