



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

END OF SEMESTER EXAMINATION

SERIES: JANUARY 2025

TIME: 2 HOURS

PAPER A

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) Define water pollution and explain the following causes of water pollution
- i) Industrial waste
 - ii) Sewage and wastewater
 - iii) Marine dumping
 - iv) Global warming (12 marks)
- b) Explain the effects of heavy metals in water (10 marks)
- c) Define water pollution and outline the following causes of pollution
- i) Burning of fossil fuel
 - ii) Agricultural activities (8 marks)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Explain the following impacts caused by air pollution
- i) Respiratory and heart problems
 - 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 effects of air pollution on humans (7 marks)

QUESTION THREE (20 Marks)

- a) Outline the following pollutants
 - i) Thermal pollutants
 - ii) Nutrients
 - iii) Inorganic pollutant
 - iv) Suspended pollutants (8 marks)
- b) State six effects of water pollution (6 marks)
- c) Explain the effects of
 - i) Mercury pollution
 - ii) Lead pollution (6 marks)

QUESTION FOUR (20 Marks)

- a) Explain the following particulate matter 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 in removing pollutants from exhaust gases (4 marks)

QUESTION FIVE (20 Marks)

- a) Sketch and explain the operations of a dust catcher(8 marks)
- b) State four sources of radiation pollution (4 marks)
- c) Explain the term industrial noise control (4 marks)
- d) Outline the point source water pollution (4 marks)

