

Code No: **R164101B**

**R16**

**Set No. 1**

**IV B.Tech I Semester Advanced Supplementary Examinations, May - 2022**

**GROUND IMPROVEMENT TECHNIQUES**

**(Civil Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any FOUR questions from Part-B*

\*\*\*\*\*

**PART-A (14 Marks)**

1. a) What is the need for Ground improvement? [3]
- b) Write a short note on Ditches? [2]
- c) Importance of soil cement? [3]
- d) Who has discovered the Reinforced earth technique and when it was discovered? [2]
- e) Geo-synthetics means what? [2]
- f) Define liquefaction? [2]

**PART-B (4x14 = 56 Marks)**

2. a) Which type of rollers can be used for shallow compaction and explain them with the help of neat sketches? [7]
- b) Write clear note on pre- loading technique in stabilizing loose clay deposits? [7]
3. a) Write the importance of the Multistage well point system and also explain the procedure of conducting this system with the help of neat sketch? [7]
- b) Write clear note on Horizontal wells? [7]
4. a) Which are the factors affecting soil – cement and explain? [7]
- b) Write clear on the utilization of fly ash in civil Engineering applications? [7]
5. a) What are the advantages of using reinforced earth technique? [7]
- b) How the soils nailing technique was discovered and write the importance of this technique? [7]
6. a) What are the types and functions of Geo-textile materials? [7]
- b) Write clear note on the gabion wall technique with help of neat sketch? [7]
7. a) What are the objects of Grouting? [7]
- b) What is the principle involved in the liquefaction and also write the applications of liquefaction? [7]

