



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

UNIVERSITY EXAMINATION FOR:

DIPLOMA OF ARCHITECTURE

DIPLOMA OF QUANTITY SURVEYING

EAR 2104: GEOLOGY AND CLIMATOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2HOURS

DATE: Pick Date Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass, drawing instruments and student ID

This paper consists of **FIVE** questions. Attempt any **THREE** questions.

Do not write on the question paper.

QUESTION ONE

(a) Distinguish the following:

(i) **Biotite** from **Quartz** based on cleavage

(ii) **Quartz** from **Gypsum** based on colour

(iii) **Fluorite** from **Quartz** based on hardness (8 marks)

(b) Explain the meaning of mineral hardness and its construction use. (12marks)

QUESTION TWO

(a) Outline the significance of Engineering Geology to construction works. (8 marks)

(b) Distinguish a volcanic from an intrusion if they occur on a building site. (12 Marks)

QUESTION THREE

- (a) Explain causes of colour variation in minerals (6 marks)
- (b) Distinguish a dyke from a sill. (6 marks)
- (c) Outline **FOUR** characteristics that make a basalt suitable for road surfacing (8 marks)

QUESTION FOUR

- (a) Outline the role of any **THREE** elements of weather. (9marks)
- (b) Explain the following terms as applied to architecture:
 - (i) Radiation
 - (ii) Insulation
 - (iii) precipitation(11marks)

QUESTION FIVE

- (a) Outline measures to be considered based on climatic conditions when designing houses to be constructed in an area south of slopes of Mount Kenya. (8marks)
- (b) Outline **THREE** ways in which man has influenced climatic changes over decades. (12marks)