TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBCE 13J)

EBC 2301: CIVIL ENGINEERING CONSTRUCTION II

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 **TWO** printed pages

Question One

a) Distinguish between the TWO pavement structures. **(4 marks)**

b) Sketch a section through Macadam's construction. **(6 marks)**

c) Outline FIVE constructional requirements of subgrade. **(10 marks)**

Question Two

a) State FOUR performance requirements of bridges. **(6 marks)**

b) Sketch a Bascule bridge **(4 marks)**

c) State the FOUR circumstances under which construction of causeways are permitted. **(6 marks)**

d) State TWO differences between culverts and bridges. **(4 marks)**

Question Three

a) State FOUR advantages of tunneling. **(6 marks)**

b) State the FOUR characteristics of Portals in tunneling **(6 marks)**

c) With the aid of a sketch, outline the construction of tunnels using Full Face Method **(8 marks)**

Question Four

a) State FIVE functions of Railway Sleepers **(5 marks)**

b) Sketch and label a section through steel sleepers **(5 marks)**

c) Outline FIVE functions of Ballast **(10 marks)**

Question Five

a) Sketch and label the THREE types of Break waters **(9 marks)**

b) State THREE factors upon which type of sea wall to be built depends **(3 marks)**

c) Define the following as applied to water front structures:
   (i) Berth
   (ii) Quay
   (iii) Wharf
   (iv) Groynes **(8 marks)**