



---

**TECHNICAL UNIVERSITY OF MOMBASA**

---

**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF BUILDING & CIVIL ENGINEERING**  
**UNIVERSITY EXAMINATION FOR:**  
**BACHELOR OF SCIENCE IN CIVIL ENGINEERING**  
**ECV 4121: INTRODUCTION TO CIVIL ENGINEERING**  
**SPECIAL / SUPPLEMENTARY EXAMINATION**

**SERIES: APRIL – MAY 2025**

**TIME: 2 HOURS**

**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 and ANY OTHER TWO questions.
- Do not write on the question paper.

---

**QUESTION ONE (COMPULSORY) (30 marks)**

- (a) List six “GOOD EFFECTS” and four “ILL EFFECTS” in the development of infrastructure.  
(10 marks)
- (b) Describe the relationship between civil engineering and allied fields of engineering. (12 Mks)
- (c) Justify the future growth of the civil engineering profession and how it is even posed to grow further with time. (8 marks)

## **ATTEMPT ANY TWO QUESTIONS IN THIS SECTION**

### **QUESTION TWO**

- (a) i. What is Infrastructure? How does it relate with Civil Engineering? (2 marks)
  - ii. What is the influence of infrastructural growth on the development of a country? (2 mks)
- (b) Briefly discuss FIVE key branches of Civil Engineering. (10 Marks)
- (c) All construction structures are composed of various types of materials either referred to as building materials or, materials of construction. Mention and explain the role of five key and most commonly used building materials. (6 marks)

### **QUESTION THREE**

- (a) Mention the two main professional organizations associated with civil engineering in Kenya and briefly explain their individual roles. (10 marks)
- (b) Discuss the different classes of registration and list the registration requirements for the organizations identified in Q3 (a) above. (10 marks)

### **QUESTION FOUR**

- (a) A civil engineer is a person highly regarded by the society. What does the Civil Engineer do on a day-to-day basis? (10 marks)
- (b) In modern civil engineering practice, the under-listed software tools have become almost indispensable. Briefly discuss and explain their application.
  - i. Auto CAD
  - ii. Civil 3D
  - iii. Revit
  - iv. STAAD Pro
  - v. Primavera P6(10 marks)

### **QUESTION FIVE**

- (a) Briefly discuss the field of Civil Engineering which is also known as “Mother of all branches of engineering”. (6 marks)
- (b) Explain the role of Construction Technology and Management in Civil Engineering. (4 mks)
- (c) Discuss the role of economics in civil engineering. (10 Marks)