

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF BUILT ENVIRONMENT

BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE

PART II SUPPLEMENTARY EXAMINATIONS 2012

BUILDING CONSTRUCTION II – AQS 2104

TIME: 3 Hours

TOTAL MARKS: 100

INSTRUCTIONS:

Answer all questions. Diagrams should be neat and well labelled.

Question 1

- a) Briefly explain and illustrate the following:-
- i) Northlight roof (6 marks)
 - ii) Monitor roof (7 marks)
- b) Illustrate a well detailed diagram of the junction of a reinforced concrete roof and external parapet wall with a precast concrete coping. (12 marks)

Question 2

- a) Explain pre-stressing of concrete. (5 marks)
- b) Differentiate between pre-tensioning and post-tensioning. (6 marks)
- c) With the aid of diagram illustrate the base of a structural steel frame (10 marks)
- d) Outline the advantages of in-situ concrete frame against structural steel frame (4 marks)

Question 3

- a) What is the purpose of having two staircases in buildings (4 marks)
- b) List the advantages and disadvantages of the following:-
 - i) In-situ concrete stairs (6 marks)
 - ii) Precast concrete stairs (6 marks)
- c) Illustrate diagrammatically a precast hollow pot floor (9 marks)

Question 4

- a) In what circumstances can piling be used (5 marks)
- b) Illustrate by giving examples different types of piling foundation on a building site with Kalahari sands where the bearing level extend beyond 20m. (15 marks)
- c) Differentiate between rigid and flexible pavement (5 marks)