



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 1

SPECIAL / SUPPLEMENTARY 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 outline the direct cold water supply system. (8 Marks)

- c) State any FOUR effects of a poor drainage system to the environment. (4 Marks)

QUESTION TWO (20 Marks)

- a) Outline FOUR types of pipe joints used in plumbing. (8 Marks)

- b) State THREE advantages of the following pipes

- i) Galvanized steel
- ii) Pvc pipes (6 Marks)

- c) Explain the purpose of the following sanitary appliances

- i) Bidet
- ii) Water closet
- iii) Sink (6 Marks)

QUESTION THREE(20 Marks)

- a) With the aid of a sketch outline the direct hot water cylinder system. (8 Marks)

- b) Name TWO tools used for EACH of the following tasks

- i) Making female threads
- ii) Making male threads
- iii) Removing burrs from cut pipes
- iv) Tightening/untightening fittings
- v) Gripping pipes while working on them
- vi) Bending pipes

(6 marks)

- c) Outline TWO methods in which traps may lose their water seal (6 marks)

QUESTION FOUR

- a) Sketch TWO tools used for the following tasks in plumbing

- i. Marking
- ii Measuring angles

(6marks)

- b) Sketch the following tools and explain their use

- i. Plunger
- ii. Hacksaw
- iii. Pipe wrench

(6 marks)

- c) Name FOUR items of attire worn in a workshop and explain the purpose of each item (8 marks)

QUESTION FIVE

- a) State FOUR conditions that require the installation of a manhole in a sewer system

(4 marks)

- b) Sketch four types of ordinary traps used with sanitary appliances (8 marks)

- c) Sketch and state the use of the following pipe fittings

- i. Wye tee
- ii. Female-male 90° elbow
- iii. Straight tee
- iv. Cup

(8marks)