



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

TCV 4317 : CONSTRUCTION TECHNOLOGY III

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2024

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)

- a) Draw a well labelled sketch illustrating a stair formwork (5 marks)
- b) What is painting and what are its objectives? (2 Marks)
- c) Why is the application of paints in humid conditions not recommended? (2 Marks)
- d) What are the advantages of precast concrete floors? (3 Marks)
- e) Differentiate between the following types of ceilings. (8 Marks)
 - i. Tray ceilings
 - ii. Coffered ceilings
 - iii. Coved ceiling
 - iv. Exposed ceiling

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Describe THREE paint defects clearly indicating their causes and remedies. (6 Marks)
- a) Discuss the process followed in application of paints on a plastered wall surface. (5 Marks)



- a) Discuss the application of paint using the following methods: (9 Marks)
 - i. Brush
 - ii. Roller
 - iii. Spray

QUESTION THREE (20 Marks)

- a) Define the following stair terminologies and use a sketch to further illustrate your answer (10 Marks)
 - i. Bifurcated stairs
 - ii. Baluster
 - iii. Balustrade
 - iv. Newel
 - v. Nosing
- b) What is an alternating tread stair and in which situations can it be used? Draw a well labelled drawing to further illustrate the stair. (6 Marks)
- c) What is a spiral stair? What is the advantage of constructing a spiral stair? (4 Marks)

QUESTION FOUR (20 Marks)

- a) Differentiate between the following brick partition walls: (6 Marks)
 - i. Plain brick partition wall
 - ii. Reinforced brick partition wall
 - iii. Brick nogging partition wall
- b) Differentiate between suspended floors, ground floors, and basement floors. (3 Marks)
- c) Describe FIVE functional requirements of ground floors. (5 Marks)
- d) Draw a well labelled section of a ground floor and state the purpose of each component. (6 Marks)

QUESTION FIVE (20 Marks)

- a) What is the definition and purpose of a ceiling? (4 Marks)
- b) Discuss the following four types of ceilings classified according to their materials, highlighting their advantages and disadvantages. (16 Marks)
 - i. Gypsum ceilings
 - ii. Cloth ceiling
 - iii. Fiberglass ceiling
 - iv. Metal ceiling