



# 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 <b>FIVE</b> advantages of using computer-aided design in creating civil engineering of	lrawings. (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)

R10





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)