



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations 2015/2016

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

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

BCECD 116: CIVIL ENGINEERING MATERIALS I

Date: 25/4/2016

Time: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of FIVE questions

Answer question one and other two questions in this paper

1. a) Discuss the following methods of mining stone:-
 - (i) Wedging
 - (ii) Heating (6 marks)
- b) Discuss sedimentary stone and state two types in this class (6 marks)
- c) Differentiate between hardwood and softwood (8 marks)
- d) Discuss 2 chemical classes of stone and give 2 examples of building stone in each class (6 marks)
- e) Outline four properties of bricks (4 marks)
2. a) Discuss the procedure of manufacturing of clay bricks (12 marks)
- b) Explain two methods of glazing applied to clay products (6 marks)
- c) State four uses of clay products (2 marks)

3. a) Describe the process of producing wrought iron (8 marks)
- b) Explain the following heat treatment given to metal:-
- i) Hardening
 - ii) Tempering
 - iii) Normalizing (9 marks)
- c) State 3 uses of steel (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. Tangential 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) State three advantages and three disadvantages of stones as building materials (6 marks)
- c) Discuss crushing test of stones (4 marks)
- d) Discuss Two defects found (5 marks)