

**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 2006  
**AAR 2102 – BUILDING CONSTRUCTION I**

**Instructions**

**Duration: 4 Hours**

**Answer all three(3) questions.**

**Question 1 is to be answered on a single title blocked A1 sheet separately**

**Marks will be awarded to neatly presented work.**

**You can draw either in pencil or technical pen.**

**Number all your sheets.**

**Do not write your name on any sheet.**

**QUESTION 1**

- a) Draw a plan, section and elevation and section (at appropriate scales) of an external framed, ledged and braced door showing all the relevant details.
- b) Draw a scale detailed section of typical timber queen post truss sprung over a 12m span where one end has a parapet wall and the other one has an eaves projection of 750mm. The truss supports concrete roof tiles. Show how you would drain of rain water safely.

**[50]**

**QUESTION 2**

Write short notes with illustrations on the following:-

- a) Solid (floating) slab and suspended ground floor slab
- b) Distinguish between a lintel and an arch and draw a neat sketch of a stone arch and show its components.

**[25]**

**QUESTION 3**

- a) State the main factors which determine the type of foundations of small buildings and briefly explain with illustrations the difference between strip foundation and raft foundation. **[10]**
- b) What is a cavity wall. Show how you can prevent dampness with the use of cavity wall. State the advantages and disadvantages of the use of cavity walls. **[10]**
- c) Differentiate between a mansard roof and hipped roof **[5]**