



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

SECOND YEAR SECOND SEMESTER EXAMINATIONS

BACHELOR OF SCIENCE IN PUBLIC HEALTH.

HPH 208: BUILDING MATERIALS

DATE: 15/12/2021

TIME: 8.30-10.30 AM

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## INSTRUCTIONS:

This paper consists of two sections A and B

### SECTION A

This section has **ONE** question

The question is **COMPULSORY**

The question is 30 marks.

### QUESTION ONE (30 MARKS)

- (a) Define the following terms as used in building materials (5 marks)
- i. BOQ
  - ii. Egress
  - iii. Joist
  - iv. Skirting
  - v. Zoning
- (b) Explain the causes for the foundation failures (5 marks)
- (c) Write brief notes on the characteristics of soils (5 marks)
- (d) Explain principal factors determining the depth of foundation of a building (5 marks)
- (e) Describe the structural components of a building. (5 marks)
- (f) Explain the purpose of foundations in a building (5 marks)

## **SECTION B**

This section has **FOUR (4)** questions

Answer **TWO (2)** questions

Each question is 20 marks

### **QUESTION TWO (20 MARKS)**

- (a) Explain the following (5 marks)
  - (i) Curing of concrete
  - (ii) Uses of steel
- (b) Describe the health and safety requirements in building construction (15 marks)

### **QUESTION THREE (20 MARKS)**

- (a) Explain the geological classification of stones (5 marks)
- (b) Describe factors affecting building technology (15 marks)

### **QUESTION FOUR (20 MARKS)**

- (a) Discuss qualities of a good brick (5 marks)
- (b) Explain why housing is an important determinant of health (15 marks)

### **QUESTION FIVE (20 MARKS)**

- (a) Explain the importance of compaction of concrete (5 marks)
- (b) Discuss design principles of modern houses (15 marks)