

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 EXAMINATIONS – JANUARY 2013
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. What are the properties of good building stones? (10)
- b. Stones are used differently in construction. State the properties and application of the following in construction: basalt, granite, sandstone, limestone and gneiss. (10)
- c. Compare the use of grass and earth in wall construction? (5)
- [25]**

QUESTION 2

- a. What are the functions of adulterants in mortar? (5)
- b. With the aid of sketches illustrate the different types of pointing in mortar. (10)
- c. Describe the two methods of cement manufacturing giving reasons for each stage. (10)
- [25]**

QUESTION 3

- a. What are the factors that determine the strength of concrete? (5)
- b. Write brief notes on the different methods of concrete preparation. (10)
- c. Describe the methods of concrete curing. (10)
- [25]**

QUESTION 4

a. Define the following:

- i. brick masonry
- ii. tempering
- iii. frog
- iv. bat
- v. circular blocks

(10)

b. Describe the process of manufacturing clay bricks.

(15)

[25]