THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

CERTIFICATE IN ARCHITECTURE – (CA 10B)

EBC 1307 : COMPUTER AIDED DESIGN I

END OF SEMESTER EXAMINATION

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
A personal computer or a laptop computer installed with the following application software:
- *A word processor*
- *AutoCAD*

Create a folder in My Documents and name it CA 08 FE 11: Save ALL your answers in *Word* and *AutoCAD* in this folder. Name your *Word* and *AutoCAD* file using your FULL names followed by your student number.
This paper consists of **FIVE** questions
Maximum marks for each part of a question are as shown
This paper consists of **FOUR** printed pages

Question 1

a) (i) State **THREE** advantages of using Computer Aided Design in creating engineering drawing
Over manual drafting (3 marks)

(ii) Describe the following Computer Aided Design main window components:

- Menu bars
- Graphics area
- Command line (4½ marks)

(iii) State the **THREE** methods of accessing commands in a CAD window (4½ marks)

b) Briefly explain the use of co-ordinates systems in CAD (8 marks)
c) Using Computer Aided Design software plot the boundary of a plot of land with the following
information

	BEARINGS			DISTANCES IN METRES
LEG	o	'	' '	
AB	37	36	44	12.000
BC	100	24	39	15.200
CD	125	17	40	17.300
DE	238	39	57	19.100
EF	180	00	00	25.000
FG	256	16	36	35.500
GH	294	21	39	44.400
HJ	37	03	34	35.434
JA	90	21	39	33.500

(10 marks)

Question 2

Figure 1 below shows a simply shaped object in isometric. Using Computer Aided Design Software
draw, in First Angle projection, the following orthographic views:

a) The front elevation as seen in the direction of arrow **F**.
b) The plan as seen in the direction of arrow **P.**
c) The end elevation as seen in the direction of arrow **E.**

Fig 1.0

Question 3

The following information relates to a 200mm thick boundary wall with brick facing to the external side and 15mm thick render to the internal side:

- 110mm brick facing fixed to wall in 20mm thick mortar
- 750mm wide x 250mm deep plain concrete strip foundation
- 250mm x 50mm coping stone
- Height of wall = 2700mm from average ground level
- Depth of strip foundation = 750mm

Draw a section through the wall using AUTOCAD   (20 marks)

Drawing fig 2.0 below shows the floor plan of a three bed room house.

Fig 2.0

Question 4

Refer to drawing fig 2.0

Using AutoCAD, draw the plan using a wall thickness of 200mm for both internal and external walls
(20 marks)

Question 5

Refer to drawing fig 2.0

Using AutoCAD, draw the left hand side elevation of the building. Make any necessary assumptions
(20 marks)