THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 **BRICKWORK AND MASONRY**

Time: 3 Hour. **Wednesday, 16 May 2007 a.m**

Instructions

1. This paper consists of sections **six (6)** questions.
2. Answer question number **one (1)** and any other **four (4)** questions.
3. Question 1 carries **thirty-two (32)** marks and the rest carries **seventeen (17)** marks each.
4. Non-programmable calculators may be used.
5. Communication devices and any unauthorized materials are **not** allowed in the examination room
6. Write your **Examination Number** on every page of your answer booklet.

1. Define the term “blockwork” and explain three advantages of using blocks over bricks in large-scale construction projects.

2. (a) State four methods of bonding bricks in wall construction.

   (b) Describe how English bond is constructed, including the arrangement of headers and stretchers.

   (c) What are two advantages of English bond compared to Flemish bond?

3. Imagine you are constructing a one-storey residential house in an area with high humidity:

   (i) Propose four wall treatment methods to protect the structure from moisture.

   (ii) Which type of wall finish would be most durable in such an environment, and why?

   (iii) Describe how damp proof courses should be applied in the walls of the building.

4. (a) Differentiate between load-bearing walls and non-load-bearing walls.

   (b) Identify two structural and two non-structural functions of internal partition walls in a building.

   (c) What precautions must be taken when demolishing a load-bearing wall?

5. With the help of sketches, answer the following:

   (a) Show the standard layout of a stretcher bond in a half-brick wall.

   (b) Sketch a cross-section of a cavity wall showing key components including ties, insulation, and weep holes.

   (c) Explain two benefits of using cavity walls in modern construction.

6. (a) What is efflorescence in masonry?

   (b) Explain two causes of efflorescence.

   (c) Suggest three methods of preventing and controlling efflorescence on finished walls.