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 R1	**Course Title: Foundation Engg.**	**Semester : V**
Day: Monday **Date:05.07.2021**	**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)	What information is gathered in general exploration of soil?	8	L2	CO1
b)	Write note on types of soil samples.	8	L2	CO2
c)	A circular footing 2m dia rest on c- ϕ soil with its base at 1.2m below the ground surface. Calculate safe bearing capacity using factor of safty of 3. The soil has following properties - unit weight 16kN/m3, cohesion 15kN/m2, $\phi = 30^0$, for 30^0 take $N_c = 37.2$, $N_q = 22.5$ &N_γ=19.7.Use Terzaghis analysis.	8	L3	CO2
Q.2	**Answer the following (any two)** –			
a)	With sketches show the types of shallow foundations and their suitability.	9	L2	CO3
b)	Write a note on classification of piles and their applications.	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 are placed 1.0m c/c, compute the allowable load on pile group on basis of shear failure criterion for a FOS = 2.5. Take Ns = 9 & α = 1.	9	L4	CO3
Q.3	**Answer the following (any two)** –			
a)	Draw the cross section of well foundation and name and explain the different parts.	8	L2	CO4
b)	An embankment of 10m height is constructed in a soil having c = 20kN/m^2, Φ = 20^o and γ = 16kN/m^3. Find the factor of safety with	8	L4	CO4

respect to cohesion and also the critical height of the embankment. Assume stability number = 0.05.

c) Explain different types of cofferdams with neat sketches. 8 L2 CO4

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