

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY  
FACULTY OF ARCHITECTURE AND QUANTITY SURVEYING**

**DEPARTMENT OF ARCHITECTURE  
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE**

**PART I - SUPPLEMENTARY EXAMINATIONS - JULY 2005  
AAR1204/AQS INTRODUCTION TO MATERIALS AND CONSTRUCTION**

*Instructions*

*Time: 2 Hours*

**Answer Any Four Questions**

**QUESTION 1**

- a) One of the bitumen components is coal tar. Briefly explain how this is produced and why it is considered to pose some health problems to the workers? **(5 marks)**
- b) Differentiate mild steel from hard steel in terms of carbon content and properties. State where it can be used in the construction industry. **(10 marks)**
- c) Write brief notes on market forms of steel. **(10 marks)**

**QUESTION 2**

- a) Write brief notes on the fabrication of plastics. **(5 marks)**
- b) Explain briefly properties of plastics which make them suitable for construction purposes. **(10 marks)**
- c) Outline in brief the materials used during the construction of a small residential house from the footing to the slab level on a site whose soil's bearing capacity is very good. **(10 marks)**

**QUESTION 3**

- a) What factors are taken into consideration when working on stone cladding? State the different types of metal fixings in stone cladding. **(10 marks)**

- b) Differentiate between paints and vanishes, also give examples of these. **(15marks)**

**QUESTION 4**

- a) Draw a series of annotated sketches, illustrating and explaining the variety of ways in which earth is worked and used as a building material. You may refer to specific buildings, where appropriate. **(15 marks)**
- b) Name at least five different types of plastics used as a building material & provide sketches illustrating how they can be used. **(10 marks)**

**QUESTION 5**

- a) State the advantages of blocks over bricks. **(5 marks)**
- b) Describe the following types of bricks: common, face and engineering. State where these types of bricks are applied in building construction. **(10 marks)**
- c) Which finishes would you recommend for a bathroom? Give reasons for your answer. **(10 marks)**