TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

CERTIFICATE IN BUILDING & CIVIL ENGINEERING

EBC 1101: ENGINEERING DRAWING I

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 **THREE** printed pages

Question One

A frustrum of a pentagon pyramid base 50mm side top 25mm side and axis 75mm long is placed on its base on the ground with an edge of the base perpendicular to the VP. Draw its projections project another top view on a reference line parallel to the line which shows the true length of the slant edge from this top view project a front view on an auxiliary vertical plane inclined at 45^{o} to the top view of the axis. **(20 marks)**

Question Two

In a slider crank mechanism the crank OA is 45cm long and the connecting rod AB 105cm long plot the locus of:

(i) Midpoint 'p' of AB
(ii) A point 60cm from A on BA extended for one revolution of the crank **(20 marks)**

Question Three

a) The foci of an ellipse are 90mm a part and the minor axis is 65mm long. Determine the length of the major axis. Draw the ellipse by concentric circular method. **(10 marks)**

b) Draw a rectangle having its sides 125mm and 75mm long inscribe two parabola in it with their axis bisecting each other. **(10 marks)**

Question Four

a) Define the following terms:
   (i) Locus
   (ii) Conic sections
   (iii) Cycloid **(6 marks)**

b) With aid of diagram, describe different types of drawing papers and their sizes. **(4 marks)**

c) The foci of an ellipse are 90mm apart and the minor axis is 65mm long. Determine the length of the major axis then draw the ellipse of oblong method. **(10 marks)**

Question Five

Draw isometric view of a casting two views of which are shown in figure below. **(20 marks)**