



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
INTRODUCTION TO MATERIALS AND CONSTRUCTION II
AAR 1204

Main Examination Paper

May 2015

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

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
TOTAL	100

Question 1

- a) Define the term foundation. (2)
- b) What factors should be considered in the selection of a foundation type? (6)
- c) Name 2 types of loads that act on buildings (2)
- d) Name 3 methods through which asphalt can be manufactured (6)
- e) Mastic asphalt is applied on top of concrete flat roofs to provide waterproofing. Draw and annotate the cross section showing the various materials and how they are layered. (9)

Question 2

- a) Explain the properties of plastics which make them suitable for construction (10)
- b) Differentiate between mild steel and hard steel in terms of carbon content and properties. State where each can be used in construction. (10)
- c) What preventative measures can be used to guard against the corrosion of metals used in construction? (5)

Question 3

- a) Name 5 types of roofing materials outlining how they are fixed. (25)

Question 4

- a) What factors are considered in the selection of a wall finish? (5)
- b) Ceramic tiles are proving to be a popular finishing material
 - i. Discuss where tiles can be applied in a building (4)
 - ii. State the advantages and disadvantages of using ceramic tiles as a finish (6)
- c) Discuss the defects that can occur after painting in construction? (10)