



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

ECV 4516: CONSTRUCTION TECHNOLOGY SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 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) 20 Marks

- a) Discuss factors to consider in organisation and preparation of the site layout. (10marks)
- b) Briefly describe the functions of the following parties on site;
 - i) Architect,
 - ii) Consulting engineers,
 - iii) Statutory and regulating organisations,
 - iv) Quantity surveyor, (10marks)
- c) Outline with the aid of suitable sketches, the Pythagoras (3:4:5) method of setting out rectangular or square buildings (10marks)

Question TWO, (20marks)

- a) Outline factors which affect the choice of foundations. (8marks)
- b) With the aid of suitable sketches describe the following types of foundations;
 - i) Wide strip foundation
 - ii) Raft with an up stand beam foundation.

Question THREE, (20marks)

- a) Outline with the aid of suitable sketches the construction of ground concrete floor (8marks)
- b) Briefly describe with the aid of suitable sketches the construction of a suspended timber ground floor. (12marks)

Question FOUR, (20marks)

- a) With the aid of suitable sketches, state the building code requirements as pertains the following;
 - i) Risers and treads,
 - ii) Clearance,
 - iii) Balustrading,
 - iv) Width of the stairs. (8marks)
- b) For a building with a storey height of 3.6m, Draw the plan and section of a concrete dogleg stair, showing all construction details (12marks)

Question FIVE, (20marks)

Outline the supply and distribution of water from public mains to two storey building, with the storage on the roof ceiling. The building has the following facilities on the ground floor; kitchen sink, w.c cistern, wash hand basin and a bath tub, while on the upper floor the appliances consist of; hot water storage cylinder, w.c cistern, wash hand basin, and bath tub. Clearly show all the water flow control systems