



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

TCV 4326: CONSTRUCTION TECHNOLOGY IV

END OF SEMESTER EXAMINATION

SERIES: JANUARY 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 question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION ONE (COMPULSORY) 30 Marks

- Draw a schematic diagram to show the supply of water, from the mains to the storage tank of a two storeys building. The building has, in the ground floor; a kitchen sink, Water closet (w.c), bath and wash hand basin (WHB), boiler, and in the upper floor; a W.C, Bath, & WHB, hot water storage cylinder. The cold water storage cistern is located in the ceiling. (15marks)
- For the building described in question ONE, above, show the distribution of cold water from the water storage cistern to the appliances in the building. (8marks)
- Indicate and explain the operation of the control system in the water supply, for the building described in a) above. (7marks)

QUESTION TWO, (20marks)

The building describe in question ONE above, is located in an area of saline water (hardwater),

Draw a line diagram to show the supply and distribution of hot water to the various appliances.

QUESTION THREE, (20Marks)

- a) **State the significance of manholes** and inspection chambers and state where they are ideally located in a drainage system.(8marks)
- b) Draw a typical plan and section of a manhole to show its construction features. (12marks)

QUESTION FOUR, (20marks)

With the aid suitable sketches, Outline the construction of a single stack drainage system stating the regulations which should be strictly adhered to.

QUESTION FIVE, (20marks)

- a) State the importance of ventilating drain lines.
- b) With the aid of suitable sketches describe the following pipe protection measures;
 - i) Concrete surround
 - ii) Haunching
 - iii) Concrete bed