



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of Mechanical & Automotive Engineering
UNIVERSITY EXAMINATION FOR:
Diploma of Technology in Electrical & Electronics Engineering
EME 2131: Engineering Drawing & Design I
END OF SEMESTER EXAMINATION
SERIES: AUGUST 2019
TIME: 3 HOURS
DATE: Pick Date Aug 2019

Instruction to Candidates:

You should have the following for this examination

- *Student I.D. Card & Examination Pass*
- *A2 size Drawing paper*
- *Non-Programmable scientific calculator*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions.

Maximum marks for each part of a question are as shown.

Do not write on the question paper.

Question ONE (Compulsory)

Figure 1 shows a Mechanical block drawn in pictorial view. Draw the block in first angle orthographic projection the following views;

- Front elevation viewed from the left hand side.
- End elevation viewed from the right hand side.
- Plan viewed from the top.

Dimension your drawing correctly and show the symbol of projection.

(20 marks)

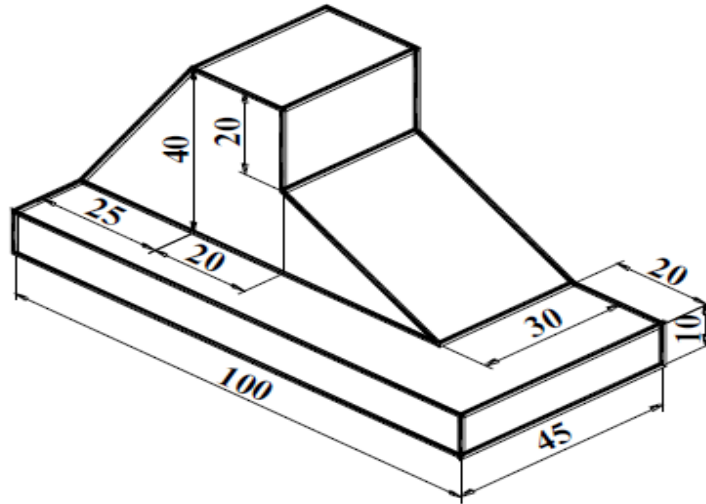
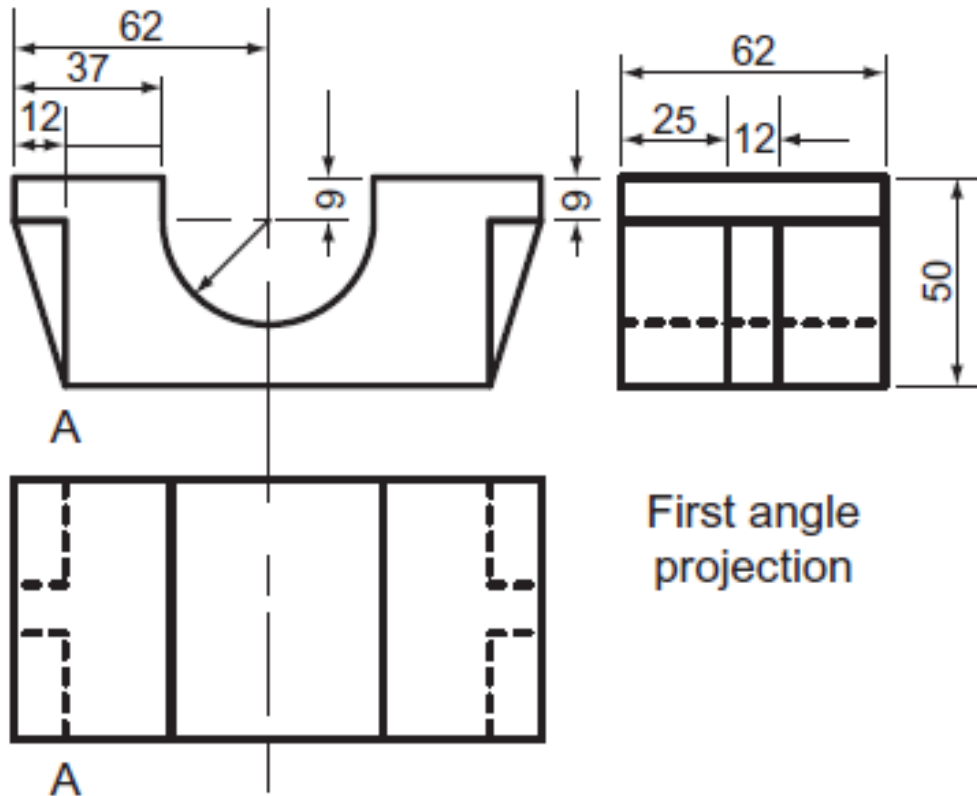


Figure 1

Question TWO

Figure 2 shows three views of a mechanical block drawn in first angle orthographic projection. From the views, construct an oblique view. (20 marks)



Dimensions in mm

Figure 2

Question THREE

a) Construct a diagonal scale 40 mm to represent 1 mm, 4 m long and to read to 10 mm.

Show the following readings on the scale:

- i. 1m 130 mm
- ii. 2m 940 mm
- iii. 3m 690 mm

(10 marks)

b) **Figure 3** shows two views of a mechanical block drawn in first angle orthographic projection. From the views, construct an Isometric view of the block. (10 marks)

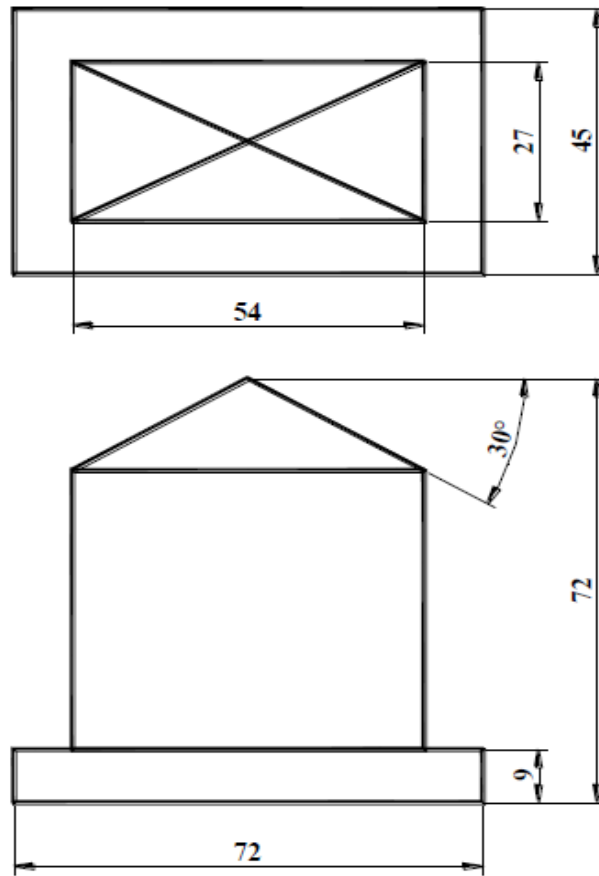


Figure 3

Question FOUR

A small scoop is to be made from sheet metal to the dimensions given in **Figure 4**. Draw

- a) The face of the cylinder viewed from the top in the position shown.
- b) The development of the shape of the sheet metal required to make the body of the scoop with the joint along AB.

(20 marks)

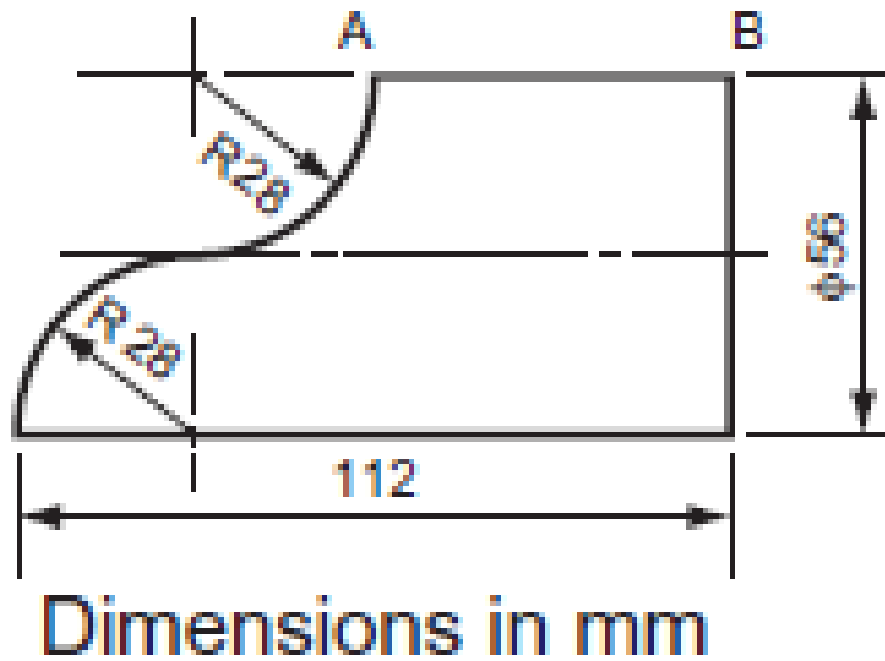


Figure 4

Question FIVE

- a) Construct an ellipse given major axis 125 mm and minor axis 75 mm. (10 marks)
- b) **Figure 5** shows a slotted link AB which rotates in clockwise direction as a round ball at Q rolls in the slot towards B. If the link makes two complete revolutions as the ball rolls from Q to B, plot the path traced by the ball. Name the path traced and state the application of such paths in engineering. (10 marks)

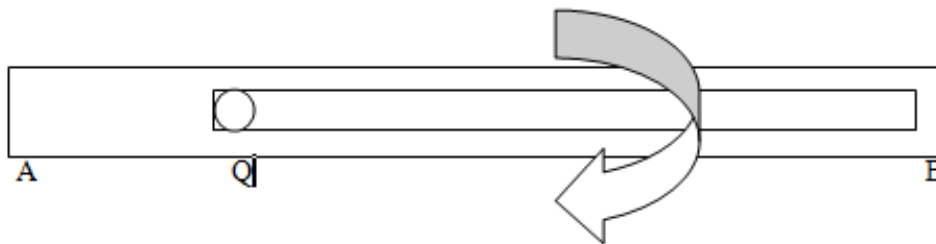


Figure 5