



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations for 2015/2016

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND SEMESTER EXAMINATION FOR
DIPLOMA IN BUILDING CONSTRUCTION TECHNOLOGY
DIPLOMA IN CIVIL ENGINEERING

BCECD 116: CIVIL ENGINEERING MATERIALS I

Date:

Time:

INSTRUCTIONS:

- *This paper comprises of five questions*
- *Question one is compulsory and carry 30 marks*
- *Answer any other two questions*

- Discuss the general properties of materials (6 marks)
 - Discuss the formation of igneous stone and state two types in this class (6 marks)
 - Differentiate between hardwood and softwood. (8 marks)
 - Discuss the manufacture of cast iron and state its two uses (6 marks)
 - Outline four properties of bricks (4 marks)
- Discuss the procedure of manufacturing of clay bricks. (12 marks)
 - Explain two methods of glazing applied to clay products (6 marks)
 - State four uses of clay products (2 marks)

3. (a) Describe the process of producing steel iron and state its characteristics (8 marks)
- (b) Define the following terms as used in metals:-
- i) Malleability
 - ii) Ductility
 - iii) Toughness
 - iv) Ageing (8 marks)
- (c) State 3 uses of copper (3 marks)
4. (a) Sketch a cross section of a tree trunk naming all the parts and stating the function of each part. (12 marks)
- (b) Discuss the following methods of converting timber:-
- (i) Rift sawn
 - (ii) Through and through (6 marks)
- (c) State four timber defects (2 marks)
5. (a) Outline five qualities of a good stone (5 marks)
- (b) Discuss kiln and air seasoning methods of drying timber (6 marks)
- (c) Discuss crushing test of stones (4 marks)
- (d) Discuss Two defects found (5 marks)