THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 **BRICKWORK AND MASONRY**

Time: 3 Hour. **Wednesday, 18 May 2005 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. You are assigned to inspect a newly built two-bedroom house before final rendering:

   (a) Identify four critical aspects you would check on the wall surfaces.

   (b) Explain two common problems that may be discovered during this inspection.

   (c) Suggest appropriate remedies for each problem identified.

2. (a) Define the term "pointing" in masonry.

   (b) Mention three types of pointing used in construction.

   (c) Describe step-by-step how pointing is carried out on a wall and state two advantages of pointing over plastering.

3. (a) List four methods of improving bonding between a new masonry wall and an existing one.

   (b) With the aid of sketches, explain how a toothing technique is applied practically.

   (c) State two disadvantages of poor bonding in joint walls.

4. You are building a water storage tank using brickwork.

   (i) What type of bricks and mortar mix would you recommend?

   (ii) Describe three waterproofing techniques applicable during and after wall construction.

   (iii) Explain how you would test the tank for leakages after completion.

5. (a) Define the term “wall rendering failure”.

   (b) Give three causes of rendering failure in external walls.

   (c) Explain how each cause can be prevented through proper construction practices.

6. A contractor used ordinary clay bricks for a warehouse in a saline coastal area.

   (i) Discuss three potential problems that may arise.

   (ii) What alternative materials should have been used for durability?

   (iii) Recommend how to protect existing walls from further damage in such an environment.