



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBCE)

EBC 2303: BUILDING & CIVIL ENGINEERING WORKS

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions

All questions carry equal marks

Maximum marks for each part of a question are as shown

Use neat, large and well labeled diagrams where required.

This paper consists of **THREE** printed pages

Question One

- a) Write specification notes for construction of a deep storm water manhole under the following heading.
- (i) Excavation works
 - (ii) Bottom slab
 - (iii) Walling
 - (iv) Plasterwork
 - (v) Benching
 - (vi) Step irons
 - (vii) Tep slab
 - (viii) Man hole cover
- (16 marks)**
- b) State the various types of Civil Engineering Contract documents **(4 marks)**

Question Two

- a) Under appropriate headings, write specifications for construction of a standard stabilized earth road. **(10 marks)**
- b) Write specifications notes for construction of a rigid concrete road under the following headings:
- (i) Road base formation
 - (ii) Water proofing underlay
 - (iii) Material for pavement
 - (iv) Reinforcement work
 - (v) Laying of concrete and construction joints
- (10 marks)**

Question Three

- a) Write specification notes for construction of a concrete storm water drainage pipes under the following headings:
- (i) Materials
 - (ii) Excavation works
 - (iii) Laying of pipes
 - (iv) Jointing of pipes
 - (v) Backfilling
- (10 marks)**
- b) Under appropriate headings, write specification notes for formwork construction in insitu concrete stormwater manhole **(10 marks)**

Question Four

- a) Describe the components in Civil Engineering specifications writing. **(6 marks)**
- b) Describe the SIX main types of specifications in Civil Engineering Construction. **(8 marks)**
- c) Describe the importance of ISO Standards to a customer. **(6 marks)**

Question Five

- a) Write specification notes for construction of a water pipeline under the following heading:
- (i) Preliminary survey
 - (ii) Selection of Alignment
 - (iii) Actual surveying
 - (iv) Geotechnical survey
 - (v) Pipeline laying
 - (vi) Back filling
- (14 marks)**
- b) Write specification notes for testing of the above pipeline. **(6 marks)**