THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

784 BRICKWORK AND MASONRY

(SUPPLEMENTARY)

Time: 3 Hours **Year: 2015**

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 "formwork". List four reasons for using formwork in concrete masonry, and describe three precautions for safe formwork handling on site.

2. (a) What is an "abutment" in wall terms?

(b) Mention three types of abutments in bridge or retaining structures.

(c) Describe constructing a masonry abutment wall with backfill drainage.

3. Briefly explain these bricklaying terms:

(i) King closer

(ii) Cow nose

(iii) Double corner

(iv) Mitred closer

(v) Line level

Then, state one role each plays in achieving strong bonds.

4. (a) State four site conditions that influence mortar adhesion.

(b) Analyze how each condition affects mortar bonding and wall integrity.

(c) Advise on best practices to counteract these conditions.

5. For a boundary fence in a seismic zone:

(i) Propose three reinforcement strategies for earthquake resistance.

(ii) What mortar composition is best, and why?

(iii) How to integrate weep holes for moisture escape?

6. (a) Differentiate between polygonal rubble masonry and squared rubble masonry.

(b) Highlight two pros and two cons of polygonal rubble for boundary walls.

(c) Recommend contexts where squared rubble is superior to polygonal rubble.