



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

KIBIT EXAMINATIONS FOR:

HIGHER DIPLOMA IN BUILDING AND CIVIL ENGINEERING

(BUILDING ECONOMICS OPTION)

EBC 3211: ESTIMATING AND COSTING I

YEAR 2 SEMESTER I

SERIES: DECEMBER 2017

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

-Pocket calculator

This paper consists of **FIVE** questions. Attempt question **ONE** (Compulsory) and any other **TWO** questions.

Do not write on the question paper.

Mobile Phones are NOT allowed inside the examination room.

SECTION A (COMPULSORY-30 MARKS)

QUESTION ONE

(a) A low cost housing project is proposed for workers of a firm. With the aid of sketches, briefly explain the effect of the following design variables would have on cost of the project:

(i) Plan shape

(ii) Size of the intended houses

(10 Marks)



- (a) In relation to building up of prices for construction works explain **FIVE** aspects of a proposed site that affect the cost of projects. **(20Marks)**

SECTION B (Attempt any TWO questions)

QUESTION TWO (20 Marks)

- (a) State **SIX** roles of an estimator that is employed by a contractor to a concrete footing. **(3 Marks)**
- (b) Briefly explain the importance of cost control in a building project. **(7 Marks)**
- (c) Explain **FIVE** situations that would qualify a contractor to be reimbursed by the employer for 'loss and expenses caused by disturbance of regular process of work' as provided for in building contracts. **(10 Marks)**

QUESTION THREE (20 Marks)

- (a) State the details that should be recorded in a daily work sheet in a construction site. **(4 Marks)**
- (b) Explain **FIVE** reasons for contractors giving different bill rates for same work. **(10 Marks)**
- (c) Briefly describe **FOUR** methods used in valuing of variations in construction works. **(6 Marks)**

QUESTION FOUR (20 Marks)

- (a) Explain **FIVE** precautions to be taken when using previously priced bills of quantities as a source of information. **(10 Marks)**
- (a) Describe **FIVE** types of waste that an estimator should take into account when building up unit rates. **(10Marks)**



QUESTION FIVE (20 Marks)

(a) With the aid of sketches, briefly explain the effect of the following design variables on cost of a project:

(a) Wall to floor area ratio

(b) Storey heights

(10 Marks)

(c) Explain in details the following terms as used in estimating and costing:

i) Unit rate

ii) Pro rate

iii) All-in-Labour rate

iv) Labour constants

(10 Marks)