Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MVSE-301(B)

M.E./M.Tech., III Semester

Examination, November 2018

Advance Foundation Engineering

(Elective-I)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carries equal marks.
iii) Assuming missing data suitably.

1. a) Explain the different types of Coffer dam and write the advantages of Coffer dam. 7
   b) Discuss the stability analysis of Coffer dam. 7

2. a) Describe the various types of soil samples. 7
   b) Discuss boring methods. Write the bore Log report for soil investigation. 7

3. a) Determine the ultimate bearing capacity of a strip footing 1.2m wide, and having depth of foundation of 1m. Use Terzaghi's theory and assume general shear failure. Take $\Phi' = 35°$, $\gamma = 18$ kN/m^3 and c' = 15 kN/m^2, $N_c = 57.8$, $N_q = 41.4$ and $N_\gamma = 42.4$. 8
   b) Discuss the eccentrically loaded foundation. 6

4. a) Explain the Standard penetration test. 10
   b) Discuss plate bearing test. What are its limitations? 4

5. a) What is Negative skin friction in cohesive soil? What are the effects of Negative skin friction? 7
   b) A precast concrete pile of size 50cm × 50cm is driven into stiff clay. The unconfined compressive strength of the clay is 200 kN/m^2. Determine the length of pile to carry a safe working load of 400kN with FS = 2.5. 7

6. a) Describe the various types of piles and their uses. 7
   b) Explain the ultimate bearing capacity of pile groups. 7

7. a) How the design of a cellular Coffer dam on rock differ from that on a soil bed? 8
   b) Write about Interlock stresses in Coffer dam. 6

8. a) Explain the design criteria for foundation of reciprocating machines. 7
   b) Discuss theory of linear weightless spring and equivalent soil springs. 7

******