



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

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) 20 Marks

- a) Outline the following factors considered in foundation design;
 - i) Types of subsoil,
 - ii) Dead and superimposed loads. (12marks)
- b) Describe with the aid of sketches the construction of the following types of foundations, stating where each type is ideally applied;
 - i) Wide strip foundation,
 - ii) Deep strip foundation,
 - iii) Pad foundation
 - iv) Bored pile and driven pile foundations. (18marks)

Question TWO, (20marks)

- a) Outline the functional requirements of walls, (6marks)
- b) State the significance of D.P.C in wall construction, and list four materials applied in D.P.C. work (6marks)
- c) State the significance of bonding in brickwork and with the aid of suitable sketches outline the following types of bonds;
 - i) English bond,

ii) Stretcher bond. (8marks)

Question THREE, (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)
- c) For a building with a storey height of 3.2m inclusive of the floor thickness, Draw the plan and section of a concrete dogleg stair, showing all construction details (12marks)

Question FOUR, (20marks)

- a) Outline with the aid of sketches, the construction of suspended insitu concrete floor (8marks)
- b) Describe with the aid of suitable sketches the construction of the following types of floors;
 - i) Flat slab/ mushroom floor construction,
 - ii) Hollow clay pot concrete floor slab. (12marks)

Question FIVE, (20marks)

Show a typical layout for the supply and distribution of hot water, using the direct hot water system,, and indicate the necessary control valves.