



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 3203: CONSTRUCTION TECHNOLOGY III

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 any **TWO** questions

Do not write on the question paper.

Mobile Phones are NOT allowed inside the examination room.

QUESTION ONE

(a) Briefly explain the following terms as applied to stairs:

(i) Newel

(ii) Waist

(iii) Step

(6 Marks)

(b) With the aid of sketches, describe the following types of stairs:

(i) Cranked slab stair

(ii) Precast concrete cantilever stair

(14 marks)



QUESTION TWO

- (a) Briefly explain **FIVE** principles of a good drainage system. **(10 Marks)**
- (b) With the aid of sketches briefly explain the use of sight rail and boning rod to grade trenches. **(10 Marks)**

QUESTION THREE

- (a) Sketch and label the following invert levels in man-holes
- (i) Ramp connection.
 - (ii) Back- drop connection . **(10 Marks)**
- (b) Using sketches, describe **TWO** methods for testing drains. **(10 Marks)**

QUESTION FOUR

- (a) (i) State **TWO** reasons for laying a screed to a concrete base.
- (ii) Explain the **THREE** main advantages of employing dry liming techniques in wall finishing. **(10 Marks)**
- (b) (i) Briefly explain **THREE** reasons for the increasing use of suspended ceilings in most commercial buildings.
- (ii) With aid of a sketch explain the construction procedure for a suspended ceiling. **(10 Marks)**

QUESTION FIVE

(a) Explain the following terms as applied to painting works:

(i) Priming coat

(ii) Undercoating

(iii) Finishing coat

(6 Marks)

(b) With the aid of a labeled sketch briefly describe the flow pattern for a cold water system in a one storey residential house. **(8 Marks)**

(c) The following information relates to a straight flight stair that is proposed to connect the ground floor to the first floor of a building:

- Ground level to finished floor level height = 2.7 m
- Recommended maximum size of riser = 190 mm
- Recommended size of tread = 225 mm
- Sum for twice the riser plus the tread shall be not less than 550 mm and not more than 700 mm.

Determine the total going for flight of stairs

(6Marks)