



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF THE BUILT ENVIRONMENT**  
**DEPARTMENT OF ARCHITECTURE**  
**INTRODUCTION TO MATERIALS AND CONSTRUCTION I**  
**AAR 1104**

**Examination Paper**

**December 2014**

This examination paper consists of 2 pages

**Time Allowed: 2 hours**

**Total Marks: 100**

**Special Requirements: NONE**

**Examiner's Name: Miss H Sakupwanya**

**INSTRUCTIONS**

1. Answer all questions
2. Each question carries 25 marks
3. Illustrate your answers with sketches where appropriate

**MARK ALLOCATION**

<b>QUESTION</b>	<b>MARKS</b>
1.	25
2.	25
3.	25
4.	25
<b>TOTAL</b>	<b>100</b>

### **QUESTION 1**

- a) State and explain the distinctive properties of earth as a building material? (5)
- b) There are several building techniques using unbaked earth. Name these and write brief notes about each method. (20)

### **QUESTION 2**

- a) What characteristics make timber a good building material? (5)
- b) What are the purposes of seasoning timber? (5)
- c) Preservation increases the durability of timber. Discuss the techniques of timber preservation (15)

### **QUESTION 3**

- a) What are the properties of clay bricks? (5)
- b) Explain the clay brick making process (20)

### **QUESTION 4**

- a) State the properties of good building stones (5)
- b) Write brief notes on 3 different types of cement (15)
- c) Name and briefly describe the two tests that are used to test concrete (5)