

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF BUILT ENVIRONMENT

BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE

PART II FIRST SEMESTER EXAMINATIONS DECEMBER 2011

BUILDING CONSTRUCTION II – AQS 2104

TIME: 3 Hours

TOTAL MARKS: 100

INSTRUCTIONS:

Answer any **Four** Questions

All Questions carry equal marks

Question 1

- a) With the aid of annotated diagrams draw an in-situ concrete straight flight staircase with 6 risers and a landing. (15 marks)
- b) Giving examples briefly explain how people are protected from falling from stairs. (10 marks)

Question 2

- a) Outline the purpose of including suspended ceilings in buildings. (5 marks)
- b) Explain the difference between conventional (direct) ceiling and jointless suspended ceiling. (5 marks)
- c) What are the advantages of jointed (paneled) suspended ceiling (3 marks)
- d) Illustrate with aid of labeled diagrams any one type of suspended ceiling (12 marks)

Question 3

- a) What is cladding and what purpose does it serve? (5 marks)
- b) List the materials that can be used for cladding (5 marks)
- c) Show diagrammatically the arrangement of vertical tile hanging (10 marks)
- d) Illustrate how a granite cladding can be fixed to a structural backing. (5 marks)

Question 4

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

Question 5

- a) Differentiate between replacement and displacement piles (5 marks)
- b) Explain with aid of labeled diagram how a cast in-situ pile is sunk. (12 marks)
- c) List the advantages and disadvantages of precast concrete piles (8 marks)