Q.P. Code: 19CE0117 **R19**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular Examinations December-2021

GEOTECHNICAL ENGINEERING

(Civil Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	Explain the process of soil formation by weathering in detail		L2	12M
	OR			
2	**a**	Write short notes on Index Properties of soils.	L1	6M
	b	Explain in detail the laboratory method for particle size distribution of coarse grained soils by dry sieve analysis.	L2	6M

UNIT-II

3	Describe the Standard Proctor test and modified Proctor test to be conducted in the laboratory.		L2	12M
	OR			
4	**a**	Define preconsolidation pressure.	L2	6M
	b	Draw the graph representing preconsolidation pressure.	L2	6M

UNIT-III

5	Explain vertical stress under line load, strip load, circular load and rectangular area with neat sketch.		L1	12M
	OR			
6	Develop an expression for the vertical stress at a point due to a point load, using Boussinesq's theory.		L2	12M

UNIT-IV

7	Derive the expression for stability analysis of infinite slope of cohesive soils.		L2	12M
	OR			
8	A canal is to be excavated through a soil with c = 15 KN/m2 , Φ = 20 o , e = 0.9 and G = 2.67. The side slope is 1 in 1. The depth of the canal is 6 m. determine the factor of safety with respect to cohesion when the canal runs full. What will be the factor of safety if the canal is rapidly emptied?		L3	12M

UNIT-V

9	Describe with a neat sketch how will you carry out the wash boring method of soil exploration.		L2	12M
	OR			
10	Explain in detail how plate load Test is conducted with neat sketch.		L2	12M

*** END ***