R18 Regulation *Subject code: 2P6AB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VI Semester Regular/Supplementary Examinations, June 2022

FOUNDATION ENGINEERING

(CIVIL ENGINEERING)

Maximum Marks: 70 Date:18.06.2022 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 What are the different types of soil sampling methods.
2 Define Shallow foundation.
3 What are the different factors of safety used in stability of slopes
4 What is a stability number and its uses
5 What are the assumptions of Terzaghi's bearing capacity theory
6 Define safe bearing capacity and Allowable capacity theory
7 What are the different types of settlements occur on foundation
8 What are the advantages of raft foundation
9 A 30m diameter concrete pile is driven into a homogeneous consolidated clay deposit (c_u=40 kN/m^2, α=0.7). If the embedded length is 10m, estimate the safe load
10 What is negative skin friction

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Describe Split Spoon sampler, what is its use and also Explain any two methods of Boring used for Drilling the holes. (10M)

OR

12 Explain the need of soil exploration and also explain the procedure of plate load test. (10M)
13 How the slope is analyzed using Swedish circle method and Derive an expression for factor of safety. (10M)

OR

14 Discuss about stability of slopes of earth dams under different conditions. (10M)
15 Explain the different types of retaining walls with neat sketches. (10M)

OR

16 Explain with neat sketch different types of pile foundations. (10M)
17 Explain different types of slope failures with neat sketch. (10M)

OR

18 A 450mm wide, square in section concrete pile 10m long is driven in a deep deposit of uniform clay. Laboratory unconfined compression test gives a value of 1000kN/m^2. calculate the ultimate load capacity of the pile Take α=0.8. (10M)
19 Explain different types of wells with neat sketches. (10M)

OR

20 Explain about Negative skin friction with a neat sketch and also differentiate between Friction pile and end bearing pile. (10M)