Regulation R17 *Subject Code: 1P7AA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech IV Year I Semester Supplementary Examinations, July 2022

Foundation Engineering

(Civil Engineering)

Maximum Marks: 70 Duration: 3 hours

Part-A

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

1. What is the objective of site investigation?
2. What is mean by dilatancy?
3. Define Stability number?
4. What are the types of slip surface in a Finite slope.
5. Define Passive Earth pressure.
6. Define earth pressure at rest.
7. State the different modes of shear failure.
8. Define Bearing capacity and Ultimate bearing capacity.
9. Define negative skin friction.
10. What are the different types of well foundation?

Part-B

Answer all the questions. **(10M X 5 = 50Marks)**

11. Briefly explain with neat sketch Standard Penetration Test and the Correction to be applied to find ' N' value. [10M]

OR

12. Explain in detail the geophysical methods of soil explorations with neat sketch. [10M]
13. Explain the Swedish Circle method of Analysis of slopes. [10M]

OR

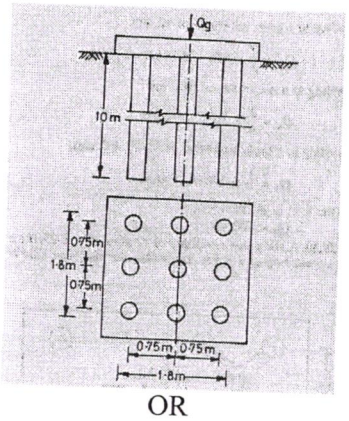
14. What are different types of slope failures? [10M]
15. Explain Rankine's theory for the cases of cohesionless backfill. [10M]

OR

16. Explain with neat sketch the culmann's method of calculating active earth Pressure. [10M]
17. a strip footing of 2m width is founded at a depth of 4m below the ground surface. Determine the net ultimate bearing capacity, using a) Terzaghi's equation, b) Skempton's equation, c) IS code. The soil is clay (ϕ = 0, c = 10 kN/m^2). The unit weight of the soil is 20 kN/m^3. [10M]

OR

18. Explain Terzaghi's bearing capacity theory. [10M]
19. A pile group consists of 9 friction piles of 30 cm diameter and 10 m length driven in clay (γ = 20 kN/m^3, c_u = 100 kN/m^2), as shown in fig. determine the safe load for the group (FS = 3, α = 0.6). [10M]



OR

20. Discuss different methods for the installation of piles. [10M]