



## 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:** AUGUST 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.

Draw an outline diagram to show, the water supply to the building from the water mains and the distribution to the various appliances showing clearly all the control systems.

**ANSWER ANY TWO QUESTIONS FROM THIS SECTION**

#### **QUESTION TWO (20 marks)**

- a) Draw a 1000liters dustproof water cistern (12marks)
- b) Draw a localized prismatic water supply and describe how it operates. (8marks)

### **QUESTION THREE (20marks)**

With the aid of a suitable schematic drawing, describe the supply and distribution of hot water, using the indirect hot water supply system, to the appliances described in question ONE above.

### **QUESTION FOUR (20marks)**

- a) With the aid of suitable sketches, describe the spigot and socket joint of clay drain pipes, and the UPvc plastic drain pipes. (6marks)
- b) Describe, with the aid of suitable drawings, the three concrete bedding techniques in laying clay pipes. (6marks)
- c) With the aid of suitable drawings, distinguish between the following drainage systems;
  - i) Separate system
  - ii) Combined drainage system. (8marks)

### **QUESTION FIVE (20marks)**

With the aid of a suitable diagram explain the operation of a single stack system, stating clearly the applicable regulations.