



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

DEPARTMENT OF LANDSCAPE ARCHITECTURE AND URBAN DESIGN

INTRODUCTION TO MATERIALS AND CONSTRUCTION II

AAR 1204

Examination Paper

May 2017

This examination paper consists of 3 pages

Time Allowed: 3 hours

Total Marks: 100

Special Requirements: NONE

Examiner's Name: Mr M A Sibanda

INSTRUCTIONS

1. Answer all questions
2. Illustrate your answers with sketches where appropriate

MARK ALLOCATION

QUESTION	MARKS
1.	20
2.	20
3.	20
4.	20
5.	20
TOTAL	100

QUESTION 1

- a. What factors are to be considered in the selection of a wall finish for the interior of a kitchen? (5)
- b. Discuss where tiles can be applied in a building (5)
- c. State the advantages and disadvantages of using ceramic tiles as a finish. (5)
- d. Clearly explain the manufacturing process of porcelain tiles (5)

QUESTION 2

- a. What considerations need to be taken into account when preparing a wall background for plastering? (5)
- b. Detail how Portland cement plaster is manufactured. (10)
- c. Compare and contrast lime mortar and cement mortar (5)

QUESTION 3

- a. Write brief notes on paint application on plastered walls. (3)
- b. Discuss, with illustrations, the defects that can occur after painting (7)
- c. Name the properties of PVA paints and state where this type of paint is most suited to be applied (3)
- d. Identify what paint type and colour you would apply in a living room that has poor lighting due to insufficient windows. (2)
- e. State the advantages and disadvantages of oil paints. (5)

QUESTION 4

- a. Outline the functions of a ceiling in a building. (2)
- b. Compare and contrast timber and plastic ceilings, giving the advantages and disadvantages of each type (3)
- c. With the aid of illustrations, explain how ceilings can be used for sound control in auditoriums (5)
- d. With the aid of sketches, outline the construction and function of a suspended ceiling. (10)

QUESTION 5

- a. Explain how sanitary fittings can be used as an element of finishing in a building. (2)
- b. Compare and contrast the use of PVC and stainless steel as materials for sanitary finishes in public ablutions. (3)
- c. Sketch a section through a WC with a Q-trap, and explain the function of the trap(3)
- d. With the aid of sketches, summarise how sheet metals can be used on building skins as both structural and finishing elements. (6)
- e. Analyse how plastics and rubbers can be used in building construction as finishing elements. (6)