



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING
TCV 4410 : SOLID WASTE MANAGEMENT & TREATMENT

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: JULY 2025

TIME: 2 HOURS

PAPER B

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 (COMPULSORY) 20 Marks

- a) State the impacts of poor solid waste management (4 marks)
- b) Describe the following types of incinerators
 - i) Fixed grate
 - ii) Rotary kiln
 - iii) Fluidized bed (12 marks)
- c) Outline the roles of environment officer at the main dump site (4 mark)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Describe a solid waste transfer station (10 marks)
- b) State the constrains faced in solid waste management (4 marks)
- c) State the factors influencing the composition and rate of generation of solid waste (6 marks)

QUESTION THREE (20 Marks)

- a) With the aid of a sketch explain the solid waste hierarchy triangle (6 marks)
- b) Outline the factors to consider in locating a site for landfill (4 marks)
- c) Explain the process of leachate collection and control (10 marks)

QUESTION FOUR (20 Marks)

- a) Explain the key points in solid waste management (10 marks)
- b) Solid waste management is an industry, Explain. (10 marks)

QUESTION FIVE (20 Marks)

- a) Explain the 3R concept of waste management (Explain the windrow composting process (8 marks)

