



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
FIRST YEAR SECOND SEMESTER EXAMINATION FOR
DIPLOMA IN CIVIL ENGINEERING
BCECD116 CIVIL ENGINEERING MATERIALS I

DATE: 10/5/2019

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer question ONE and any other Two questions

1.
 - a) State and explain 3 geological classes of stone and state two examples in each Class. (9 marks)
 - b) Explain the following methods of seasoning timber: -
 - i) air seasoning
 - ii) kiln seasoning (8 marks)
 - c) Differentiate between hardwood and softwood giving 4 characteristics of each (8 marks)
 - d) Discuss the formation of igneous stone and state two two types in this class (5 marks)
2.
 - a) Describe the process of producing pig iron and state its characteristics (8 marks)
 - b) Define the following terms as used in metals: -
 - i) hardness
 - ii) malleability
 - iii) strain
 - iv) creep (8 marks)
 - c) State four uses of steel (4 marks)

3. a) Sketch a cross section of a tree trunk naming all parts and state their functions (12 marks)
- b) Discuss the following methods of converting timber: -
- i) rift sawing
 - ii) through and through (8 marks)
4. a) Outline 5 qualities of a good building stone (5 marks)
- b) Discuss the formation of intrusive igneous rocks (5 marks)
- c) Outline the crushing test on a stone (5 marks)
- d) State five defects found in stone (5 marks)
5. a) Discuss the procedure of manufacturing clay bricks (8 marks)
- b) Discuss the following clay products: -
- i) floor tiles
 - ii) bricks
 - iii) blocks (6 marks)
- c) State and discuss two methods of glazing clay products. (6 marks)