

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2022

Subject Name : Geotechnical Engineering - II

Subject Code : 4TE06GTE1

Branch: B.Tech (Civil)

Semester: 6

Date: 21/09/2022

Time: 11:00 To 02:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions: (14)**
- a) What are the uses of stability number? (1)
 - b) What is stability of slop? (1)
 - c) What are the assumptions in Rankine's theory? (1)
 - d) What is active Pressure? (1)
 - e) What is lateral Earth Pressure? (1)
 - f) What is geostatic stresses? (1)
 - g) Enlist various types of foundation. (1)
 - h) What is caisson foundation? (1)
 - i) Define Wash boring. (1)
 - j) What is subsurface investigation? (1)
 - k) What is SPT test? (1)
 - l) Define Gross bearing capacity. (1)
 - m) What is negative skin friction? (1)
 - n) Define Safe bearing capacity. (1)

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
- A** Explain Culmann's method for stability of slopes. **07**
 - B** Explain various kinds of shear failure. **07**
- Q-3 Attempt all questions (14)**
- A** Difference between active and passive earth pressure. **07**
 - B** Explain types of lateral earth pressure in details. **07**
- Q-4 Attempt all questions (14)**
- A** Derive an expression for the vertical stress at a point due to a line load. **07**
 - B** How are geostatic stresses determined? Explain. **07**



- Q-5** **Attempt all questions** **(14)**
- A** State different types of shallow foundation. Explain any one with neat sketch. **07**
- B** Explain well foundation with neat sketch and its components. **07**
- Q-6** **Attempt all questions** **(14)**
- A** What are the methods available for subsurface exploration? Explain any one in detail. **07**
- B** Write a note on geophysical methods of exploration using electrical resistivity method. **07**
- Q-7** **Attempt all questions** **(14)**
- A** Explain Terzaghi's theory for bearing capacity of soil. **07**
- B** Explain the types of settlement of foundation. **07**
- Q-8** **Attempt all questions** **(14)**
- A** Write a note on under reamed piles. **07**
- B** Explain group action of pile and efficiency of pile group. **07**

