



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS

2013/2014 ACADEMIC YEAR

**SECOND YEAR, FIRST SEMESTER FOR THE DEGREE OF BACHELOR OF
SCIENCE IN CONSTRUCTION MANAGEMENT**

TCM- 3212 BUILDING TECHNOLOGY I

August 2013

TIME: 2 HOUR

INSTRUCTIONS

1. This paper contains FIVE (5) questions
2. Answer any THREE (3) questions
3. Write all answers in the booklet provided.

QUESTION ONE

- a) Describe in detail the procedure of setting out the foundation trenches (10 marks)
- b) Mention the type of foundation you would suggest under the following conditions giving your reasons
 - i) A foundation on a slopping ground
 - ii) When it is impossible to extend the footing of an exterior column. (10 marks)

QUESTION TWO

- a) Explain any 7 functional requirements of a wall (7 marks)
- b) Draw and label a section through a cavity wall showing all details from the foundation (9 marks)
- c) Explain load bearing walls and non load bearing walls giving an example in each case (4 marks)

QUESTION THREE

- a) Outline any FIVE ways in which load bearing capacity is enhanced in pile foundations (5 marks)
- b) Sketch and label a cross – sectional view of a wall having a window and resting on a raft foundation up to wall plate level. (10 marks)
- c) Outline any THREE advantages and TWO advantages of composite walls. (5 marks)

QUESTION FOUR

- a) Explain any FOUR functional requirements of a window (4 marks)
- b) Define a lintel and mention any THREE materials commonly used for its construction. (5 marks)
- c) With the aid of a diagram show the following roof details
 - i) Valley
 - ii) Hip
 - iii) Ridge (11 marks)

QUESTION FIVE

- a) Discuss the provisions of doors and windows in a structure with respect to the following:
- I) Location
 - II) Purpose
 - III) Size (9 marks)
- b) Name any TWO fixtures used either in a door or a window (2 marks)
- c) Sketch and label a lean – to – roof details (6 marks)
- d) Outline any THREE requirements of a good roof (3 marks)