



# TECHNICAL UNIVERSITY OF MOMBASA

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Faculty of Engineering and Technology  
Department of ARCHITECTURE & BUILT ENVIRONMENT

## UNIVERSITY EXAMINATION FOR: DIPLOMA IN ARCHITECTURE DIPLOMA IN QUANTITY SURVEYING

EAR 2104 : GEOLOGY AND CLIMATOLOGY

END OF SEMESTER EXAMINATION

**SERIES:** AUGUST 2024

**TIME:** 2 HOURS

**DATE:** ~~Pick Date~~ AUGUST 2024

### Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of five questions.

Attempt any THREE questions.

**Do not write on the question paper.**

### QUESTION ONE



- (a) (i) Explain the relationship between meteorology and climatology. (2 Marks)  
 (ii) Explain THREE purposes of meteorology. (6 Marks)
- (b) In architecture, climate influences planning, structure, type of roof and external treatment. For each of the four areas mentioned, briefly explain. (6 Marks)
- (c) In regard to modification of climate by man, explain FOUR causes of rising emissions. (6 Marks)

**QUESTION TWO (20 Marks)**

- (a) Identify and explain FOUR elements of climate. (8 Marks)
- (b) Outline FIVE aims of enhancing Micro-Climate around buildings. (5 Marks)
- (c) Describe dimension stone quarries, stating the uses of the products. (7 Marks)

**QUESTION THREE (20 Marks)**

- (a) Explain FOUR factors that affect the suitability and technical feasibility of any reclamation scheme. (6 Marks)
- (b) In regard to field recognition of faults, describe TWO features. (4 Marks)
- (c) Identify and explain FOUR factors affecting climate. (8 Marks)
- (d) Briefly explain the importance of climate in Architecture. (2 Marks)

**QUESTION FOUR (20 Marks)**

- (a) Explain the principal characteristics of granite, stating their application in construction. (8 Marks)
- (b) Identify and explain FOUR Geological hazards. (6 Marks)
- (c) Describe the formation process of sedimentary rocks. (6 Marks)

**QUESTION FIVE (20 Marks)**

- (a) Identify and explain FOUR areas in building and civil engineering is applied.  
(8 Marks)
- (b) Using a suitable sketch, show the general cycle of geological processes.  
(8 Marks)
- (c) Briefly explain TWO techniques used by engineering geologists in their Investigations.  
(4 Marks)

