



FOUNDATION ENGINEERING



SUB CODE: 2645 I

TOPIC: UNDERSTAND THE FOUNDATION, FOUNDATION
ENGINEERING AND THE FACTORS
DETERMINING TYPES OF FOUNDATION

semester: 5th

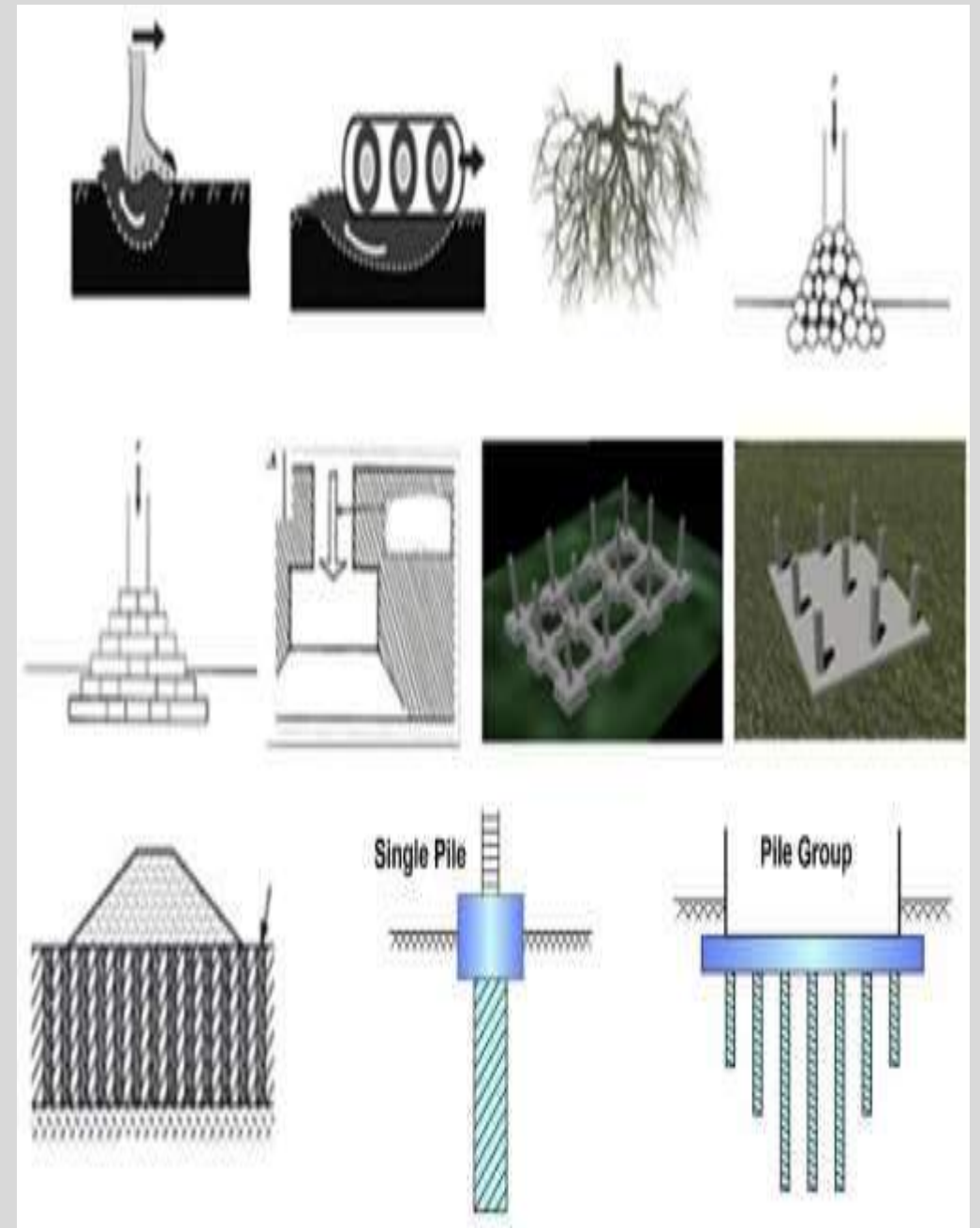
Civil Technology

Rangpur Polytechnic Institute, Rangpur

Prepared by Forhad Kobi Tarek

THE MEANING OF FOUNDATION AND FOUNDATION ENGINEERING.

Foundation engineering is a branch of geotechnical engineering which applies soil mechanics, structural engineering, and project serviceability requirements for design and construction of foundations for onshore, offshore, and in-land structures.





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THE REQUIREMENTS OF A SATISFACTORY FOUNDATION.

Those requirements are the following:

- Settlement. Settlement is defined as the vertical movement of the ground which is caused by stress alterations.
- Vibration.
- Lateral displacement.
- Ground heave.
- Tilt.
- Durability.





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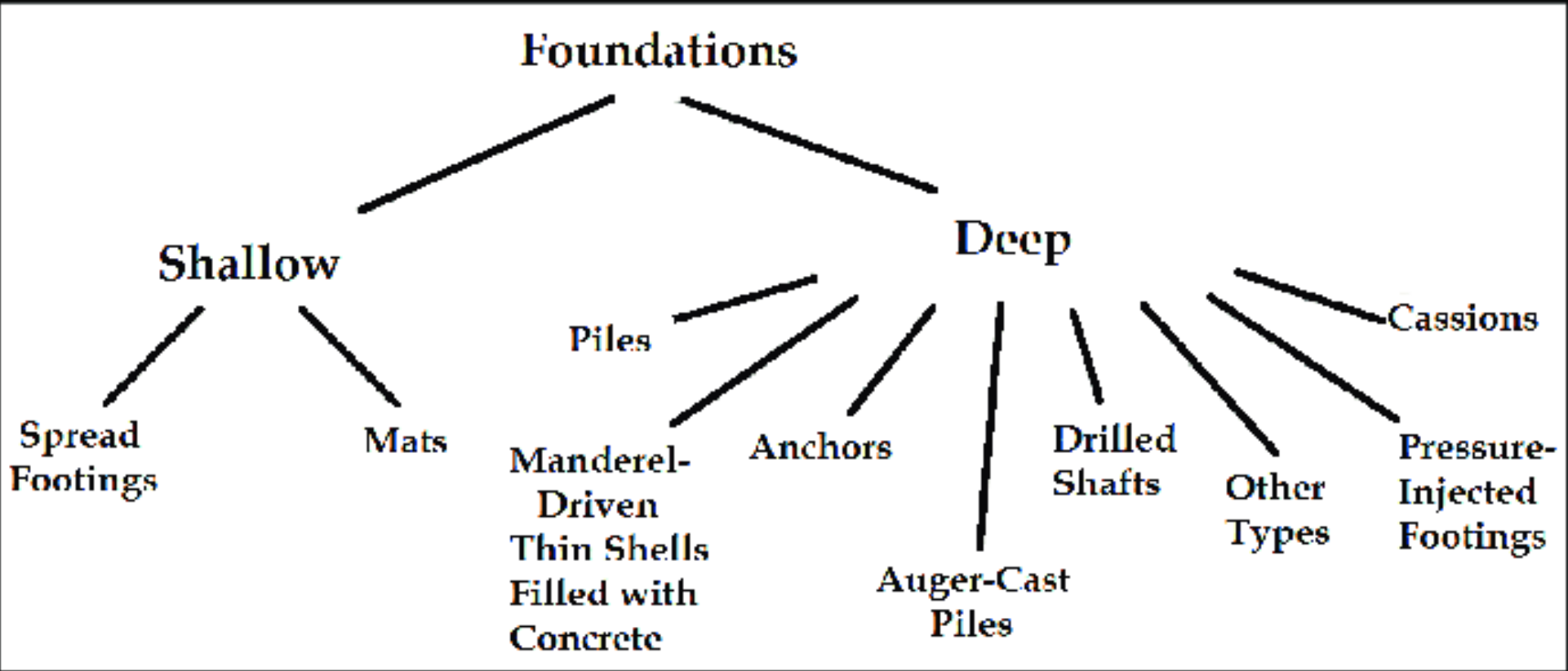
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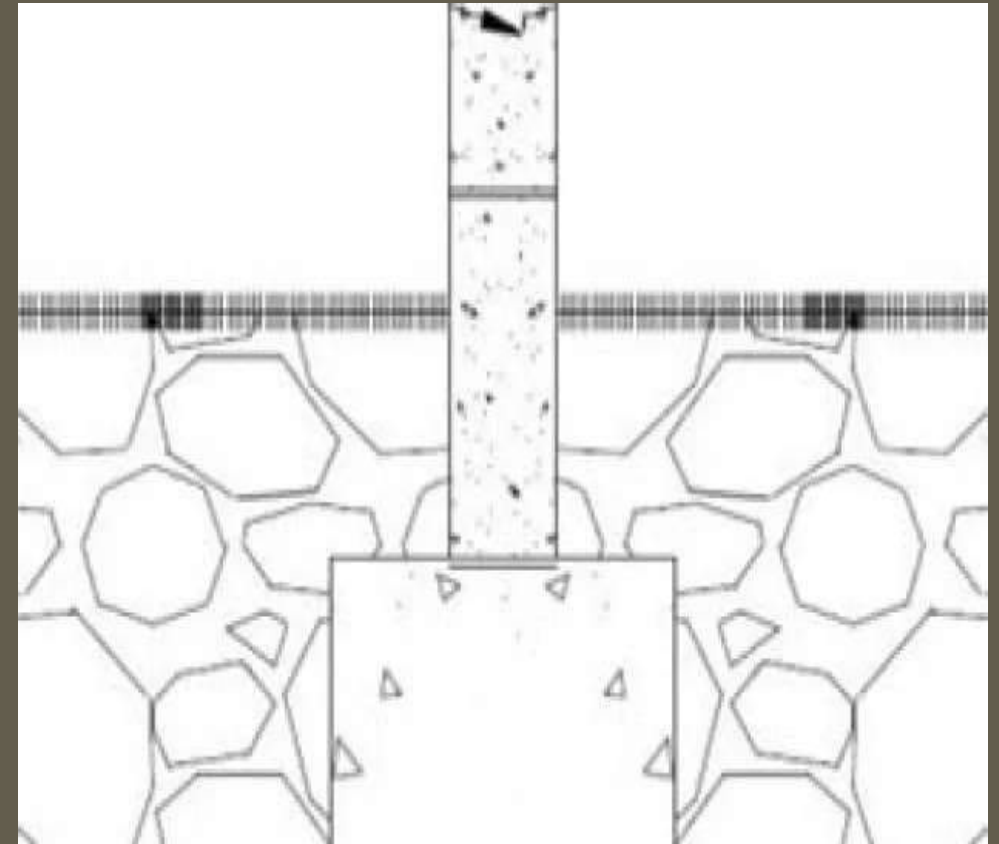
THE CLASSIFICATION OF FOUNDATION



THE FACTORS GOVERNING THE DEPTH OF FOUNDATION.

General factors to be considered for determining depth of foundation are:

- Load applied from structure to the foundation.
- Bearing capacity of soil.
- Depth of water level below the ground surface.
- Types of soil and depth of layers in case of layered soil.
- Depth of adjacent foundation.





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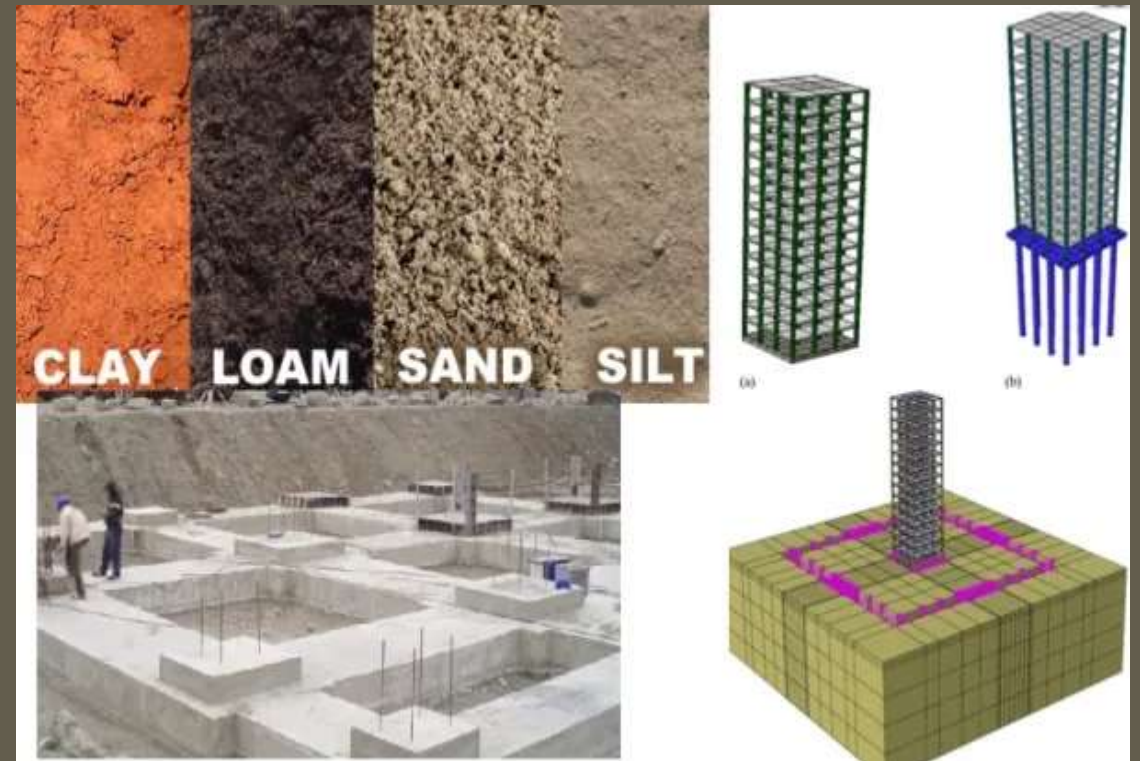
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THE STEPS IN CHOOSING TYPES OF FOUNDATION

Foundation Selection Criteria for Buildings

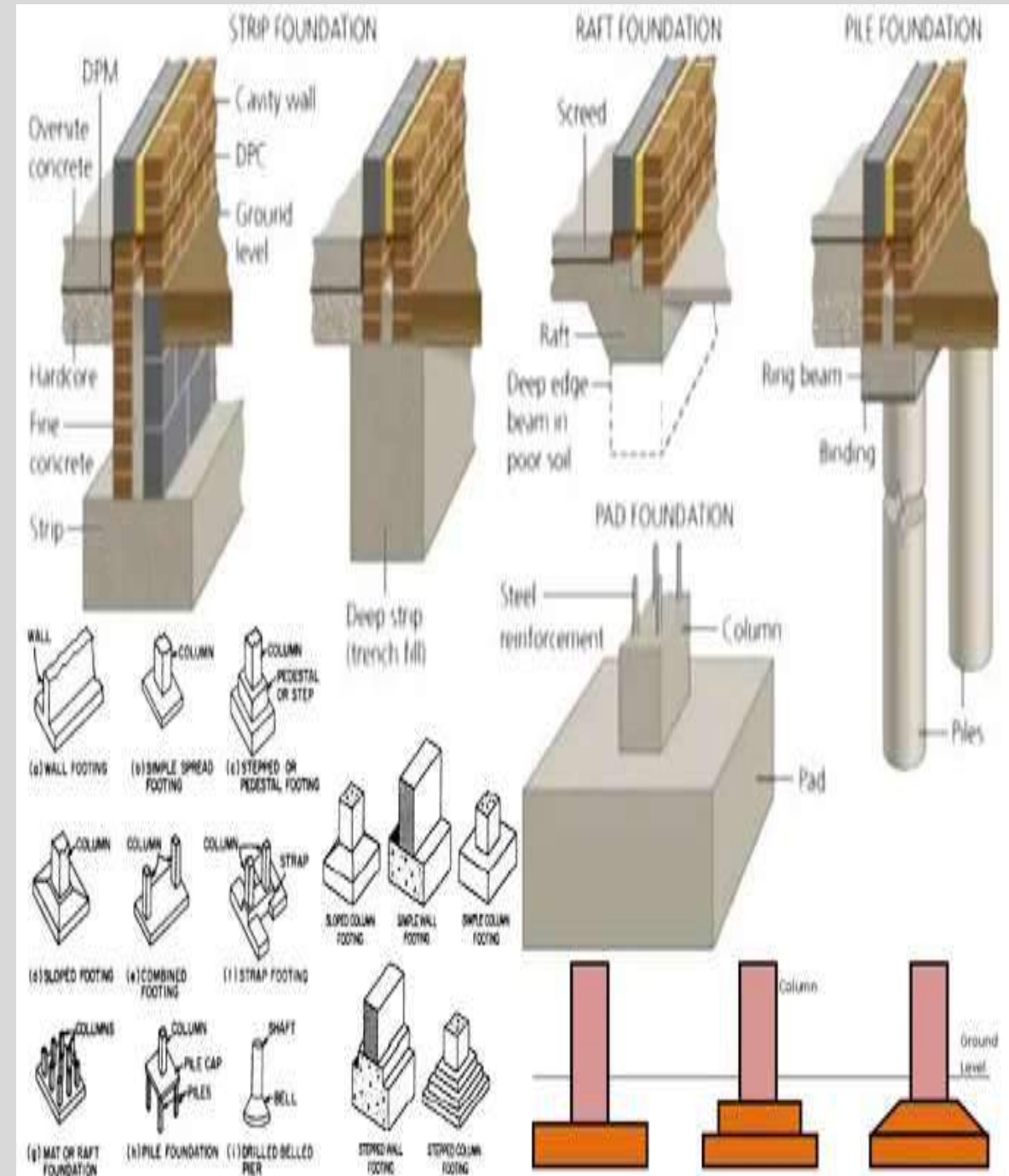
- 1.Loads of Structure.
- 2.Soil Bearing Capacity.
- 3.Soil Types.
- 4.Ease of Construction.
- 5.Water Table Level.
- 6.Adjoining Structure/Water Bodies/Slopes.
- 7.Natural Disaster and Extreme Weather.
- 8.Economic Design.



THE DESIGN LOADS AS THE FACTORS IN CHOOSING TYPES OF FOUNDATION

There are certain factors that should be considered during the selecting the foundation.

- Type of structure.
- Type of loading pattern.
- Location of the building (region of building)
- Soil condition.
- Water table level.
- Types of material that will used in construction.
- Lifespan of structure.



THE END