



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

DIPLOMA IN CIVIL & COMPUTER AIDED DESIGN (DCC09A)

EBC 2217: CIVIL ENGINEERING CAD

SUPPLEMENTARY/SPECIAL EXAMINATIONS

SERIES: JUNE 2011

TIME: 3 HOURS

Instructions to Candidates:

This paper consists of **TWO** sections: **Section I** and **II**

Section I has **30 marks** and section II has **40 marks**.

Attempt **ALL** Questions in Section I and only **TWO** Questions from Section II

You should have the following for this examination:

- *Answer booklet*
- *Laptop/Desktop Computer*

Save your answer in AutoCAD using your **FULL** names followed by your student number.

SECTION I (COMPULSORY)

- a) Define the following terms: (10 marks)
- i) OTRACK
 - ii) Polar
 - iii) ORTHO
 - iv) Civil Engineering drawings
 - v) Architectural drawings
- b) List down FIVE things one can do when they make a mistake while working with AutoCAD. (5 marks)
- c) Using the tools Circle, Trim, Mirror and Fillet, construct the drawing below (4 marks)
- d) Using AutoCAD, draw the first angle orthographic projection and isometric projection of the solid as shown below. (11 marks)

SECTION II

ANSWER ANY TWO QUESTIONS

QUESTION 2

The figure below shows a bungalow to be built in the garden of an existing bungalow. Construct the drawing of the floor layout plan and the front elevation of the proposed two-bungalow and insert symbols from the design center. (20 marks)

QUESTION 3

The figure below is a first angle orthographic projection of a solid. Construct a three-view third angle projection of the solid and its isometric drawing (20 marks)

QUESTION 4

- a) Explain the use of the following co-ordinate systems as used in CAD and for each give an example. (9 marks)

- i) Absolute co-ordinates
 - ii) Relative co-ordinates
 - iii) Polar co-ordinates
- b) Using the AutoCAD software, draw a cantilever retaining wall and a mass retaining wall and on each show the following: (11 marks)
- i) Passive earth pressure
 - ii) Active earth pressure
 - iii) Ground pressure.

QUESTION 5

Draw the section through a house and clearly show the roof detail and the floor detail.

(20 marks)