



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

**UNIVERSITY EXAMINATIONS FOR THE DEGREE IN SCIENCE IN
CONSTRUCTION MANAGEMENT**

2ND YEAR 1ST SEMESTER 2017/2018 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TCM3212

COURSE TITLE: BUILDING TECHNOLOGY I

EXAM VENUE: WS

STREAM: BSc CONSTRUCTION MGT

DATE: 18/12/2017

EXAM SESSION: 2.00 – 4.00PM

DURATION: 2 HOURS

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**

1. a) Define the following terms as used building construction.
 - i) Code of practice
 - ii) Standard specification
 - iii) Draft for development
 - iv) Datum. (8 marks)

- b) With the aid of sketches describe each of the following bonds.
 - i) English bond
 - ii) Flemish bond. (8 marks)

- c) With the aid of sketches, briefly explain the following terms.
 - i) Foundation level
 - ii) Ground level
 - iii) Finish floor level. (8 marks)

- d) A straight flight of a private stair is to be constructed between two successive floors with a total rise of 2.775 m and going of 3.500 m. If one going is 250 mm, calculate:
 - i) The number of treads required;
 - ii) The height of one riser. (6 marks)

- 2) a) State any FOUR physical considerations taken before commencing a construction project. (4 marks)
- b) Out line any two reasons for the use of hard core filling in solid ground floor (4 marks)
- c) Sketch strip foundation details showing part of ground floor(6 marks)
- d) With the aid of sketches explain how the following are used in leveling.
 - i) Cut
 - ii) Fill. (6 marks)

3. a) State THREE remedies that may be used to reduce the possibility of overloading strip foundation causing settlement on the soil below. (6 marks)
- b) List FIVE effects of dampness in a building. (5 marks)
- c) Explain FOUR factors to be considered when selecting roof covering materials. (4 marks)
- d) Explain the role of a COW in the building team. (3 marks)
- e) List any TWO types of mortars (2 marks)

4. a) Outline THREE factors which determine the method of demolition. (6 marks)
b) Sketch and label an elevation of a gauged segmental arch. (9 marks)
c) State FIVE factors which determine the type of centre to be used for an arch. (5 marks)
5. a) Differentiate between the following terms as used in construction.
i) Environment.
ii) Built environment. (4 marks)
- b) Describe the following as used in stairs.
i) Rise
ii) Flight
iii) Strings or Stringers
iv) Pitch
v) Landing. (5 marks)
- c) Sketch the details of a lean – to – roof structure. (7 marks)
- d) Sketch the plan details of a dog – leg stairs. (4 marks)