



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

CERTIFICATE IN ARCHITECTURE

EBC 1204: GEOLOGY & CLIMATOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: OCTOBER 2013

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Scientific Calculator*

This paper consists of **FIVE** questions.

Answer any **THREE** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One

- a) Mineral hardness influences the behavior of a rock in which the mineral occurs in abundance. Explain **(6 marks)**
- b) A granitic intrusive rock body and a volcanic rock bed occur on a building site. Explain how to distinguish the **TWO** formations **(6 marks)**
- c) Outline geological factors that could have been considered when selecting the on which the new engineering block was constructed. **(8 marks)**

Question Two

- a) Outline **THREE** characteristics of a basalt **(6 marks)**
- b) With the aid of sketches, differentiate a sill from a dyke **(6 marks)**
- c) Outline **THREE** main characteristics for the following: **(8 marks)**
 - (i) Granite
 - (ii) Limestone **(8 marks)**

Question Three

- a) Outline processes that lead to formation of a quartzite **(6 marks)**
- b) Briefly explain the binding process of loose fragments to formation of a bedrock **(2 marks)**
- c) Calcareous shales are intruded by a magnetic body outline factors that will contribute metamorphic alteration **(8 marks)**

Question Four

- a) Briefly describe the geology of Tanzanian shield in Western and Nyanza regions of Kenya **(12 marks)**
- b) Describe main peculiar geological features for the geology of Duruma basin **(8 marks)**

Question Five

- a) Explain the effect of Human activities on the climate over past decades **(12 marks)**
- b) Briefly explain main consideration climate responsive Architecture **(8 marks)**