

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

2010-2011 ACADEMIC YEAR

PART I-FIRST SEMESTER EXAMINATIONS-JANUARY 2011

AAR 1104-INTRODUCTION TO MATERIALS AND CONSTRUCTION I

Instructions

Time: 2 hours

Answer all questions.

Illustrate your answers with sketches where appropriate.

QUESTION 1

- a. Earth and grass construction is one of the oldest forms of building. Discuss their contemporary uses in modern building construction. [10]
 - b. Masonry is the art of construction using stones. Explain in detail the classification of building stones giving examples of those used in building construction. (15)
- [25]**

QUESTION 2

- a. What characteristics make timber a good building material. (5)
 - b. What are the objectives of seasoning. (5)
 - c. Preservation increases the durability of timber. Discuss the methods of wood preservation.(15)
- [25]**

QUESTION 3

- a. Discuss the composition of ordinary cement.[10]
 - b. Explain the hydration of cement.[10]
 - c. What is the function of sand in mortar mix.[5]
- [25]**

QUESTION 4

- a. State and explain the methods of concrete preparation.[15]
 - b. Explain the importance of the water cement ratio in concrete preparations.[10]
- [25]**