



MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

..... TERM FOR

CERTIFICATE IN BUILDING TECHNOLOGY

BUILDING TECHNOLOGY 1

DATE:

TIME:

INSTRUCTIONS

ANSWER ALL QUESTIONS

1.
 - a) Explain the term evolution of a built environment giving three examples (6 marks)
 - b) List six features of a natural environment (6 marks)
 - c) Outline three factors affecting a built environment (6 marks)
 - d) List four features of a built environment (2 marks)
2.
 - a) with the aid of a diagram, explain the following 3-4-5 method of setting out a building (6 marks)
 - b) Define the term timbering (2 marks)
 - c) Give four reasons for timbering (8 marks)
 - d) Define the term foundation (4 marks)
3.
 - a) Outline the four factors affecting the choice of a foundation type (8 marks)
 - b) Illustrate how timbering is done to a loose sandy soil (12 marks)

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4. With the aid of a diagram, describe the following types of foundation
- Deep strip foundation
 - Wide strip foundation
 - Solid Slab raft
 - Beam and slab raft (20 marks)
5. a) Explain three functional requirements of a foundation (6 marks)
- b) With the aid of a diagram, describe the following foundation types (12 marks)
- Pile foundation
 - Mat foundation



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BUILDING TECHNOLOGY II

DATE:

TIME:

INSTRUCTIONS

ANSWER ALL QUESTIONS

1. a) Define the following terminologies as used in chimneys
 - i) Hearth
 - ii) Fireplace
 - iii) Flue
 - iv) Throat
 - v) Pargetting
 - vi) Breast
 - vii) Gathering
 - viii) Chimney

(16 marks)
- b) Define the term roof and give two examples

(4 marks)
2. a) Give four functional requirements of fireplaces and chimneys

(8 marks)
- b) With the aid of diagram, describe the following roof types
 - Collar roof
 - Closed collar roof
 - Lean to roof

(12 marks)

3. a) List five types roof coverings (5 marks)
- b) Draw a well labeled diagram of a chimney, fireplace and flue (15 marks)
4. a) Give four functional requirements of a stair (8 marks)
- b) Explain six factors affecting the choice of a roofing material (12 marks)
5. a) Differentiate between a flat roof and a pitch roof (4 marks)
- b) With the aid of a diagram, describe the following types of stairs (16 marks)
- Dog leg
 - Spiral
 - Straight flight
 - Quarter turn

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