FEDERAL UNIVERSITY OF TECHNOLOGY

SCHOOL OF ENVIRONMENTAL TECHNOLOGY, MINNA

DEPARTMENT OF ARCHITECTURE

SECOND SEMESTER EXAMINATION

Session: 2016/2017

Head of Department: Dr. Philip Ayuba

Course Code: Arc 323

Course Title: Construction Technology III

Duration: 2 hours

Instruction: Answer question 1 and any other 2 Questions

QUESTION 1

i. Using a well labelled cross-section of a single bay, describe a steel portal frame
ii. Outline at least 10 advantages in the use of portal frames for construction
iii. What is a frame structure in building construction?
iv. With the aid of sketches, describe the two types of frame structures in building construction

QUESTION 2

i. Describe pre-stressed concrete and the two types of pre-stressed concrete
ii. What are the characteristics of a good concrete aggregate?
iii. Using a simply supported beam, explain the character of reinforced concrete beam
iv. Explain the term "curing" in concrete.

QUESTION 3

i. What is a "roof cover" in building construction?
ii. Outline 5 primary functions of roof cover in buildings
iii. With the aid of sketch(es), give the detail annotations of corrugated roofing sheets and the importance of such details in building construction
iv. Outline factors that can lead to the deformation of concrete.

QUESTION 4

i. What is a flat slab in building construction?
ii. Outline 5 advantages of a flat slab
iii. Using sketches, outline the four types of flat slabs in building construction
iv. Outline the differences between one-way slab and two-way slab using a table.