



# MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

FIRST YEAR EXAMINATION FOR CERTIFICATE IN ELECTRICAL ENGINEERING

EPC112: TECHNICAL DRAWING II

Date: 6/6/2017

Time: 2:00 – 4:00 PM

---

## INSTRUCTIONS

*Answer Question ONE and any other TWO*

1. a) Engineering drawing is a means of communication used by all personnel concerned with the design and production of engineering items. Justify the foregone statement. (5 marks)
- b) a) Figure 1 below shows an isometric view of a shaped block. Copy the figure and dimension it fully. (15 marks)



- i) Complete the plan
- ii) Draw the surface development of the cone (12 marks)

- b) Sketch the following electronic symbols:
  - i) Fuse
  - ii) Transformer
  - iii) Loud speaker
  - iv) Earth terminal (8 marks)

- 3. a) 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)
- b) Construct a regular polygon, given the diameter of the escribed circle is 70mm (6 marks)
- c) a) A and B are two points 100mm apart. With B as center, draw a circle 75 mm in diameter. From A draw two lines AC and AD which are tangential to the circle. AC = 150mm. From C construct another tangent to the circle to form a triangle ACD. Measure and state the lengths CD and AD and the angle CDA (8 marks)

- 4. a) Figure 3 shows an outline of two 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. (12 marks)
- b) Figure 4 shows three views of a shaped block. Draw the block in oblique projection taking side CD to be the lowest side (8 marks)

- 5 Figure 4 shows a pictorial view of a machine block. Draw the block in first angle orthographic projection and dimension it fully – ignore all the small holes. (20 marks)

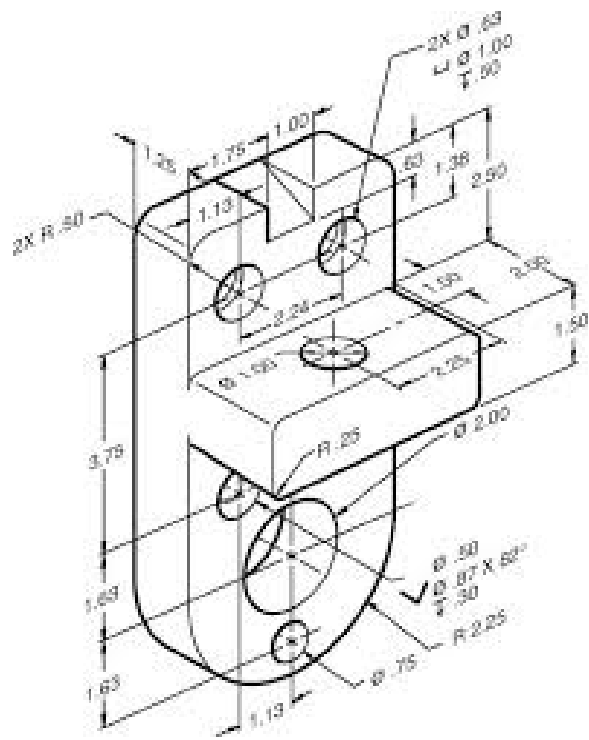


Figure 1