

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT
2012-2013 ACADEMIC YEAR
DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE
BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE
PART I – FIRST SEMESTER SUPPLEMENTARY EXAMINATIONS – JULY 2014
AAR 1104 INTRODUCTION TO MATERIALS AND CONSTRUCTION I
AAR 1108 INTRODUCTION TO CONSTRUCTION MATERIALS I

Instructions

Duration: 2 Hours

Answer all questions.

Total Marks: 100

Illustrate your answers with sketches where appropriate

QUESTION 1

- a. Discuss the deterioration of building stones in construction. (15)
- b. Describe with the aid of sketches any four techniques of earth wall construction. (10)
- [25]**

QUESTION 2

- a. What aspects are considered in the storage of cement? Give reasons for each factor? (5)
- b. Compare the use of lime mortar and cement mortar in masonry work. (10)
- c. With the aid of sketches describe any 5 types of jointing and the procedure involved. (10)
- [25]**

QUESTION 3

- a. Give a detailed description of how concrete is placed on-site. (15)
- b. A client is about to purchase aggregates that he desires to use for the structural work of a 20-storey office building. How would you advise him concerning the consideration of the type of aggregate in relation to the desired strength of the concrete? (10)
- [25]**

QUESTION 4

- a. Describe the four different forming processes of clay bricks in their manufacturing clearly outlining the differences between them. (10)
- b. With the aid of sketches show any 5 brick standard specials that you have studied and how they are used in construction. (10)
- c. State the properties of concrete blocks and how each property is essential in construction. (5)

[25]