

SUBJECT CODE:- 332
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(Civil) Examination Nov/Dec 2015
Foundation Engineering
(Revised)

[Time: Three Hours]

[Max. Marks: 80]

“Please check whether you have got the right question paper.”

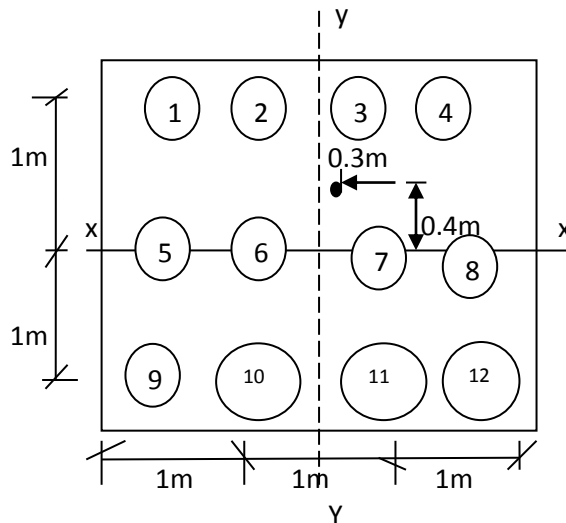
- N.B i) Q.1 and Q. 6 are compulsory.
 ii) Solve any two questions from remaining questions from section A and Section B.
 iii) Assume suitable data wherever necessary and state it clearly.

Section A

- Q.1 A footing 2m square is laid at a depth of 1.30m below ground surface. Determine the ultimate bearing capacity using Terzaghi's equation. Take $r=20 \text{ KN/m}^3$, $\phi = 30^\circ$ and $c'=0$. Use $N_c=30.14$, $N_q=18.40$, $N_r=22.40$. 10
- Q.2 a) Discuss in detail the stages in sub- surface explanation 07
- b) Discuss consolidation settlement of foundation 08
- Q.3 a) List out various boring methods and explain wash boring in detail. 08
- b) What are the causes of settlement of foundation? Discuss their control measures also. 07
- Q.4 a) With the help of neat sketch, explain plate load test: its procedure and limitations. 08
- b) What is combined footing? Write down the design steps for the design of rectangular combined footing. 07
- Q.5 a) What is the effect of water table on bearing capacity of soil? Discuss different cases with neat sketches. 08
- b) Write a short note on modulus of sub grade reaction. 07

SECTION-B

- Q.6 A pile group consisting of 12 piles as shown in figure below is subjected to a total load of 4MN, with eccentricity $e_x=0.30\text{m}$, $e_y=0.4\text{m}$, determine the maximum load in an individual pile. 10



Q.7	a) Explain group of piles	07
	b) What are the various forces acting on well? Explain in detail.	08
Q.8	a) Draw neat sketches explaining different types of caissons along with their suitability	08
	b) What do you understand 'Foundations on difficult soils' explain with examples?	07
Q.9	a) What are sheet piers? Explain sheet pile walling	08
	b) Explain the constructing of double wall cofferdam	07
Q.10	a) Write a note on under reamed pits.	08
	b) Write a note on pumping and seating of bottom of cofferdams.	07