THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 **BRICKWORK AND MASONRY**

Time: 3 Hour. **Wednesday, 19 May 2003 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. (a) Define the term “bedding” in bricklaying.

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

   (c) Explain the importance of proper bedding in wall strength and stability.

2. You are supervising a site where hollow concrete blocks are used:

   (i) List four quality checks you would perform before allowing blocks to be used.

   (ii) How would you verify the uniformity and strength of the blocks?

   (iii) What steps would you take if a batch of blocks fails inspection?

3. (a) Define the term "retaining wall".

   (b) Differentiate between gravity and cantilever retaining walls.

   (c) List and explain three factors that must be considered when constructing a brick retaining wall.

4. A three-storey office block is to be constructed using masonry infill:

   (i) Discuss three functions of the infill walls in the building.

   (ii) Identify two risks associated with unreinforced masonry infill in seismic zones.

   (iii) Recommend reinforcement strategies to improve infill wall performance.

5. (a) What is meant by the term “grouting” in blockwork?

   (b) Describe how grouting is done in hollow block walls.

   (c) Explain two benefits of grouting in reinforced block construction.

6. (a) Define the term "course" in brick masonry.

   (b) Mention four types of courses used in decorative brickwork.

   (c) Briefly describe how brick orientation affects the visual pattern and structural bonding.