



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2014/2015

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING
EXAMINATION FOR CERTIFICATE IN MASONRY AND CERTIFICATE IN
PLUMBING

1304/1305/312: TECHNICAL DRAWING

DATE: 18/3/2015

TIME: 2:00 – 4:00 PM

Instructions

- *You should have the following for this examination*
 1. Drawing paper size A2
 2. Drawing instruments
 3. Metric Scale rule
 - Answer any five of the following eight questions
 - All questions carry equal marks
 - Maximum marks for each part of a question are as show
 - All measurements are in millimeters
1. A) Draw a triangle ABC with AB = 50mm BC = 75 mm and AC = 70mm. Hence circumscribe a circle. (5 marks)
- b) Draw a line AB 115mm long and divide it into a ratio of 2:3:4. (5 marks)
- c) construct the following angles.
- i) 150
 - ii) $127\frac{1}{2}^{\circ}$
 - iii) $157\frac{1}{2}^{\circ}$
 - iv) $72\frac{1}{2}^{\circ}$ (10 marks)
2. A) Construct a rectangle 60mm long and 35mm wide. Hence construct a square having the same area as the rectangle. (10 marks)

- b) Inscribe an octagon in a square of sides 80mm. (10 marks)
3. Three views of a machined block are shown in fig. 1. Draw the block in oblique projection. (20 marks)
4. Fig. 2 shows a block in 1st angle projection. Draw the block in two-point perspective drawing. (20 marks)
5. Fig. 3 Shows a block in 1st angle projection. Draw the block in two-point perspective drawing. (20 marks)
6. Using rectangle method, construct an ellipse whose major axis is 100mm and minor axis is 60mm. Hence show the focal points. (20 marks)
7. Make neat pictorial free hand sketches of the following tools:
- a. Try square
 - b. Wooden mallet
 - c. Cross-pein hammer
 - d. Sledge hammer
 - e. Raw – hide mallet (20 marks)
8. Fig. 4. Shows three views of an object drawn in 1st angle projection. Draw the object in Isometric projection making X the lowest point. (20 marks)