

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF BUILT ENVIRONMENT**  
**BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE**  
**PART II FIRST SEMESTER EXAMINATIONS JANUARY 2013**  
**BUILDING CONSTRUCTION II – AQS 2104**

**TIME:** 3 Hours

**TOTAL MARKS:** 100

**INSTRUCTIONS:**

**Answer any Four Questions**

**All Questions carry equal marks**

**Question 1**

- (a) What is the purpose of stairs in buildings (2 marks)
- (b) List any four types of materials used for stairway construction (4 marks)
- (c) State four distinct disadvantages of precast concrete stairs against insitu concrete stairs (4 marks)
- (d) With the aid of annotated diagram show the various features on a dogleg or half-turn stair (15 marks)

**Question 2**

- a) Explain the purpose of including suspended ceilings in buildings. (5 marks)
- b) Differentiate conventional (direct) ceiling and suspended ceiling. (5 marks)
- c) With aid of clearly labeled diagram explain how a jointed (paneled) suspended ceiling is constructed (15 marks)

### **Question 3**

- a) State the functional requirements of cladding? (5 marks)
- b) List the materials that can be used for cladding (5 marks)
- c) Show the fixing arrangement of the following
  - (i) Stone cladding (10 marks)
  - (ii) Vertical tile hanging (5 marks)

### **Question 4**

- a) Discuss the importance of reinforcing concrete (3 marks)
- b) Explain the purpose of prestressing concrete (2 marks)
- c) Demonstrate how pre-tensioning concrete is carried out. (10 marks)
- d) With the aid of diagram illustrate one possible way of fixing a precast concrete column to its base or foot (10 marks)

### **Question 5**

- a) Define the term 'Piling' (3 marks)
- b) Explain the two ways of classifying piles (5 marks)
- c) State conditions under which piles are adopted in construction and discuss the advantages and disadvantages of using either rotary bored piles or percussion bored piles. (8 marks)
- d) In what circumstances are in situ concrete piles preferred over preformed piles (5marks)
- e) Discuss the way of sinking BSP cased pile (5 marks)

**Question 6**

- a) Outline the functional requirements of a roof (5 marks)
- b) Show diagrammatically and discuss the following roof forms
- (i) Flat roof (5 marks)
- (ii) Monitor roof (5 marks)
- (iii) Northlight roof (5 marks)
- (iv) Saw tooth (5 marks)

**END OF EXAMINATION**