



ROLL NO:

**PRESIDENCY UNIVERSITY, BENGALURU**  
**SCHOOL OF ENGINEERING**

Weightage: 20 %

Max Marks: 40

Max Time: 1 hr.

Tuesday, 25 September, 2018

**TEST – 1**

Odd Semester 2018-19      **Course: CIV 302 Ground Improvement Techniques**

V Sem. Civil

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**Instruction:**

- (i) Read the question properly and answer accordingly.
  - (ii) Question paper consists of 3 parts.
  - (iii) Scientific and Non-programmable calculators are permitted.
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**Part A**

(3 Q x 4 M = 12 Marks)

1. Describe the need for ground improvement.
2. List the factors to be considered for selection of ground improvement methods?
3. What are the disadvantages of compaction by blasting?

**Part B**

(2 Q x 8 M = 16 Marks)

4. Describe the problems associated with the given soils:
  - a) Expansive soils
  - b) Collapsible soils
  - c) Soft and sensitive soils
  - d) Liquefaction soils due to earthquake

5. Write short notes on the following:

- a) Heavy tamping
- b) Vibratory probe

**Part C**

(1Q x 12 M = 12 Marks)

6. What is dewatering? Explain open well dewatering and well point dewatering methods with neat sketches.



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TEST 2

Odd Semester: 2018-19

Course Code: CIV 302

Course Name: Ground Improvement Techniques

Branch & Sem: CIV & V Sem

Date: 28 November 2018

Time: 1 Hour

Max Marks: 40

Weightage: 20%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts
- (iii) Scientific and Non-programmable calculators are permitted

**Part A**

Answer **all** the Questions. **Each** question carries **four** marks.

(3x4=12)

1. Write a short note on the need for groundwater and seepage control management.
2. What is grouting? Name the different types of grouts.
3. Write a short note on foundation drain.

**Part B**

Answer **all** the Questions. **Each** question carries **eight** marks.

(2x8=16)

4. Discuss briefly the mechanism of electro-kinetic stabilization with a neat sketch.
5. Describe the factors influencing cement stabilization?

**Part C**

Answer the Question. Question carries **twelve** marks.

(1x12=12)

6. Discuss with a neat sketch the method of soil stabilization by Conventional Preloading and Vacuum consolidation techniques.



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**END TERM FINAL EXAMINATION**

**Odd Semester:** 2018-19

**Course Code:** CIV 302

**Course Name:** Ground Improvement Techniques

**Programme & Sem:** CIV & V Sem

**Date:** 29 December 2018

**Time:** 2 Hours

**Max Marks:** 80

**Weightage:** 40%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

Answer **all** the Questions. **Each** question carries **five** marks.

(4Qx5M=20)

1. What are the applications of Ground Freezing technique?
2. What is a micropile and what are the advantages of micropiles?
3. What are the applications of soil nailing?
4. What is a ground anchor? What are the types of ground anchors?

**Part B**

Answer **all** the Questions. **Each** question carries **ten** marks.

(4Qx10M=40)

5. Explain the functions of Geosynthetics.
6. Briefly explain the design parameters of stone column method.
7. Explain the materials and equipment required for soil nailing.
8. Describe the applications of ground anchors with neat sketches

**Part C**

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

9. Describe ground freezing by Indirect cooling method with a neat sketch.
10. Explain the components of ground anchor with a neat sketch.