



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

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: NOVEMBER 2024

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer booklet, calculator, 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) (30marks)

A two storied building, a maisonette, has the following appliances;

Ground floor; - bath, w.c, wash hand basin, including a kitchen sink and a boiler.

Upper floor; - bath, w.c, wash hand basin, including hot water storage.

Ceiling roof; - cold water storage cistern.

- Provide an outline drawing to show the supply and distribution of hot water, using the direct hot water supply system and show all the control systems.
(22marks)
- Discuss the problems which could arise using this system in areas with hard water. (8marks)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

Provide a schematic drawing to show the supply and distribution of cold water from the mains to the various appliances, in the building outlined in question ONE above.

QUESTION THREE (20 Marks)

- a) State the purpose of introducing fresh air in a drainage system, and with the aid of suitable sketches show how this is achieved in a typical drainage system. (8marks)
- b) i) State where intercepting chambers and manholes should be located in a drainage system.
- ii) Sketch a typical manhole constructed with coral blocks. (12marks)

QUESTION FOUR (20 Marks)

- a) Draw a 1000liters dustproof water cistern (10marks)
- b) Describe the operation of a localized instantaneous gas hot water heater (10marks)

QUESTION FIVE (20marks)

Provide a schematic drawing to show the supply and distribution of cold water to a 12 storey apartment block. The pressure from the service mains can only serve up to six storeys of the apartment block.