

# 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: DECEMBER 2024**  
**TIME: 2 HOURS**  
**DATE: DECEMBER 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.  
(ii) Explain THREE things each of them seek to achieve.

(8 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 factors considered in climate responsive architecture. (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 where geological studies are important. (8 Marks)
- (b) Using a suitable sketch, show the general cycle of geological processes. (8 Marks)
- (c) Describe the Earth's crust (4 Marks)