



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
CERTIFICATE IN BUILDING & CIVIL ENGINEERING

ECV 1101: CIVIL ENGINEERING MATERIAL I
SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY 2015
TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions

All questions carry equal marks

Maximum marks for each part of a question are as shown

Use neat, large and well labeled diagrams where required
This paper consists of **TWO** printed pages

Question One

- a) State FOUR different types of construction materials **(4 marks)**
- b) Briefly explain the following properties of materials:
(i) Durability
(ii) Strength
(iii) Appearance **(6 marks)**
- c) Briefly explain the geological classification of rocks **(10 marks)**

Question Two

- a) Outline FIVE good characteristics of Building stones **(10 marks)**
- b) Briefly explain FIVE defects of building stones **(10 marks)**

Question Three

- a) State FOUR qualities of a good brick **(10 marks)**
- b) Sketch the cellular structure of a tree trunk **(10 marks)**

Question Four

- a) Name THREE types of Ferrous Metals **(3 marks)**
- b) Name FIVE methods of heat treatment of carbon steel **(5 marks)**
- c) Name FIVE types of non-ferrous metals **(5 marks)**
- d) Draw a sketch of a typical blast furnace **(7 marks)**

Question Five

- a) Differentiate between hardwood and softwood **(10 marks)**
- b) List FIVE examples of Hardwood and FIVE examples of softwood **(10 marks)**