



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

BUILDING AND CIVIL ENGINEERING DEPARTMENT

FIRST YEAR SEMESTER ONE EXAMINATION FOR

CERTIFICATE IN BUILDING TECHNOLOGY MODULE 1

GENERAL BUILDING CONSTRUCTION 1

DATE:

TIME:

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## INSTRUCTIONS; ANSWER ALL THE FIVE QUESTIONS

1.
  - a) Briefly describe the evolution of the built environment. (10 marks)
  - b) Define the term timbering and state why it is necessary in excavations. (6 marks)
  - c) By use of a neat sketch, show typical timbering in dry, loose soils. (4 marks)
2.
  - a) Explain the following terms as applied in foundations
    - i. Bearing pressure
    - ii. Bearing capacity; (4 marks)
  - b) Name and sketch any FOUR types of foundations. (16 marks)
3.
  - a) Briefly explain the following methods of dewatering with the aid of neat sketches; (10 marks)
    - i. Freezing
    - ii. Well point system
  - b) State the four processes involved in the building process. (10 marks)

4. a) Make a neat sketch of a well labeled timber corner profile board. (10 marks)
- b) Explain two aims of setting out buildings. (4 marks)
- c) Briefly explain THREE activities involved in site clearance. (6 marks)
5. a) Outline two factors to be considered when choosing and designing foundations for a domestic house. (3 marks)
- b) Explain the following terms;
- (i) Backfill
  - (ii) Settlement
  - (iii) Shallow foundations
  - (iv) Deep foundations (10 marks)
- c) List down seven stages of concrete production. (7 marks)