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**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**

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**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**

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**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**

1. Define the term construction material and state any **FOUR** properties you would consider when selecting a construction material for use. (4 Marks)
2. Building stones are to be tested for their different properties. List various tests and describe ONE test (8 Marks)
3. 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 theFOUR distinct operations involved in the manufacture of clay products

 (2 Marks)

ii). What is the purpose of burning of bricks?

 (2 Marks)

1. With the aid of sketches describe any THREE methods of timber conversion

(6Marks)

**QUESTION TWO**

1. Define seasoning of timber and give the reasons for adopting the artificial seasoning to the Natural seasoning(10 Marks)
2. What is conversion of timber?

(3 Marks)

1. Enumerate the various causes of defects in timber

 (3marks)

1. What is meant by preservation of timber and state its THREE objects

 (4 Marks)

**QUESTION THREE**

1. Name atleast**SIX** clay products used in building construction.

(3 Marks)

1. In what respects is the brickwork superior to the stonework ?

(9 Marks)

1. What are the objects of drying the bricks?

 (3 Marks)

1. What is meant by ‘frog’and what are its function ( 5 Marks)

**QUESTION FOUR**

1. Define the term ‘’Building stone’’ and state THREE main properties why building stones are chosen (6 Marks)
2. Stones are gradually losing their popularity as the building material. Discuss

 (6 Marks)

1. State atleast SIX causes for deterioration of stones?

(3 Marks)

1. What is meant by dressing of stones and what is its purpose?
2. (5 Marks)

**QUESTION FIVE**

1. Differentiate the following types of bituminous materials used in pavement construction
2. Straight run bitumen:
3. Cut-back bitumen:
4. Bitumen emulsions:
5. Marks)
6. List the **Two** classification of asphalt and enumerate atleast**Four** uses of asphalt

 (3Marks)

1. State the THREE main aspects considered in the classification of plastics.
2. Marks)
3. Explain the fundamental difference between thermoplastics and thermosetting plastics

 (5 Marks)