



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

CERTIFICATE IN BUILDING CONSTRUCTION PART I

EBC 1131: ENGINEERING DRAWING I

END OF SEMESTER EXAMINATION

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*
- *Drawing paper size A2*
- *A set of drawing instruments*

This paper consists of **FIVE** questions

Answer question **ONE** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

SECTION A (COMPULSORY)

Question 1

- a) Draw an ellipse by the concentric circles method given the major and minor axes as 135 and 90mm respectively. (10 marks)
- b) Construct a parabola inside a rectangle 100mm x 80mm (10 marks)
- c) Figure 1.0 shows a link mechanism in which AB is a crank which can oscillates about point A and connected to a rod BD. The road BD is pin jointed to another crack CD which can make a complete revolution about point C. Construct the locus of point P for a complete revolution of the crank CD. (10 marks)

SECTION B (Answer any TWO questions from this section)

Question 2

Fig 2.0 shows the plan and elevation of a right truncated cone

Draw the following views for the cone:

- (i) The given front view
(ii) A complete plan
(iii) A side view showing the cut surface (20 marks)

Question 3

- a) Fig 3.0 shows the plan and elevation of a triangular lamina
Determine, by geometric construction the true shape of the lamina (10 marks)
- b) Construct a helix given the pitch and generating circle diameter as 110 and 40mm respectively for $1\frac{1}{2}$ revolutions (10 marks)

Question 4

Shown in fig 4.0 are the plan and front elevation of a hollow octagonal truncated right prism. Draw the following for the prism:

- (a) The given plan
(b) The given front view
(c) An end elevation (20 marks)

Question 5

Shown in fig. 5.0 are the in-complete plan and front elevation of a right truncated octagonal pyramid. Draw the following for the prism. (20 marks)