THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

783 **BUILDING CONSTRUCTION**

Time: 3 Hour. **Tuesday, 15th May 2018 a.m**

Instructions

1. This paper consists of sections **five (5)** questions.
2. Answer all questions.
3. Each question carries **twenty (20)** marks.
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) A five-storey office building is to be constructed in an urban area. Suggest a suitable type of foundation and give two reasons for your choice.

   (b) Describe two major problems that may occur if the wrong type of foundation is selected.

   (c) Sketch a simple cross section of a pile foundation and label its main parts.

2. (a) Explain the procedure for constructing a concrete staircase on site.

   (b) State three requirements of a good stair to ensure safety and comfort for users.

   (c) With aid of a sketch, differentiate between a dog-legged staircase and an open-well staircase.

3. (a) State four factors to consider when selecting materials for external wall construction in a residential building.

   (b) Explain briefly the importance of curing in concrete works.

   (c) Mention four defects that may arise in walls due to poor construction methods.

4. (a) A new housing project is being planned near a river. Suggest six measures that must be taken to ensure proper site drainage and moisture protection.

   (b) Explain the importance of a damp-proof membrane (DPM) in a ground floor slab.

   (c) Describe the proper way of installing gutters and downpipes to avoid water leakage into the walls.

5. (a) Explain the term “precast concrete” and mention three advantages of using precast elements in building construction.

   (b) Distinguish between expansion joints and construction joints in concrete structures.

   (c) Sketch a section of an expansion joint in a concrete slab and label its components.

   (d) Explain why steel reinforcement must be properly covered in reinforced concrete members.