



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

DIPLOMA IN BUILDING AND CIVIL ENGINEERING (DBC10A)

EBC 2217 : CIVIL ENGINEERING CAD

SEMESTER EXAMINATIONS

SERIES: AUGUST 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.

This paper consists of **FIVE** printed pages

SECTION I
(COMPULSORY)

QUESTION 1

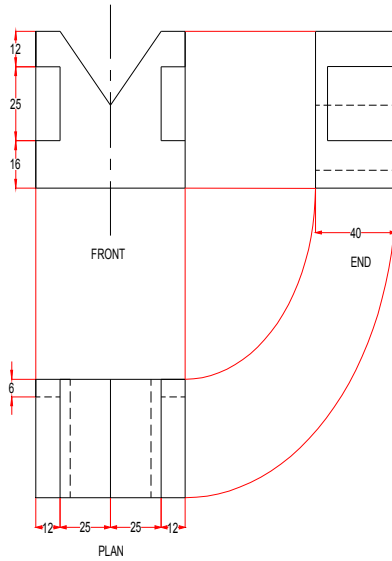
- a) Explain the use of the following co-ordinate systems as used in CAD and for each give an example. (9 Marks)
- i) Absolute co-ordinates
 - ii) Relative co-ordinates
 - iii) Polar co-ordinates
- b) State **FIVE** advantages of using computer-aided design in creating civil engineering drawings. (5 Marks)
- c) Differentiate between the following working drawings: (10 Marks)
- i) Civil drawings
 - ii) Architectural drawings
 - iii) Structural drawings
 - iv) Mechanical drawings
 - v) Electrical drawings
 - vi) Plumbing drawings
- d) Draw a well labeled section of a ground floor. (6 Marks)

SECTION II

ANSWER ANY TWO QUESTIONS

QUESTION 2

The figure below shows an object drawn in the first angle orthographic projection. Construct its isometric drawing. (20 Marks)



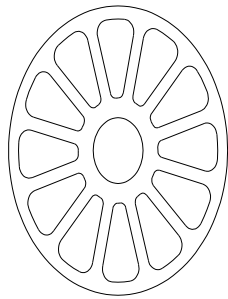
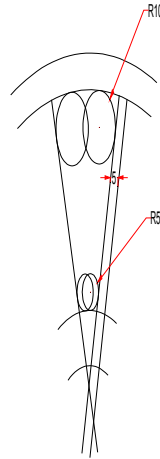
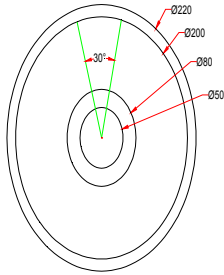
QUESTION 3

Using the AutoCAD software, draw a cantilever pad foundation and a beam and slab raft foundation.

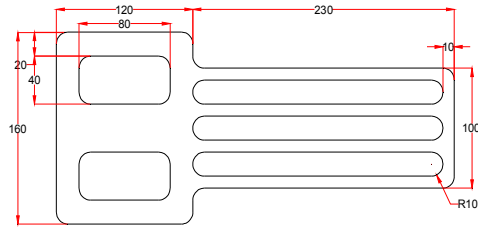
(20 Marks)

QUESTION 4

- a) Construct the circles and lines shown below. Using **Offset** and the **Ttr** prompt of the **Circle** tool, followed by **Trim**, construct one of the outlines arrayed within the circle. Array the outline 12 times around the centre of the circles to produce the figure below. (10 Marks)



- b) Construct the figure shown below. All corners have been filleted R10. The strips have been constructed using the **Line** and **Circle** tools. Construct one strip and then copy it using **Copy**.



QUESTION 5

Using the AutoCAD software, draw an open and a closed caisson. (20 Marks)