NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

PART II END OF FIRST SEMESTER EXAMINATIONS – JANUARY 2013
AAR 2102– BUILDING CONSTRUCTION I

Instructions **Time: 4 Hours**

Answer all questions
Question 1 should be answered on an A1 sheet of paper.
Draw clearly labeled diagrams

QUESTION1

a) Draw a typical section (through a door on ground floor and a window on first floor level on one side) of a double storied masonry residential structure on good soils under concrete tiles with a clear distance between thebrick outer walls being 7 meters and include the following components among others. Use a scale of 1:25 and a floor to floor height of 3m.

Foundations,apron,natural ground level, gutter and rain water down pipe, fascia board, and all the necessary dimensions and notes possible.

[35 marks]

QUESTION 2

a) Identify and elaborate 5 factors that are considered for the site selection for each of the following.

i. Commercial Building
ii. Residential Building **(10)**

b) Working drawings are the drawings used for the actual execution of the works; Name five types of drawings found under this category and describe them. **(5)**

c) As site works are progressing, the site has to be secured and this can be done by erecting a fence around the site, hoarding units on the street sides of the site and the use of scaffold sheeting and netting.

i. Draw a typical vertical section of a hoarding unit and give the necessary dimensions and sizes.**(5)**

ii. Explain the purpose of scaffold sheeting and netting. **(5)**

[25 marks]

QUESTION 3

a)State any three other professionals involved in the building industry besides the architect and clearly explain their roles. **(6)**

b) (i) Explain and illustrate with aid of diagrams the setting out of a square building using the builder's square and the profile boards.
(7)

(ii)Draw a diagram to show a typical corner profile board.
(2)

c) i)Explainwhy soil tests are conducted on a construction site**(3)**

i) Identify any two soil exploration methods and give a disadvantage for each **(2)**

[20 marks]

QUESTION 4

a) Define a foundation and state the functional requirements of a foundation? **(6)**

ii) Mention any five factors to be considered to determine the foundation type to be used for any particular building. **(5)**

b) With the aid of a diagram illustrate the difference between a spread footing and a pad footing, and where would each of these will be used? **(6)**

c)Give an example of a under deep foundations?
illustrating under which circumstances they could be used.
(3)

[20 marks]