Code No: **R1641013**

R16

Set No. 1

IV B.Tech I Semester Regular/Supplementary Examinations, Jan/Feb - 2022
GEOTECHNICAL ENGINEERING - II
(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
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PART–A *(14 Marks)*

1. a) Show different earth slopes with help of a neat sketch.   [3]
    b) Define active earth pressure.   [2]
    c) Write the importance of foundation.   [2]
    d) Define a deep foundation.   [2]
    e) Define a well foundation.   [2]
    f) Define site exploration and explain briefly.   [3]

PART–B *(4x14 = 56 Marks)*

2. a) What are the type in slope failures? Explain them with the help of neat sketch.   [7]
    b) Write clear note on Taylor's stability Number.   [7]

3. a) What are the uses of retaining walls in-connection with earth pressure theories.   [7]
    b) Describe the Rankine's lateral earth pressure theory for active and passive earth   [7]
        pressure conditions with the help of neat sketches.

4. a) Show the different types of foundations with the help of neat sketches.   [7]
    b) Determine the ultimate bearing capacity of a strip footing of 1.30m wide and with   [7]
        the depth of footing is 1.20m. Use Terzaghi's theory and assume general shear
        failure. Take $\Phi' = 32^0$, $C' = 15$ kN/m^2, $\gamma = 17$ kN/m^3

5. a) Which factors are influencing the pile foundations? Explain the requirements for   [7]
        providing the pile foundation.
    b) Write the procedure for calculating load capacity of piles based on static pile   [7]
        formulae.

6. a) Show and explain various components of well foundation with the help a neat   [7]
        sketch?
    b) What are the different shapes of wells? Explain briefly.   [7]

7. a) What are the different types of soil samples collected from the field during subsoil   [7]
        investigation? Explain briefly.
    b) Write the importance and procedure involved in plate load test with the help of a   [7]
        neat sketch.