

This question paper contains 1 printed pages.

3063

Your Roll No.....

MEC  
Paper – CE.604  
**FOUNDATION ENGINEERING**

J

Time : 3 hours

Maximum Marks : 100

(Write your Roll No. on the top immediately on receipt of this question paper)  
Attempt any **five** questions. All questions carry equal marks.

1. What are the design criteria for a dynamically loaded foundation? Define the concept of equivalent mass and effective damping for the lumped approach of design. **20**
2. What is the dynamic shear modulus of a soil? What are the various factors on which it depends? How is it determined experimentally? **20**
3. How you estimate a) bearing capacity on rocks based on RQD and b) socket length when pile capacity is presumed from tip resistance only. **20**
4. Compare the settlement of a pile groups estimated in sand and clay? **20**
5. Compare Nordlund, Navdock, and Benebenq equation to find ultimate capacity? What is the effect of extent of failure on bearing capacity factor  $N_c$  and  $N_q$ . **20**
6. What are various methods of soil investigations? With the help of neat figures explain working of a penetration test and various sources of errors in it. Why various corrections are applied to it? **20**
7. What is the principle for evaluation of bearing capacity of a soil? What are the considerations affecting estimation of bearing capacity factors of a soil? **20**
8. Write notes on a) The simplified liquefaction evaluation procedure b) Seismic methods of soil investigation. **20**