Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: TY – B.Tech	**School of Technology**	**Department: Civil Engg.**
Course Code: CET303	**Course Title: Foundation Engineering**	**Semester : VI**
Day : Monday **Date : 21/12/2020**	**End Semester Examination**	**Time : 2 Hrs.** **Max Marks : 50**

Instructions: 1) All Questions are compulsory.
2) Assume suitable data wherever necessary

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)**–			
a)	Explain purpose for which soil exploration is carried out also discuss factors on which number and depth of bore holes depends.	8	L1	CO1
b)	Discuss the assumptions made in Terzaghi's analysis of determination of bearing capacity and discuss the factors influencing bearing capacity of soil.	8	L2	CO2
c)	A strip footing 2m wide is founded at a depth of 1.2m below GL into soft saturated clay having unit weight 19.5kN/m^3. The soil has undrained shear parameters c = 25kN/m^2 and angle of internal friction $\phi = 0^o$. Determine safe bearing capacity of the foundation. Take $N_c = 5.7$, $N_q = 1$ & $N_\gamma = 0$. Take factor of safety as 2.	8	L4	CO2
Q.2	**Answer the following (any two)** –			
a)	Explain the various factors to be considered in deciding the location and depth of shallow foundation.	9	L2	CO3
b)	Write a note on negative skin friction.	9	L2	CO3
c)	A group of 9 piles with 3 piles in a row was driven into soft clay extending from ground level to a greater depth. The diameter and length of piles were 30cm and 10m respectively. The cohesive strength of the clay is 35kN/m^2. If the piles were placed 90cm c/c, determine the allowable load on pile group on basis of shear failure criterion for a FOS = 2.5. Take Nc = 9 & $\alpha = 1$.	9		
Q.3	**Answer the following (any two)** –			
a)	Write the different types of sheet pile and their suitability.	8	L2	CO4

b)	Explain the advantages of cellular cofferdam over other types of coffer dam?	8	L2	CO4
c)	Elaborate finite and infinite slopes? Explain different types and shapes of slope failures with neat sketches.	8	L4	CO4

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