(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2015/2016 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER EXAMINATIONS

FOR THE DIPLOMA
IN
CIVIL AND STRUCTURAL ENGINEERING

COURSE CODE: **DCE 085**

COURSE TITLE: **ESTIMATION AND COSTING**

DATE: Monday14TH December 2015   TIME: 2.00 – 4.00 PM

INSTRUCTIONS:
1. This paper consists of FOUR Questions
2. Answer Question One and any other Two Questions
3. Examination duration is **2 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

Question 1 (Compulsory)

a) Define the following terms
  i. Taking off
  ii. Cost check
  iii. Cost planning
  iv. Cost analysis
  v. Contingency
     (5 Marks)
b) State the broad categories of drawings in relation to estimating and costing of a house
                                                                    (2 Marks)
c) Cost estimates for rail and roads are produced for numerous purposes throughout the project lifecycle. List down five uses of cost estimates in transport project   (5 marks)
d) Briefly explain various estimating methods that can be employed to estimate construction cost.   (8 Marks)
e) Briefly discuss types of estimates.   (6 Marks)
f) Cost planning is quite vital during the design stage of a civil project. Outline the results of proper cost planning   (2 Marks)
g) Outline two purpose of architectural working drawings (2 Marks)
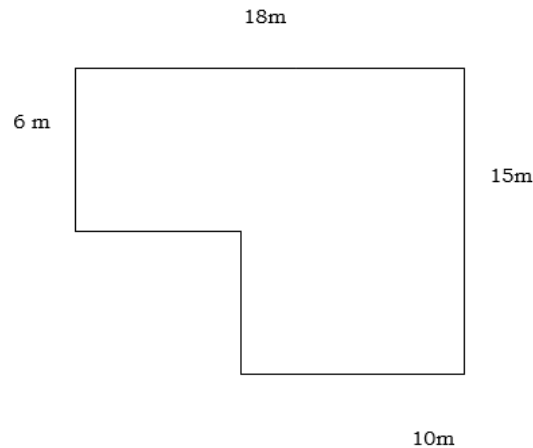
 Question 2
a) Give the unit of measurement and payment for the under mentioned particulars of items for civil works.
  i. Earthworks; Excavation, filling cutting and banking.
  ii. Brickwork of any description
  iii. Iron railing
  iv. Pipes, laying of pipes
  v. Supply of sanitary items
     5 Marks)

b) You are provided with the following preliminary drawing of the foundation of a building. The dimensions provided are outside measurements. A contractor is excavating the above trench. The trench is to be 2m deep and 500mm wide. If the cost of excavating and hauling $1m^3$ is Ksh 1000.Estimate the cost of excavating the trench if the contractors lorries have $7m^3$ capacity and on each trip the driver gets a stipend of ksh500   (15 marks)

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18m

6 m

15m

10m

Question 3

a) Find the quantity of standard size bricks (10cmx6cmx3cm)   a contractor   should have delivered to a project with the following conditions.

   i.   Wall is 3m high, 4m wide

   ii.   two opening, one 1m x 2m, 0.8m x 1m

   iii.   Mortar joints are 4cm thick

   iv.   2 rows are required

   v.   Allow for 3% brick waste   (15Marks)

    b) Outline five abilities of a successful estimator   (5 Marks)

Question 4

a) Outline the procedure for estimating the amount of mortar required to build a masonry wall
(5 marks)

b) Transport projects worth $ 150,000 in most developing countries are sponsored. In regard to estimation and costing of such projects explain the project sponsor responsibilities to ensure successful completion of the project.   (5 Marks)

c) List and explain five factors that affect the cost of a building.   (10 Marks)