



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

**UNIVERSITY EXAMINATION FOR:**

**BACHELOR OF ARCHITECTURAL STUDIES/BACHELOR OF  
ARCHITECTURE**

**EAR 4203: BUILDING TECHNOLOGY II**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**DATE: Pick Date Sep 2018**

## **Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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## **QUESTION ONE (COMPULSORY) (30 Marks)**

- Why is it necessary to have a reserve between the road and the boundary of plot owners? (10marks)
- Name the services that are laid on road reserves. (5marks)
- Why is that pipes that carry water for firefighting are independent of the main water supply pipe to users? (12marks)
- Explain what is meant by the term fire hydrant. (3marks)

## **QUESTION TWO (20 Marks)**

- Apart from building walls mainly to provide shelter, what other functions do walls fulfil? (12marks)
- How do walls modify the micro-climate inside the building? (8marks)

### **QUESTION THREE (20 Marks)**

- a) Explain what is meant by the following terms:-
  - i) Rafter (3marks)
  - ii) Purlin (3marks)
  - iii) Joist (3marks)
  - iv) Batten (3marks)
- b) For a two storey residential house using timber trusses and covered with mangalore tiles, state the size of each of the members listed in question (a) using cypress as the structural timber. (4marks)
- c) What is the difference between sawn timber and planed timber and state where each is mostly used. (4marks)

### **QUESTION FOUR (20 Marks)**

- a) By way of sketch diagrams, show the difference between:-
  - i) A ledged and braced door (3marks)
  - ii) A bound lining door (3marks)
  - iii) A hollow flush door (3marks)
  - iv) A panel door (3marks)
- b) What timber materials are common for fabricating doors, windows and fittings among the hardwoods in Kenya? (4marks)
- c) Why is it important to fix temporary bracing to door frames when not yet fixed to door openings? (4marks)

### **QUESTION FIVE (20 Marks)**

- a) When referring to fire resistance, what is meant by fire rating? (4marks)
- b) As standard procedure, why must every kitchen in a house have a fire blanket? (4marks)
- c) What types of firefighting equipment is recommended for residential or office buildings and what kind of fires does each of them fight? (12marks)