

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

DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

PART V END OF FIRST SEMESTER SUPPLEMENTARY EXAMINATIONS – MAY 2006
AAR 5102 – BUILDING CONSTRUCTION V

Instructions

Time: 4 Hours
0900-1300hrs

Answer all four (4) questions.

Question 1 is to be answered title blocked on a single 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

Draw a structural plan and section of a typical two bay factory shell covering an area of 36m by 18m constructed out of pre-cast plain cement concrete (pcc) frames and show typical details at appropriate scales of the following:

- a) Base connection
- b) Knee jointing at junction of post and rafter
- c) Spliced junction of the rafters with concrete purlin details to receive asbestos sheets
- d) Valley gutter details

Highlight the advantages and disadvantages of the above frames.

[50]

QUESTION 2

Draw sketch details of the following:

- a) Typical details of suspended structural glass cladding
- b) The concept behind rain screen cladding.
- c) Typical section of a roller shutter

[25]

QUESTION 3

Draw a typical section through steel space deck roof on a column grid of 12m by 12m and show the following details:

- a) Space deck units.
- b) Connection of space deck unit to both external and internal columns.

State the difference between a girder and a space frame.

[25]