



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT
UNIVERSITY EXAMINATION FOR:
BACHELOR OF ARCHITECTURAL STUDIES
**EAR 4103: PHYSICAL ENVIRONMENT I (GEOLOGY AND
ECOLOGY)**

END OF SEMESTER EXAMINATION

YEAR ONE SEMESTER ONE

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 question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION ONE (30 MARKS) - COMPULSORY

- a) Citing examples, explain the relationship between geology and the built environment. (8 marks)
- b) With the aid of sketches distinguish between any TWO factors that influence an ecosystem. (6 marks)
- c) Using sketches describe the tectonic plate boundaries that cause geological hazards. (10 marks).
- d) Explain any THREE environmental aspects which ought to be analysed for every stage of the design/product life cycle (6 marks).

QUESTION TWO (20 MARKS)

With the aid of sketches, explain the formation of any TWO types of Sedimentary rocks. (20 marks).

QUESTION THREE (20 MARKS)

The reform of urban ecosystems to mimic the metabolism of nature requires changes in certain factors in the city. Explain any FOUR. (20 marks).

QUESTION FOUR (20 MARKS)

Explain the ecological factors that trigger the process whereby weathered material is moved downslope under the immediate influence of gravity. (20 marks).

QUESTION FIVE (20 MARKS)

Eco-design has emerged as a tool for sustainability. Discuss. (20 marks).