THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 **BRICKWORK AND MASONRY**

Time: 3 Hour. **Wednesday, 21 May 2008 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 "scaffolding". Give four reasons why scaffolding is necessary in brickwork construction, and explain three safety precautions that must be observed when erecting and using scaffolding on site.

2. (a) What is meant by the term “parapet wall”?

   (b) Mention three types of parapet walls used in construction.

   (c) Describe the construction process of a solid parapet wall built on a flat roof slab.

3. Briefly explain the following terms as used in bricklaying:

   (i) Raking back,

   (ii) Frog,

   (iii) Closer brick,

   (iv) Quoin closer,

   (v) Bedding plane.

   Then, for each, state one practical importance in wall construction.

4. (a) State four environmental factors that can affect the curing of masonry work.

   (b) Discuss how each factor may influence the quality of mortar and structural performance of the wall.

   (c) Suggest proper site practices to manage these environmental conditions effectively.

5. Consider a boundary wall being built in a flood-prone area:

   (i) Propose three special construction considerations to enhance its durability.

   (ii) What kind of mortar mix would be ideal for such conditions, and why?

   (iii) How would you ensure effective water drainage behind the wall?

6. (a) Differentiate between random rubble masonry and ashlar masonry.

   (b) Identify two advantages and two disadvantages of using random rubble masonry for retaining walls.

   (c) Suggest appropriate situations where ashlar masonry is more suitable than random rubble masonry.