



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIRST SEMESTER EXAMINATION FOR DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

EED 103: ENGINEERING DRAWING 1

DATE:

TIME:

INSTRUCTIONS

Question **ONE** is compulsory. Answer ANY other **TWO** from this Paper
All dimensions are in millimeters (mm)

1.
 - a) Carefully, print the following information: *Pencil lettering should be done with a fairly soft pencil. Ascent the strokes* (8 marks)
 - b) Point P and Q are 100mm apart. With Q as center, draw a circle 75 mm in diameter. From P draw two lines PD and PF which are tangential to the circle. PD = 150mm. From D, construct another tangent to the circle to form a triangle PDF. Measure and state the lengths DF and PD and the angle PFD (12 marks)
 - c) Copy figure 1 and dimension it fully . (10 marks)
2.
 - a) With an aid of sketches, differentiate the following lines. State also the pencil grade used.
 - i) Outline
 - ii) Hidden detail line
 - iii) Construction line
 - iv) Center line (8 marks)
 - b) Construct a regular pentagon within a circle radius 40mm. Label all the corners (5 marks)
 - c) Figure 2 below shows a shaped block drawn in First angle projection. Draw the figure in oblique projection taking side AA as the lowest. (7 marks)

3. a) Sketch the following electrical/electronic symbols:
- i) Heater
 - ii) Transformer
 - iii) Loud speaker
 - iv) Earth terminal (8 marks)
- b) Construct a triangle ABC given the perimeter is 145mm and the sides are in the ratio 2:3:6. Measure the angle, BAC. (6 marks)
- c) Using sketches, show *three* ways of dimensioning a circle. (6 marks)
4. a) State and explain the *four* principles of engineering drawing. (8 marks)
- b) Draw figure 3 in first angle orthographic projection. Indicate the angle of projection. (12 marks)
5. a) Engineering drawing is a universal language used by all the personnel concerned with the design and manufacture of engineering items. Justify the foregoing statement (3 marks)
- b) Construct a triangle ABC, given the perimeter is 135mm and the vertical height is 65mm. State the name of the triangle. (5 marks)
- c) Draw figure 4 below in isometric projection taking corner Y as the lowest point. (12 marks)