FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF ENVIRONMENTAL TECHNOLOGY
DEPARTMENT OF QUANTITY SURVEYING

SECOND SEMESTER EXAMINATION 2018/2019 SESSION

COURSE CODE: *QTS 322* **COURSE TITLE**: *CONSTRUCTION TECHNOLOGY IV*

TIME ALLOWED: *2 1/2 Hours* **CREDIT LOAD**: *3 Units*

INSTRUCTION: *Answer Question One (1) and any other Three (3) Questions*

Question One (1)

Discuss site investigation base on the following headings:

i. New work/project,
ii. Failure/defect of existing works,
iii. Safety of existing works/project, and
iv. Suitability/availability of construction materials. *[20 Marks]*

Question Two (2)

a) Highlights the objectives of site investigation
b) Diagrammatically illustrate the following methods of sub-surface investigation;
   i. Plate bearing test,
   ii. Headings,
   iii. Sounding test, and
   iv. Vane test. *[20 Marks]*

Question Three (3)

a).Graphically illustrate the following types of Pile Foundations
   i. replacement piles
   ii. displacement piles

b). illustrate the following types of Basement construction;
   i. Retaining Wall and Raft Basement
   ii. Box and Cellular Raft Basement
   iii. Pile Basement *[20 Marks]*

Question Four (4)

Diagrammatically illustrate the construction of the following insitu RC suspended floors:

i. One-way spanning slab
ii. Two-way spanning slab
iii. One-way spanning ribbed or troughed floor
iv. Two-way spanning coffered or waffle floor *[20 Marks]*

Question Five (5)

With the aid of well label diagram, illustrates the following types of Foundation:

i. Traditional Strip
ii. Deep Strip or Trench Fill
iii. Solid Slab Raft
iv. Isolated Pad
v. Combined Pad. *[20 Marks]*

Question Six (6)

a). With aid of a well label diagram show a typical ***Cantilever Retaining Wall***

b).i- List four (4) types of Multi-Storey Structures.
ii- Diagrammatically illustrate any Two (2) of the Multi-storey structures listed in (bi) above.
[20 Marks]