Total No. of Printed Pages:02

SUBJECT CODE NO: E-321
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(Civil) Examination Nov/Dec 2017
Foundation Engineering
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Solve any three questions from each section.
ii. Draw neat Sketches whenever required.
iii. Assume suitable data if necessary and state it clearly.

SECTION-A

Q.1 a) Explain the method of site exploration. 07
b) Explain various geophysical methods with their limitations and use. 06

Q.2 a) Define the terms ultimate, net and safe bearing capacities. 07
b) What are the assumptions in Terzaghi's Analysis with their limitations? 06

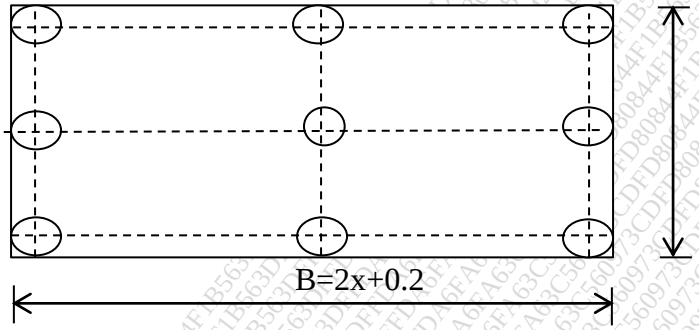
Q.3 a) What is floating foundations? Discuss. 06
b) Discuss the effect of water table on bearing capacity of soil. 07

Q.4 a) Explain types of bearing capacity failures. 06
b) Determine the depth of at which a circular footing of 2m diameter be founded to provide a factor of safety of 3, if it has to carry a safe load of 1600kN. The foundation soil has C=10kN/m^2. $\Phi = 30^0$ and unit weight =18kN/m^3.Use Terzaghi's analysis. 07

Q.5 Write short note on:
a) Consolidation Settlement 04
b) Constant Pressure 05
c) Auger Boring 05

SECTION-B

Q.6 a) 200mm diameter, 8m long piles are used as foundation for columns in a uniform deposit of medium clay (unconfined compressive strength=100kN/m^2 and adhesion factor=0.9). There are nine piles arranged in square pattern of 3x3. For a group efficiency=1.0, find the spacing between the piles. Neglect bearing. 10



b) What is tilt and shift of a well? How it is rectified? 04

Q.7 a) Discuss the design procedure of pile foundation. 07

b) Explain difference between friction pile, and bearing pile and under reamed piles. 06

Q.8 a) State and explain various methods of dewatering of the foundations. 06

b) Describe the procedure for construction of foundation for tower and tank. 07

Q.9 a) Write a note on pumping and sealing of bottom of cofferdam. 06

b) Compare diaphragm cellular cofferdam and circular cofferdams. 05

c) What is cofferdams? 02

Q.10 Write short note on:

a) Negative skin friction 05

b) Box caisson 04

c) Scour depth 04