



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)
Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
DIPLOMA IN CIVIL ENGINEERING & COMPUTER (DCC 09)
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBC 09)
EBC 2322: MEASUREMENT OF CIVIL ENGINEERING WORKS

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Pocket calculator*
- *Dimension papers*
- *A copy of the Standard Method of Measurement of Building Works*
- *A copy of the Civil Engineering Standard Method of Measurement*

This paper consists of **FIVE** questions

Answer question **ONE (COMPULSORY)** from **SECTION A** and any other **TWO** questions from **SECTION B**

Maximum marks for each part of a question are clearly shown

This paper consists of **TWO** printed pages

SECTION A (COMPULSORY)

Question 1 (30 marks)

A cutting is to be excavated for a road 300 M in length and 18 M in width, to an even gradient with mean depths calculated at 50M intervals as indicated below and side slopes 2 to 1. Prepare a table for the cutting and take off all quantities for the excavations general material for disposal, including excavation ancillaries **(Use CESMM)**. (30 marks)

CROSS SECTION	1	2	3	4	5	6	7
MEAN DEPTH (M)	9	16	15	12	18	14	11

SECTION B (Answer any TWO questions from this section)

Question 2 (20 marks)

- a) Explain and distinguish the following terms as used in Measurement of Civil Engineering works:
- (i) Original surface
 - (ii) Final surface
 - (iii) Excavated surface
 - (iv) Commencing surface
- (12 marks)
- b) State **FOUR** items that are priced under Method Related Charges, and distinguish the difference between time related and fixed charges (8 marks)

Question 3 (20 marks)

Drawing No. 01 shows a section and plan of a Mass Concrete Retaining wall 80M long. Take off quantities for the Mass Concrete bases and walling and including concrete ancillaries but excluding all other items and Earthworks **(Use CEMM)** (20 marks)

Question 4 (20 marks)

Take off all quantities for the site clearance and demolition works shown in drawing no 02. **(Use CESMM)** (20 marks)

Question 5 (20 marks)

Drawing No. 03 shows a section through a Quay 95m long. Take off quantities for the Piling works only up to and including piling ancillaries **(Use CESMM)** (20 marks)