

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

PART III – SUPPLEMENTARY EXAMINATIONS – JULY 2008
BAR 3108 – BUILDING CONSTRUCTION III

Instructions

Duration: 4 Hours

Answer Question 1 and two (2) others.

Question 1 to be answered on a single A1 sheet to be provided.

Use pencil or technical pen for drawing.

Marks will be awarded to organised and neat drawing.

Do not write your name on the sheets

Question One

The Faculty of Industrial Technology (FIT) at NUST has commissioned you to come up with a design of a three bay workshop to cover an area of approximately 42m by 31.5m. The structure shall be brick walled on the southern and western facades and clad with roofing sheets you propose in the northern facade, which will have steel columns. You are required to employ a saw-tooth roof profile with cladding above ceiling height in the western and eastern facades. There shall be only four (4) internal columns (steel stanchions) within the workshop.

The Eastern facade will have roller-shutter doors centrally located within each of three bays.

Draw a plan, section and two (2) elevations at 1:200 and all relevant details. (50)

Question Two

- a) Scaffolding makes the construction of multi-storey building construction much easier. Elaborate on this statement with the aid of sketches. (15)
- b) Basement construction has its pitfalls. Elaborate. (10)

Question Three

Explain with example how underpinning and shoring techniques are associated with preservation/conservation of building structure. Illustrate this with labelled sketches. (25)

Question Four

- a) Draw sketches showing the four basic frames employed in construction of multi-storey structures. (10)
- b) Show two methods of fire proofing a steel framed structure. (5)
- c) Explain the measures one must take in demolition of a multi-storey structure. (10)