

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
INDUSTRIAL AND TECHNOLOGY EDUCATION DEPARTMENT
FIRST SEMESTER EXAMINATION 2020 / 2021 SESSION
BUILDING CONSTRUCTION III ITE 331

Attempt any 4 questions. Time Allowed: Two Hours

- 1a. In the context of this course, explain soil classification and gradation.
 - b. List two major categories of exploration methods and briefly explain each.
 - c. Outline 5 uses of soil survey carried out before the commencement of building construction.
 - d. Soil survey result indicate that the location was a dump site, briefly explain what should be done before excavation of foundation.

2. Write short note on the following:
 - a. Site investigation
 - b. Ground movement
 - c. Sub-structure operations
 - d. Bearing capacity

- 3a. As a professional builder, mention 5 factors you will consider in designing/ selecting the type of foundation for a particular building.
 - b. Briefly explain how you can ensure a successful excavation of foundation in a water-logged soil.
 - c. Mention 5 types of foundation and explain each with suitable labelled sketches.
 - d. What is the full meaning of DPC? Briefly explain its relevance in building construction.

4. Write a short note on setting out of building after the preliminary activities on site using 3:4:5 method with 4a-d as a guide
 - a. State 6 operational stages in setting out.
 - b. List 6 tools that will be required in carrying out this operations.
 - c. With the aid of sketches, show the profile with the size of foundation and wall marked on it.
 - d. How can you transfer the measurement on the profile to the ground for exaction to commence on site?

- 5a. Make a sketch to show how the steel bars in a reinforced concrete beam is kept in correct position.
 - b. Mention 5 precautionary measures to be observed when bending the reinforcement bars.
 - c. Why is reinforcement bars bent at the ends when used in reinforced concrete lintel and slab.
 - d. Itemize 5 information you are likely to find in the bar bending schedule of a reinforced concrete element.