



# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

*Faculty of Engineering and Technology*

**DEPARTMENT OF BUILDING AND CIVIL ENGINEERING**

DIPLOMA IN CIVIL ENGINEERING (DC10A)

**EBC 2217 : CIVIL ENGINEERING CAD**

END OF SEMESTER EXAMINATIONS

**SERIES: AUGUST 2011**

**TIME: 3 HOURS**

## **Instructions to Candidates:**

You should have the following for this examination:

1. Answer Booklet
2. Laptop/Desktop Computer

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**

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

This paper consists of **FOUR** printed pages

**SECTION I**  
**(COMPULSORY)**

**QUESTION 1**

- 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) 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
- d) Construct the drawing shown below using **Array** with a setting of 180 in the **Angle of array** field. (6 Marks)

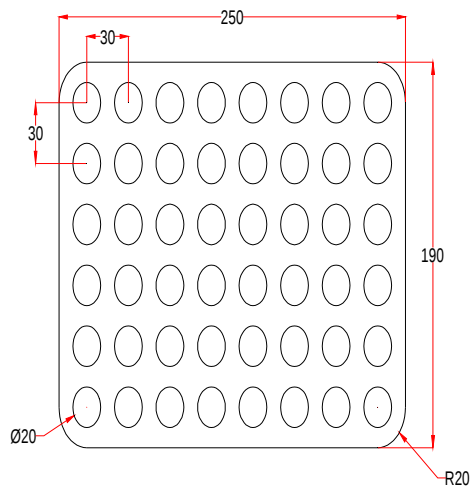


Fig 2

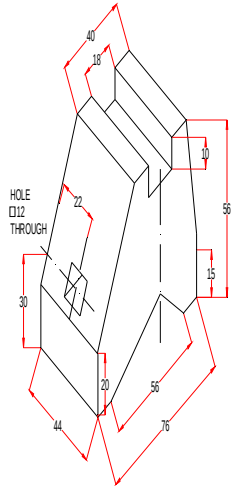
**SECTION II**

**ANSWER ANY TWO QUESTIONS**

**QUESTION 2**

Below is an isometric drawing of a solid. Draw its third angle orthographic projection.

(20 Marks)

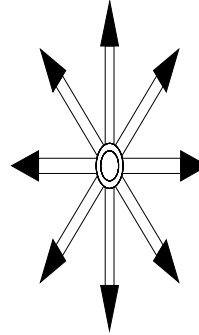


**QUESTION 3**

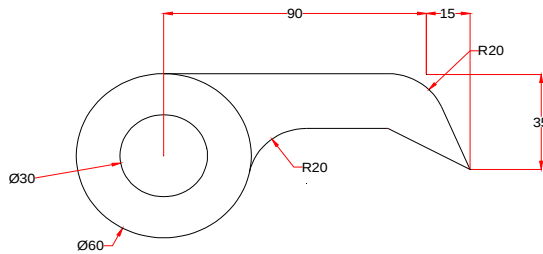
Using the AutoCAD software, draw a combined pad foundation and a cellular raft foundation. (20 Marks)

#### QUESTION 4

- a) Construct the arrow shown below. Array the arrow around the centre of its circle eight times to produce the figure shown below. (10 Marks)



- b) Construct the dimensioned drawing shown below. With **Copy**, copy the drawing. Then with **Scale** scale the drawing to a scale of **0.5**, followed by **Rotate** to rotate the drawing through an angle of  $300^\circ$ . Finally scale the original drawing to a scale of **2:1**.



#### QUESTION 5

Draw the section through a house and clearly show the roof detail and the floor detail. (20 Marks)