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CODE NO:- Z-103
FACULTY OF ENGINEERING
B.E (Civil) Year Examination - June – 2015
Foundation Engineering
(Revised)

[Time: Three Hours]

[Max. Marks:80]

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

- i) Q. no 1 and Q. no 6 are compulsory.
- ii) Solve any two questions from remaining Questions from section A and section B each
- iii) Assume suitable data wherever necessary and state it clearly.

SECTION-A

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|-----|---|----|
| Q.1 | a) What are the objectives of site investigation's in soil exploration program. | 05 |
| | b) State the formula used in determining bearing capacity from field test using N-values and qc values. | 05 |
| Q.2 | a) Write neat sketches, explain open excavation methods of soil exploration | 08 |
| | b) Explain the effect of eccentric loading on bearing capacity of soil. | 07 |
| Q.3 | a) Design a R.C.C footing for a 1m wide concrete wall carrying a load of 800 KN/m. The allowable soil pressure is 200 KN/M ² . | 07 |
| | b) What do you understand by failure mechanism in soil? Explain modes of shear failure for shallow foundation. | 08 |
| Q.4 | a) Explain electrical resistivity method of geophysical investigation along with its limitations. | 08 |
| | b) Explain standard penetration test (SPT) in detail. | 07 |
| Q.5 | a) Write a note on proportioning of footing for equal settlement. | 08 |
| | b) What is floating foundation? What are its advantages and limitations? | 07 |

SECTION-B

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|------|--|----|
| Q.6 | Design a friction pile group to carry a load of 4500 kn including the weight of cap. The soil is uniform clay up to a 10 depth of 24m underlain by rock. The average unconfined compression strength of clay is 80 kN/m ² | |
| Q.7 | a) Explain in brief the effect of pile driving | 07 |
| | b) What is tilt and shift of a well? How it is rectified. | 08 |
| Q.8 | a) Explain various types of cofferdams with neat sketches. | 08 |
| | b) What are the characteristics of black cotton soil and how they affect the foundation resting on it. | 07 |
| Q.9 | a) What safety measures are required for caissons? Discuss. | 07 |
| | b) Explain the construction of cellular cofferdams | 08 |
| Q.10 | a) Explain in detail pile load test | 08 |
| | b) Write a note on caisson disease. | 07 |