

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

PART V – SUPPLEMENTARY EXAMINATIONS – JULY 2008
BAR 5102 – BUILDING CONSTRUCTION V

Instructions

Duration: 3 Hours

Answer all Questions.

Total Marks: 100

Question One

- a) Illustrate a steel column base connection and mention another alternative method giving two of its advantages or disadvantages. (10 marks)
- b) In comparison illustrate a concrete column base connection and state two of its advantages and disadvantage as compared to steel columns. (10 marks)
- c) By illustrations show the difference between gravity retaining walls and cantilever retaining walls elaborating the design principles of retaining walls. (10 marks)

Question Two

- a) Infill panel walls are a means of light weight construction; illustrate an innovative fixing detail of steel plate/sheets infill panels to a concrete framed warehouse building. (10 marks)
- b) Illustrate a steel portal frame eave detail in comparison to a precast concrete portal frame eave detail giving two advantages and disadvantages of each over the other. (10 marks)
- c) Illustrate how concrete cladding units are fixed onto a structural horizontal beams clearly indicating how sealants are used as a water and damp barrier. (10 marks)

Question Three

- a) Illustrate the difference between a skylight and a roof light. (10 marks)
- b) Illustrate a timber open shell roof section. (10 marks)

- c) Illustrate the difference between a steel girder north light roof and a steel girder south light. *(10 marks)*
- d) Discuss and illustrate two different methods of determining the foundation depths and types for the same site with different soil profiles during preliminary site works. *(10 marks)*