



# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

BUILDING CONSTRUCTION IV

AAR 3208

Supplementary Examination Paper

July 2017

This examination paper consists of 2 pages

Time Allowed: 4 hours

Total Marks: 100

Special Requirements: A1 Drawing Boards & Stool. A1 Paper & Masking tape.

Examiner's Name: Munaku E.

## INSTRUCTIONS

1. Answer all questions. Question 1 to be answered on A1 sheet(s) of paper provided.
2. Use of calculators is permissible

## MARK ALLOCATION

| QUESTION     | MARKS      |
|--------------|------------|
| 1.           | 50         |
| 2.           | 25         |
| 3.           | 25         |
| <b>TOTAL</b> | <b>100</b> |

### QUESTION 1

Draw a structural plan of a typical nine story building with basement (R.Conc) measuring 24m x 12m. It has a centrally located aisle of 1,2m and columns on 6m x 6m grid. The building is to have a parapet wall around the roof which is a flat slab. Draw the following details at an appropriate scale,

- i. Hollow block floor with a suspended recessed ceiling with acoustic tiles of your specification. [15]
- ii. Acoustic partitions. [10]
- iii. Concrete cladding panels [10]
- iv. Flat roof with mastic asphalt waterproofing. [15]

### QUESTION 2

- i. Define pavement and outline the three main purposes it performs. [5]
- ii. Use a well labelled sketch to illustrate the two types of pavements [10]
- iii. Use sketches to explain the purpose of the following in pavement construction:
  - a. Longitudinal joints
  - b. Expansion joints [5]
- iv. Explain the causes of pavement deterioration. [5]

### QUESTION 3

1. Draw typical details of the following
  - a. Simple composite retaining wall (brick and concrete) [6]
  - b. Subsoil drain (French drain) [7]
  - c. Suspended aluminium linear ceiling [6]
  - d. Glass curtain wall [6]