



# MACHAKOS UNIVERSITY

University Examinations 2016/2017

## SCHOOL OF ENGINEERING AND TECHNOLOGY

### DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

#### FIRST YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

#### FIRST YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN ELECTRICAL AND ELECTRONICS ENGINEERING

#### SUPPLEMENTARY EXAMINATION

#### EED 110: ENGINEERING DRAWING II

DATE: 28/8/2017

TIME: 8:30 – 10:30 AM

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**Instructions:** Question *ONE* is compulsory.

Answer ANY other *TWO* Questions from this paper

All dimensions are in millimeters (mm)

- 1
  - a) Using sketches, show *three* ways of dimensioning a circle (6 marks)
  - b) Draw figure 1 in first angle orthographic projection.  
Indicate the angle of projection (12 marks)
  - c) Draw figure 2 in isometric projection taking corner T as the lowest point  
(12 marks)
- 2
  - a) Figure 3 shows a shaped block drawn in first angle projection. Draw the figure FULL scale in isometric projection taking corner V as the lowest point. Dimension it fully. (15 marks)
  - b) Figure 4 shows two views of a block drawn in third angle projection Sketch the block in oblique projection taking edge E-E as the lowest side (5 marks)

3. a) Figure 5 shows the right cone cut obliquely and vertically. Copy the view and  
i) Complete the plan  
ii) Draw the surface development of the cone (12 marks)
- b) Figure 6 shows the crank BD which rotates about a fixed centre D ( It cannot alter its length). Draw the locus of point C when the crank BD makes one complete revolution (8 marks)
4. a) Construct a triangle PQR, given the perimeter is 135mm and the vertical height is 65mm. State the name of the triangle (5 marks)
- b) Use figure 7 to draw: a) i) The plan in section  
ii) An elevation in the direction of the arrow D  
iii) The development of the frustum and the true shape of the cut surface (15 marks)
5. a) Figure 8 shows the outline of three pulley wheels connected by a taught belt. Draw the figure FULL SIZE showing clearly the construction for obtaining the points of contact of the belt and the pulleys (10 marks)
- b) Construct a rectangle PQRS given the diagonal is 70mm and the length of one side is 30mm (6 marks)
- c) Sketch the following Electrical/Electronic symbols  
i) Heater  
ii) Earth terminal (4 marks)