

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF BUILT ENVIRONMENT**  
**DEPARTMENT OF QUANTITY SURVEYING**  
**PART II SECOND SEMESTER EXAMINATIONS – JUNE 2011**  
**BUILDING CONSTRUCTION III - AQS2201**

Time: 3 hours

Total Marks: 100

**INSTRUCTIONS:**

**Answer Question One and Any Other Three Questions**

---

**Question 1**

(a) Explain three methods of:-

- i) Temporary exclusion of ground water (9marks)
- (ii) Permanent exclusion of ground water (9 marks)

(b) Illustrate with aid of clearly labelled diagram the Asphalt Tanking method of damp roofing basements (15marks)

(c) Illustrate the independent type of scaffolding. (7marks)

**Question 2**

- (a) What is meant by the term shoring? (2marks)
- (b) Identify and explain with aid of clearly labelled diagrams the three common methods of shoring. (18marks)

**Question 3**

- (a) List the basic requirements of good formwork. (8marks)
- (b) State four reasons of underpinning building structures. (4marks)
- (c) Illustrate diagrammatically the Traditional wall underpinning method. (8marks)

**Question 4**

- (a) Explain how the following demolition methods are carried out.
  - (i) Pusher arm (4marks)

- (ii) Deliberate collapse (4marks)
- (iii) Wire rope (4marks)
- (iv) Demolition ball technique (4marks)
- (b) Outline the necessary precautions to be observed before demolition takes place (4marks)

**Question 5**

- (a) The following are plant and equipment that are used in the Construction industry. Explain what are they and the purposes they serve.
  - (i) Graders (3marks)
  - (ii) Backactors (3marks)
  - (iii) Pumps (3marks)
  - (iv) Dumpers (3marks)
  - (v) Vibrators (3marks)
  - (vi) Cranes (3marks)
- (b) List any two types of cranes (2marks)