# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

## (A Constituent College of Jkuat)

### *Faculty of Engineering and Technology*

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

**DIPLOMA IN ARCHITECTURE (DA 09)**

EBC 2319: COMPUTER AIDED DESIGN II

**END OF SEMESTER EXAMINATION**

SERIES:  AUGUST/SEPTEMBER 2011

**TIME:  3 HOURS**

Instructions to Candidates:
This paper consists of **TWO** sections:  Section **I** and **II**
Section 1 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 **SIX** printed pages

**SECTION I (COMPULSORY)**

**Question 1**

a) Explain the **SEVEN** major stages involved in the design process    (14 marks)

b) List down the steps involved when plotting or printing a drawing    (8 marks)

c) Construct the circles and lines shown below.  Using **Offset** and the **Ttrprompt** 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.  Then **Extrude** to a height of 100.  **Subtract** as necessary to give you the 3D object shown below    (8 marks)
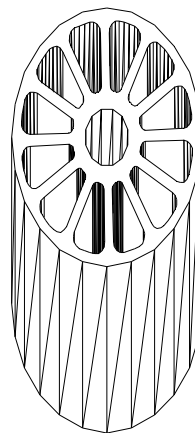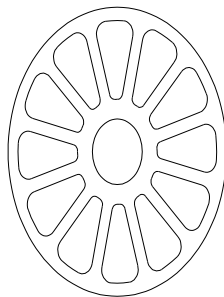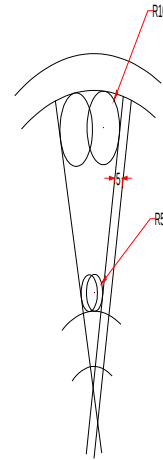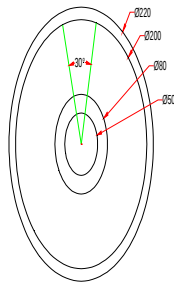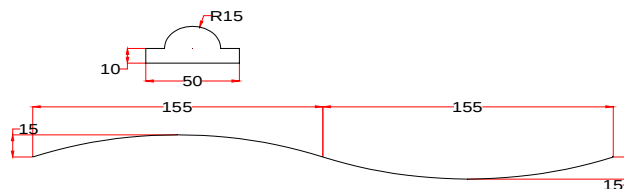
**SECTION II**

**Question 2**

a) Construct the 3D model of a wine glass, working to the dimensions given in the outline drawing
(10 marks)



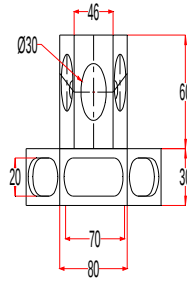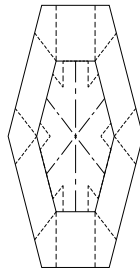b) Working to the polylines shown below, construct the sweep shown (10 marks)

**Question 3**

The two-view projection shows a stand consisting of two hexagonal prisms. Circular holes have been cut right through each face of the smaller hexagonal prism and rectangular holes with rounded ends have been cut right through the faces of the larger.
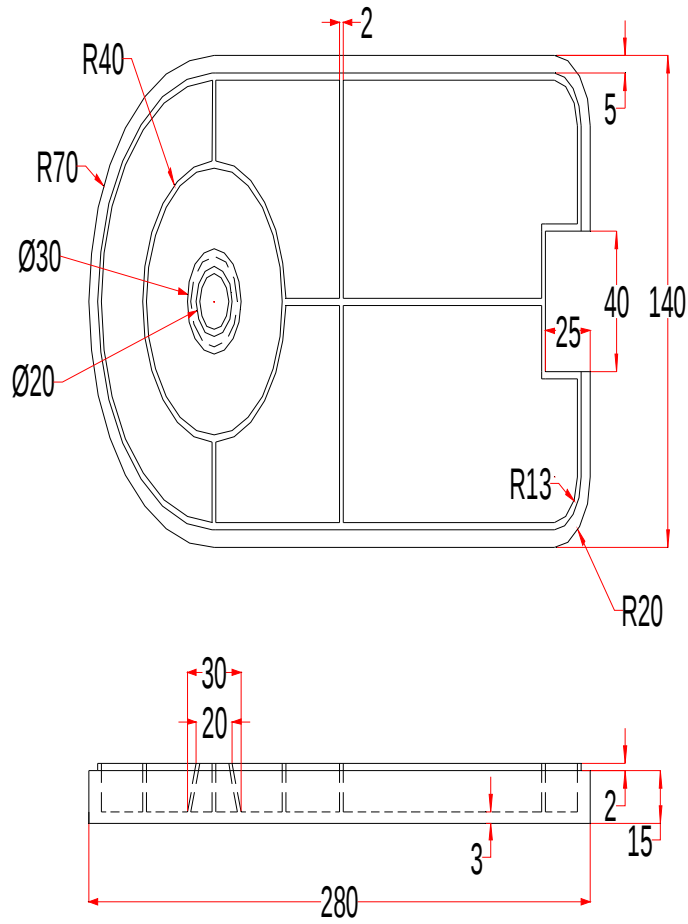  Construct a 3D model of the stand. When completed add a material to the model and render
(20 marks)

**Question 4**

Working to the sizes given below, construct a 3D drawing of the drip tray from an engine. Add a suitable material, place the model in an isometric view and render          (20 marks)

**Question 5**

A fork connector and its rod are as shown in the three view projection shown below. Construct a 3D model drawing of the connector with its rod in position. Then, place in an isometric viewing position, add materials to the model and render                                                    (20 marks)

30

20

45

R35

150

Ø20

R20

15

40

100