



DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY
UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF TECHNOLOGY IN BUILDING
CONSTRUCTION

TBD 3206: CONSTRUCTION AND ENGINEERING MATERIALS II

DATE: 21ST SEPTEMBER 2021

TIME: 2:00-4:00PM

INSTRUCTIONS TO CANDIDATES

- This paper contains **FOUR** questions
- Answer question **ONE** and any other **TWO** questions
- No mobile phones allowed in the examination room

THIS PAPER CONSISTS OF (2) PRINTED PAGES

QUESTION ONE (30 MARKS) - COMPULSORY

- a) Describe the following terms as used in construction Engineering [2 Marks]
- Grout
 - Admixture
- b) Discuss **THREE** classifications of aggregates in accordance to source/origin [6 Marks]
- c) Describe any **TWO** effects of admixture on the properties of the following [4 Marks]
- Fresh Concrete
 - Hardened Concrete
- d) Discuss **FOUR** objectives of seasoning timber [4 Marks]

- e) Discuss any **THREE** components of bricks as a construction material and their relative effect on the built brick structure [**6 Marks**]
- f) Describe the primary difference between iron and steel as used in construction [**2 Marks**]
- g) Discuss any **THREE** types of steel used in construction [**6 Marks**]

QUESTION TWO (20 MARKS)

- a) Discuss any **THREE** limitations of using concrete as a construction material [**6 Marks**]
- b) Discuss any **FIVE** impurities in water used for concreting and their effect on concrete [**10 Marks**]
- c) Describe the “Wet Process” of cement manufacturing using limestone [**4 Marks**]

QUESTION THREE (20 MARKS)

- a) Discuss any **FIVE** techniques used in construction when stone is used as a building material [**10 Marks**]
- b) Discuss **THREE** types of hollow blocks used in construction [**6 Marks**]
- c) Describe why insulated Expanded Polystyrene (EPS) panels are ideal for the construction of Prefab houses [**4 Marks**]

QUESTION FOUR (20 MARKS)

- a) Describe composites as construction materials. [**2 Marks**]
- b) Discuss any **FOUR** types of composites based on matrix constituent forms [**8 Marks**]
- c) Discuss any **FIVE** methods of seasoning timber forms [**10 Marks**]