



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS FOR THE DEGREE OF SCIENCE IN:**

**BUILDING CONSTRUCTION AND MANAGEMENT**

**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2015/2016 ACADEMIC YEAR**

**CENTRE: MAIN CAMPUS**

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**COURSE CODE: TCM 3212**

**COURSE TITLE: BUILDING TECHNOLOGY I**

**EXAM VENUE: W/S**

**STREAM: BSc IN CONSTRUCTION**

**DATE: 25/4/16**

**EXAM SESSION: 2.00 – 4.00 PM**

**TIME: 2 HOURS**

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**Instructions**

- 1. Answer Question 1 (compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

## QUESTION ONE

- a) With the aid of sketches, explain how the 3 – 4 – 5 method is used in setting out a rectangular shaped building. (9 marks)
- b) Outline any FIVE factors to be considered in deciding the type of foundation to be used. (5 marks)
- c) List any THREE considerations taken in the choice of an excavation method. (3 marks)
- d) Define Timbering as used in excavation of trenches. (2 marks)
- e) Sketch and label the details of Timbering in moderately firm soil. (5 marks)
- f) With the aid of sketches differentiate between wide strip foundation and deep strip foundation. (6 marks)

## QUESTION TWO

- a) Define the following terms as used in roofs;
  - i) Batten
  - ii) Hip
  - iii) Rafter. (6 marks)
- b) Sketch and label the details of a lean - to – roof (7 marks)
- c) Outline any FIVE requirements of a good roof. (5 marks)
- d) Name any TWO classifications of roofs. (2 marks)

## QUESTION THREE

- a) Sketch the details of a solid ground floor. (7 marks)
- b) Explain the functions of hard core filling to a foundation. (3 marks)
- c) Sketch and label a segmental arch. (7 marks)
- d) Discuss any THREE causes of dampness in a building. (3 marks)

## QUESTION FOUR

- a) Define the following terms
  - i) Base line
  - ii) Datum
  - iii) Profile. (6 marks)
- b) Outline the procedure carried out in constructing a wall in brick work. (7 marks)
- c) Define bonding as used in brick work. (3 marks)
- d) Differentiate between a stretcher bond and a Flemish bond. (4 marks)

## QUESTION FIVE

- a) Outline any THREE reasons for damp prevention in a building. (3 marks)
- b) With the aid of a sketch show the following parts of a window
  - i) Soffit
  - ii) Jamb
  - iii) Lintel
  - iv) Window sill. (5 marks)
- c) Explain the FOUR reasons which necessitate the provision of a window to a building. (8 marks)
- d) Explain the role of the following in a building team;
  - i) C.O.W
  - ii) Quantity surveyor. (4 marks)