



TECHNICAL UNIVERSITY OF MOMBASA

**SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING**

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN CIVIL ENGINEERING

DCE 2111 : WORKSHOP TECHNOLOGY AND PRACTICE I

END OF SEMESTER EXAMINATIONS

SERIES: APRIL 2025

TIME 2 HOURS

Instructions to candidates

You should have the following for this examination

- Answer booklet
- Examination pass
- Student ID

This paper consists FIVE questions. Answer THREE questions

Do not write on the question paper.

QUESTION ONE (20 Marks)

- a) Explain any" FOUR "causes of accidents in a workshop. (8 Marks)
- b) With the aid of a sketch briefly, describe the indirect cold-water supply system. (8 Marks)
- c) State TWO advantages of the indirect system in 1 (b) over the direct system. (2 Marks)
- d) State the reason an overflow pipe is necessary in a water storage cistern. (2 Marks)

QUESTION TWO (20 Marks)

- a) With the aid of a sketch, describe the direct hot water system. (8 Marks)
- b) Explain the main advantage of the "indirect" system of hot water system. (2 Marks)
- c) Sketch any FIVE types of pipe fittings used in pipes. (10 Marks)

QUESTION THREE (20 Marks)

- a) Sketch FOUR types of pipe joints. (8 Marks)
- b) With the aid of sketches briefly, describe the operation of any TWO sanitary appliances. (10 Marks)
- c) State any FOUR materials from which pipes are made. (2 Marks)

QUESTION FOUR (20 Marks)

- a) Sketch any THREE types of traps. (4 Marks)
- b) Outline FOUR factors that cause traps to lose their water seals. (8 Marks)
- c) Briefly describe the two-pipe system of above ground drainage. (8 Marks)

QUESTION FIVE (20 Marks)

- a) Explain the origin of the term "plumbing". (2 Marks)
- b) Explain the importance of plumbing in the building industry. (6 Marks)
- c) Explain the need of a "vent stack" in the above ground drainage. (4 Marks)

- d) Differentiate a manhole from an inspection chamber (4 Marks)
- e) Differentiate between 'Arc welding' and 'Gas welding.' (4 Marks)