THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

BRIDGING HIGHER DIPLOMA (BHD 11)

EBC 2324: ESTIMATING & COSTING

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2012
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Pocket Calculator*

Answer question **ONE (COMPULSORY)** in section **A** plus any other **TWO** from section **B**
Maximum marks for each part of a question are as shown
This paper consists of **FOUR** printed pages
Use the data in Appendix 'A' in addition to the Information given in the question for price build p.
Assume any other necessary information

SECTION A (COMPULSORY)

Question One

a) Briefly explain **FOUR** sources of cost information. **(12 marks)**

b) List the items considered in analysis of prices. **(3 marks)**

c) Outline the effects of the following factors on rates in a bill of quantities:
- **i)** Distribution of Preliminaries, profits and overheads
- **ii)** Difference in facilities between firms
- **iii)** Difference in quotations from suppliers and subcontractor
- **iv)** Lack of accurate cost information **(8 marks)**

d) Briefly explain the following:
- i) Unit rate
- ii) Labour constant
- iii) All-in-labour rate
- **iv)** All-in-machine rate **(7 marks)**

SECTION B (Attempt any TWO questions)

Question Two

a) Outline the duties of an estimator in a project. **(5 marks)**

b) Describe the following approximate estimating methods stating **TWO** merits and **TWO** demerits of each method.
- i) Storey Enclosure Method
- ii) Approximate Quantities Method
- **iii)** Functional Unit Valuation Method **(15 marks)**

Question Three

a) State **SIX** factors that affect the operating cost of a mechanical plant. **(6 marks)**

b) Describe the following methods of depreciation of mechanical plant.
- i) Double the rate method
- ii) Straight line method **(7 marks)**

c) Use the data given in Appendix 'A' to build up the owning cost of the mechanical plant. **(7 marks)**

Question Four

Build up a unit rate for 200mm thick coral block walling bedded in cement sand mortar mix 1:3 (per m^2) (Use the data given in Appendix 'A') **(20 marks)**

Question Five

Build up a unit rate for the following preliminary works. Assume all necessary information.

i) Site foreman **(4 marks)**
ii) Site watchman **(4 mark)**
iii) Site store **(4 marks)**
iv) Site toilet **(4 marks)**
v) Water for works **(4 marks)**

APPENDIX 'A'

General Information

Labour skilled @ kshs 50 per hour
Unskilled @ kshs 30 per hour

Material:

Cement @ kshs 700 per 50 kg bag
Sand @ 1500kshs/m^3
200mmth Coral Blocks @
Cement density 1440kg/m^3
Sand density 1500kg/m^3
Timber @ 200ksh/m for 100 x 50mm
Nails @ 200ksh/kg.

Plant:

Initial cost @ 1,200,000 ksh
Interest @ 10% of initial cost annually
Insurance @ 5% of initial cost annually
Maintenance cost @ 50% of annual depreciation
Scrap value = 300,000/=
Lifespan of plant = 3 years

(Make reasonable assumptions for information not given)