

SHANTILAL SHAH ENGINEERING COLLEGE, BHAVNAGAR

CIVIL ENGINEERING DEPARTMENT

Building Construction Technology – (3130607)

Tutorial (ONLY FOR MODULE-1)

Subsurface Investigation

1	What is foundation? Discuss the various functions of foundation.
2	Explain the methods of improving safe bearing capacity of soil?
3	What are the various methods of sub-soil exploration? What are the factors affecting the choices of particular method of site exploration?
4	A) State the purpose of soil exploration. B) Enlist the methods of site exploration. Explain anyone in the detail.
5	Describe in brief various methods of boring for sub-soil exploration. Explain wash boring with sketch.
6	What do you understand by geophysical methods? What are the various methods used? Describe (A) Seismic method and B) Electrical resistivity method with neat sketch.

Shallow Foundation

1	What is meant by 'shallow foundation'? What are the various types of shallow foundations? Draw the sketches of it.
2	What is meant by a 'combined footing'? What are the circumstances in which a combined footing is provided? Describe with sketch.
3	What do you understand by a 'strap footing'? When do you provide it? Describe in brief with sketch.
4	Explain steel grillage foundation with all details.
5	Write causes of failure of foundation and remedial measures.
6	What are the causes of failure of foundation? What remedial measures would you adopt?

Deep Foundation

1	Discuss the main factors (points) affecting selection of types of piles.
2	Classify various types of Piles based on (i) Function and (ii) Materials and composition.
3	Describe in brief the load-bearing piles.
4	Describe which sketch any two cast-in-situ concrete piles.
5	Describe giving sketch, precast concrete pile including process of casting, with their advantages and disadvantages.
6	Explain the important and necessity of pile cap and pile shoes giving sketch.

Caissons

1	Define caissons. What are the functions or uses of caissons?
2	What are the factors to be considered, while making choice between cofferdam and caisson?
3	Describe the various construction materials used for caissons.
4	Describe box caissons giving neat sketch. In which situations box caissons are adopted?
5	Describe the construction procedure of open caissons (well foundation), giving neat sketch. In which situations they are used?
6	What is pneumatic caisson? Where is it adopted? Describe the procedure for sinking, giving advantages and disadvantages.

*NOTE:

-TUTORIAL MUST BE WRITE IN SINGLE SIDE & SAME FILE PAGE ONLY.