

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF ARCHITECTURE AND QUANTITY SURVEYING**

**DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE**

**PART II END OF FIRST SEMESTER EXAMINATIONS – DECEMBER 2005
AAR 2102/AQS – BUILDING CONSTRUCTION I**

Instructions

Time: 3 Hours

*Answer all questions
Each question carries 20 marks
Draw clearly labeled diagrams*

QUESTION 1

- a) Give any four factors to be considered during the site acquisition process and elaborate. **[8marks]**
- b) Name and explain any five architectural drawings used on site for the execution of work. **[5marks]**
- c) Mention any four other professionals involved in the building industry besides the architect and clearly explain their roles. **[4marks]**
- d) During preliminary site works the site has to be secured and this can be done by erecting a fence around the site or hoarding units on the street sides of the site
- i. Draw a vertical section of a hoarding unit and give the necessary dimensions and sizes. **[5marks]**
- ii. Give three reasons why it is important to erect hoarding along the street side of a site. **[3marks]**

QUESTION 2

- a) Name any four temporary facilities to be put up at a site for the execution of works and state their purpose. **[4marks]**
- b) Write brief notes on the storage of the following on site.
- i) Timber
 - ii) Bricks
 - iii) Tiles
 - iv) Sanitary fittings **[8marks]**

c) Explain and illustrate with aid of a diagram the setting out of a square building using the builder's square and the profile boards. **[10marks]**

i. Draw a diagram to show a typical corner profile board. **[3marks]**

QUESTION 3

a) Define a foundation and state its purpose. **[4marks]**

i) What are the functional requirements of a foundation ? **[3marks]**

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

b) With aid of a diagram illustrate a reinforced concrete strip foundation. **[5marks]**

c) Which type of a foundation would you classify under deep foundations ?
Illustrate and state under which circumstances they could be used. **[8marks]**

QUESTION 4

a) How does one determine the method of soil investigation to be carried out for a project. **[5marks]**

Which factors affect the type of soil investigation to be carried on any site **[4marks]**

b) Give three advantages and disadvantages of trial pits. **[6mark]**

c) Boreholes are also another method for soil tests and under this method there are three methods of sinking boreholes, one of these being the light cable percussion/shell boring. *Explain this method with an aid of a sketch.* **[10marks]**