



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

DIPLOMA IN CIVIL ENGINEERING
DCE 2111: WORKSHOP TECHNOLOGY (PLUMBING)

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: JULY 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 any **THREE** questions.

Do not write on the question paper.

QUESTION ONE (20 Marks)

- (a) Discuss the **THREE** types of pipes used in plumbing works . (6 Marks)
- (b) Using neat labelled diagram describe the indirect system of cold water supply. (8 Marks)
- (c) Give the three disadvantages of the direct water supply. (6 Marks)

QUESTION TWO (20 Marks)

- (a) Briefly explain the drainage system used for conveying waste water. (6 Marks)
- (b) Give **THREE** methods used to join mild steel pipe . (6 Marks)
- (c) With the aid of sketches state the use of the following tools;
- (i) Wheel cutter
 - (ii) Reamer
 - (iii) Hacksaw
 - (iv) Die stalk
- (8 Marks)

QUESTION THREE (20 Marks)

- (a) Using a well labelled diagram describe the direct system of cold water supply (8 Marks)
- (b) Give the advantage of the use of PPR pipes over galvanized iron pipes in plumbing works. (6 Marks)
- (c) Discuss **THREE** types of metal joins. (6 Marks)

QUESTION FOUR (20 Marks)

- (a) Outline **SIX** safety precautions to be observed in a workshop (6 Marks)
- (b) With the aid of sketches describe any **FOUR** types of sanitary appliances (8 Marks)
- (c) List the tools used for sheet metal work and their uses (6 Marks)

QUESTION FIVE (20 Marks)

- (a) Briefly explain **SIX** factors used in the selection of pipe materials. (8 Marks)
- (b) Explain how the service pipe is laid below ground in water supply (6 Marks)
- (c) Describe **FOUR** types of joints in welding (6 Marks)