TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

DIPLOMA IN BUILDING & CIVIL ENGINEERING

EME 2105: ENGINEERING DRAWING & DESIGN

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2014
TIME ALLOWED: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
  -   *Answer Booklet*
This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions
All questions carry equal marks
Maximum marks for each part of a question are as shown

Use neat, large and well labeled diagrams where required
This paper consists of **TWO** printed pages

Question One

a) Draw a parabola inside a rectangle 125 x 80mm. **(10 marks)**

b) Construct an ellipse by the concentric circles method given the major and minor axis as 130 and 82mm respectively. **(10 marks)**

Question Two

a) A circle 35mm radius rolls without slip along a straight line. Draw the curve of a point on the circumference of the circle as the circle makes a complete revolution. **(10 marks)**

b) Given the diameter of a helix as 70mm and a pitch of 45mm, draw the helix **(10 marks)**

Question Three

Figure 1 shows the front elevation of a right cone, draw the following views of the cone in first angle orthographic projection.

a) The given front view
b) An end elevation
c) A plan

Show all dimensions **(20 marks)**

Question Four

Shown in figure 2 is a link mechanism in which AB is a crank which is pinned at A and can make a complete revolution. The crank is pin jointed to a rod BC which is in turn pin jointed to another crack CD. The crank CD can only oscillate about D. Construct the Loci of point P for a complete revolution of crank AB **(20 marks)**

Question Five

Figure 3 shows a pictorial drawing of an ornamental stone. Draw the following views of the stone in first angle projection.

a) Front view as shown
b) Plant view dimension your drawing fully **(20 marks)**