



TECHNICAL UNIVERSITY OF MOMBASA

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

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
ECV 4521 : INDUSTRIAL POLLUTION

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: MARCH 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) 30 Marks

- a) Explain the following effects of air pollution
- i) Respiratory and heart problem
 - ii) Global warming
 - iii) Acid rain (9 marks)
- b) Explain the following
- i) Sick building syndrome(SBS)
 - ii) Ambient air
 - iii) Ambient air pollution
 - iv) Ambient(outdoor) air pollution (4 marks)
- c) Outline the impacts of noise pollution to humans (7 marks)
- d) Explain the effects of heavy metal in water (10 marks)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Define water pollution and explain the following causes of water pollution

- i) Industrial waste
 - ii) Sewage and wastewater
 - iii) Global warming (10 marks)
- b) Write on effects of noise pollution on humans (6 marks)
- c) Outline burning of fossil as a cause of air pollution (4 marks)

QUESTION THREE (20 Marks)

- a) Explain the following types of pollutants
- i) Thermal pollutants
 - ii) Nutrients
 - iii) Suspended (8 marks)
- b) State the effects of water pollution to the environment (6 marks)
- c) Outline the effects of the following pollution
- i) Mercury pollution
 - ii) Lead pollution (6 marks)

QUESTION FOUR (20 Marks)

- a) Explain the following particulate matters which are airborne and nongaseous pollutants
- i) Dust
 - ii) Fumes
 - iii) Smoke (9 marks)
- b) Explain the term community noise control (7 marks)
- c) Explain the common principles used for removing pollution from exhaust gases (4 marks)

QUESTION FIVE (20 Marks)

- a) Write on industrial noise control (4 marks)
- b) Outline on the following mechanical ventilation
- i) Exhaust input method
 - ii) Plenum ventilation
 - iii) Air conditioning (9 marks)
- c) Name the sources of radiation pollution (4 marks)
- d) Sketch and indicate the dust movement in dust catcher (3 marks)

