

**THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATIONS COUNCIL  
DIPLOMA IN TECHNICAL EDUCATION EXAMINATION**

**784**

**BRICKWORK AND MASONRY**

**(SUPPLEMENTARY)**

**Time: 3 Hours**

**Year: 2014**

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**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).

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1. (a) Define "damp-proof course" (DPC).  
(b) State four roles of DPC in wall systems.  
(c) Describe the installation technique for embedding DPC in a brick wall base.
2. (a) What is a "flush joint" in mortar?  
(b) Identify four variations of mortar joint finishes.  
(c) Discuss how joint finish selection influences weather resistance and aesthetics in walls.
3. (a) What function does a "plinth" serve in a building?  
(b) List three materials suitable for plinth construction.  
(c) With a sketch, explain building a concrete plinth over a brick foundation.
4. (a) Give four criteria for choosing sand-lime bricks in construction.  
(b) Compare the properties of common burnt clay bricks and fire clay bricks.  
(c) Outline three field tests for assessing brick durability.
5. (a) What is a "pad foundation"?  
(b) Explain three cases where pad foundations are used instead of raft foundations.  
(c) Sketch the arrangement of a stone masonry pad foundation supporting a column.
6. (a) (i) Define "efflorescence" in masonry.  
(ii) Name three causes of efflorescence.  
(b) Describe four impacts of efflorescence on building materials.  
(c) Suggest three techniques to mitigate efflorescence in new walls.