



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENGINEERING AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS FOR THE DIPLOMA IN BUILDING AND CIVIL
ENGINEERING**

2ND YEAR 2ND SEMESTER 2017/2018 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TBC 2224

COURSE TITLE: CONSTRUCTION MATERIAL TECHNOLOGY II

EXAM VENUE: LAB 23

STREAM: DIP IN BLD & CIV ENG

DATE: 19/12/2017

EXAM SESSION: 9.00 – 10.30AM

DURATION: 1 ½ HOURS

Instructions

- 1. Answer question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION ONE

- a. Define the term construction material and state any **FOUR** properties you would consider when selecting a construction material for use. (4 Marks)
- b. Building stones are to be tested for their different properties. List various tests and describe ONE test (8 Marks)
- c. i). Differentiate between ferrous and non-ferrous metals and give three examples of each (5 Marks)
ii). State any **SIX** standard shapes in which the rolled steel sections are available in the market (3Marks)
- c. i). What are the **FOUR** distinct operations involved in the manufacture of clay products (2 Marks)
ii). What is the purpose of burning of bricks? (2 Marks)
- d. With the aid of sketches describe any **THREE** methods of timber conversion (6Marks)

QUESTION TWO

- a. Define seasoning of timber and give the reasons for adopting the artificial seasoning to the Natural seasoning (10 Marks)
- b. What is conversion of timber? (3 Marks)
- c. Enumerate the various causes of defects in timber (3marks)
- d. What is meant by preservation of timber and state its **THREE** objects (4 Marks)

QUESTION THREE

- a. Name atleast **SIX** clay products used in building construction. (3 Marks)
- b. In what respects is the brickwork superior to the stonework ? (9 Marks)
- c. What are the objects of drying the bricks? (3 Marks)
- d. What is meant by 'frog'and what are its function (5 Marks)

QUESTION FOUR

- a. Define the term 'Building stone' and state **THREE** main properties why building stones are chosen (6 Marks)
- b. Stones are gradually losing their popularity as the building material. Discuss

- c. State atleast SIX causes for deterioration of stones? (6 Marks)
- (3 Marks)
- d. What is meant by dressing of stones and what is its purpose?
- e. (5 Marks)

QUESTION FIVE

- a. Differentiate the following types of bituminous materials used in pavement construction
1. Straight run bitumen:
 2. Cut-back bitumen:
 3. Bitumen emulsions:
- (9 Marks)
- b. List the **Two** classification of asphalt and enumerate atleast **Four** uses of asphalt
(3Marks)
- c. State the **THREE** main aspects considered in the classification of plastics. (3 Marks)
- d. Explain the fundamental difference between thermoplastics and thermosetting plastics
(5 Marks)