THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

((A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR DEGREE IN BACHELOR OF ENGINEERING IN BUILDING & CIVIL ENGINEERING

EBC 4117: WORKSHOP TECHNOLOGY I

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

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.
Answer question **ONE (COMPULSORY)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory - 30 Marks)

a) Briefly explain with the aid of sketches safety measures that are essential for excavation works. **(10 marks)**

b) Outline **FIVE** safety measures for workshop designed for construction works. **(5 marks)**

c) (i) State the safety requirements of a working platform of a scaffold
(ii) Illustrate structural features of a put log scaffold. **(15 marks)**

Question Two (20 marks)

a) Detail the fixing of a timber roof truss at the following positions on a building:
   i) Apex
   ii) Eaves **(12 marks)**

b) State **FOUR** areas where sheet metal may be used in a building. **(8 marks)**

Question Three (20 marks)

a) Briefly explain **FIVE** main requirements of the building code with reference to construction of a balustrade **(8 marks)**

b) Design an open well staircase, and show its plan and sectional elevation. **(12 marks)**

Question Four (20 marks)

a) (i) Draw a cross section of a standard framed match boarded door.
   (ii) Sketch an elevation for the cross-section in 4(a) (i) **(12 marks)**

b) Illustrate a typical cross-section to show the P.C.C. door lintel that has a fixed lining. **(8 marks)**

Question Five (20 marks)

a) Briefly explain **THREE** techniques used in pipe bending. **(6 marks)**

b) Outline the operation of a pipe die. **(5 marks)**

c) Provide a schematic drawing of a water supply and distribution for a typical maisonnet of your choice. **(9 marks)**