THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 BRICKWORK AND MASONRY

(SUPPLEMENTARY)

Time: 3 Hours **Year: 2012**

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. Cellular phones are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

1. Define the term "shoring". Provide four reasons why shoring is essential in masonry construction, and outline three safety measures to follow when installing and dismantling shoring on a construction site.

2. (a) What is a "cavity wall"?

(b) List three common materials used in cavity wall construction.

(c) Explain the step-by-step process of constructing a cavity wall with weep holes and cavity ties.

3. Briefly describe the following terms in bricklaying:

(i) Bat

(ii) Perpend

(iii) Bull header

(iv) Squint quoin

(v) Gauge rod

Then, for each, mention one practical use in building walls.

4. (a) Identify four weather-related factors that impact the setting of concrete blocks.

(b) Describe how each factor can affect the strength of the blocks and the overall stability of the structure.

(c) Recommend suitable on-site techniques to control these weather influences.

5. For a garden wall in a coastal region with high salinity:

(i) Suggest three design modifications to improve its resistance to corrosion.

(ii) Recommend an appropriate mortar mix for these conditions, and justify your choice.

(iii) Describe methods to incorporate expansion joints for movement control.

6. (a) Distinguish between coursed rubble masonry and uncoursed rubble masonry.

(b) State two benefits and two drawbacks of coursed rubble masonry in foundation work.

(c) Identify scenarios where uncoursed rubble masonry might be preferred over coursed rubble.