



TECHNICAL UNIVERSITY OF MOMBASA

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

TCV4422: HEALTH, SAFETY AND ENVIRONMENTAL ENGINEERING

END OF SEMESTER EXAMINATION

SERIES: APRIL 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 (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION ONE (COMPULSORY)

(20Marks)

- a) Define Hazard and Risk. Give four (4) examples of hazards and outline factors that can influence risks. **(10marks)**
- b) Define noise. State the unit of measurement for sound. **(3marks)**
- c) Describe the steps to take to control noise at the workplace. **(7marks)**

ATTEMPT ANY TWO QUESTIONS.

QUESTION TWO.

(20MARKS)

- a) Explain factors that affect risk of hearing loss from excessive noise. **(10marks)**
- b) Outline the Risk Management process. **(10marks)**

QUESTION THREE

(20MARKS)

- a) Briefly discuss Risk matrix. **(10marks)**
- b) Describe how Severity and Probability of risk can be used for risk assessment. **(8marks)**
- c) Define Risk Management. **(2marks)**

QUESTION FOUR

(20MARKS)

- a) Outline the **top five** common safety hazards in the manufacturing industry. **(10marks)**

- b) Describe the process of developing a health and safety policy. **(10marks)**

QUESTION FIVE

(20MARKS)

- a) Identify the Act/Acts one would be required to comply with when they are developing a hydroelectric power station. Give reasons. **(6marks)**
- b) Explain why a Health and safety policy is necessary at the work place. **(8marks)**
- c) Define and describe the Occupational Health and Safety system. **(ILO/WHO). (6marks)**