



**MASINDE MULIRO UNIVERSITY OF SCIENCE AND
TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY MAIN EXAMINATIONS
2023/2024 ACADEMIC YEAR**

SECOND YEAR FIRST SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF ENGINEERING IN CIVIL & TRUCTURL
ENGINEERING**

COURSE CODE: CSE 215

COURSE TITLE: ENGINEERING DRAWING III

DATE: 13TH DECEMBER 2023

TIME: 8 A.M – 10 A.M

INSTRUCTIONS:

1. This paper contains FOUR questions
2. **Question ONE (1) is Compulsory**
3. **Attempt a total of THREE questions in this booklet.**
4. Marks for each question are indicated in the parenthesis.

Examination duration is **2 Hours**

MMUST observes **ZERO** tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over.

Question 1 **COMPULSORY** **(20 marks)**

1. (a) Study the isometric figure below and complete the orthographic figures:
(b) Considering that each single cell represents 10mm, dimension the figure using unidirectional dimensioning

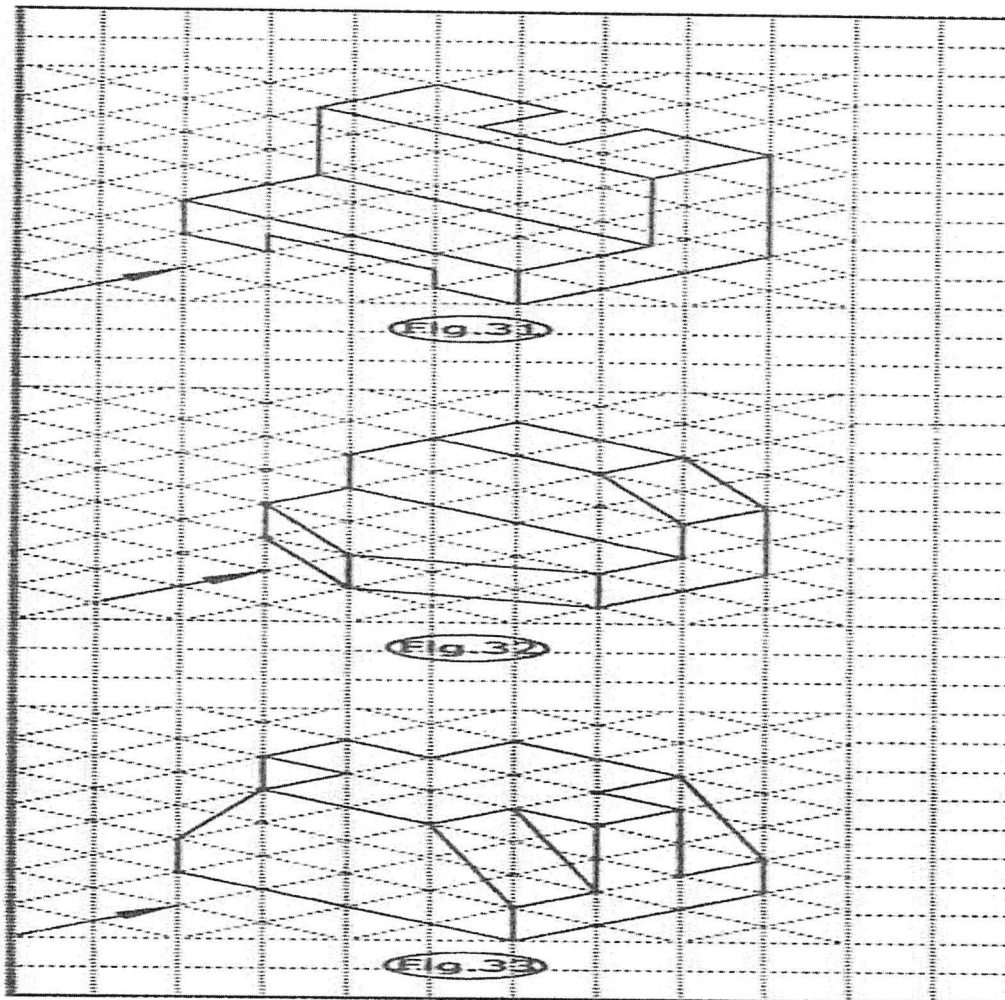


fig. 1

Question 2**(10 marks)**

Detailing in a structure is critical and is usually provided for in Engineering drawings. Draw three *views* of the riveted lap joint shown in fig. 2, taking $t = 12$ mm, $d = 20$ mm, $p = 60$ mm and $P_r = 40$ mm.

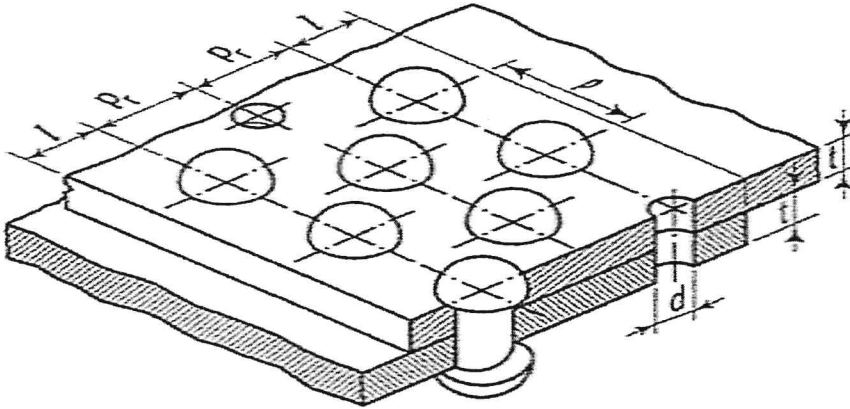


fig. 2

Question 3**(10 marks)**

To implement an engineering structure, you require three views of the structure. Using engineering drawing skills, as a design engineer, draw the following views of the object shown pictorially in fig. 3

- (i) Front view. (ii) Top view. (iii) Side view from the right.

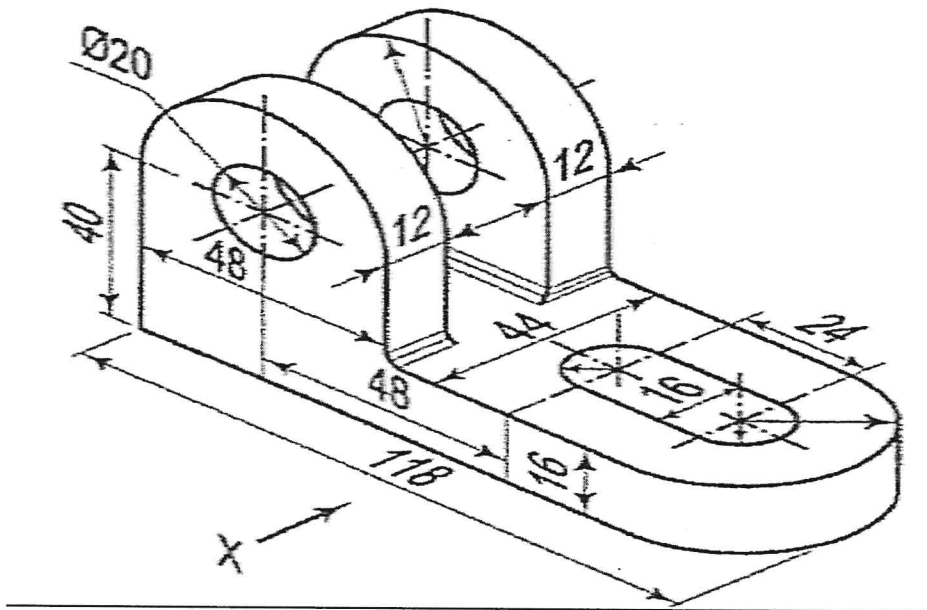


fig. 3

Question 4**(10 marks)**

The line diagram in figure 4 below was drawn with AutoCAD to generate two dimensional drawings covering all possible 2-D commands using Absolute Coordinate Method, where the points are located with respect to the origin (0, 0) and the syntax is X, Y. As in the steps mentioned below:

(1) Command: **LIMITS** (J), Reset Model space limits:

Specify lower left corner or [ON/OFF] <0.0000,0.0000>: (J)

Specify upper right corner <12.0000,9.0000>: **120,90** (J)

(2) Command: **ZOOM** (J)

Specify corner of window, enter a scale factor (nX or nXP), or

[All/Centre/Dynamic/Extents/Previous/Scale/Window] <real time>: **ALL** (J)

Regenerating model.

(3) Command: **LINE** (J)

Specify first point: **20,20** (J)

Specify next point or [Undo]: **100,20** (J)

Specify next point or [Undo]: **100,50** (J)

Specify next point or [Close/Undo]: **90,50** (J)

Specify next point or [Close/Undo]: **85,65** (J)

Specify next point or [Close/Undo]: **75,65** (J)

Specify next point or [Close/Undo]: **70,50** (J)

Specify next point or [Close/Undo]: **50,50** (J)

Specify next point or [Close/Undo]: **50,65** (J)

Specify next point or [Close/Undo]: **30,65** (J)

Specify next point or [Close/Undo]: **30,50** (J)

Specify next point or [Close/Undo]: **20,50** (J)

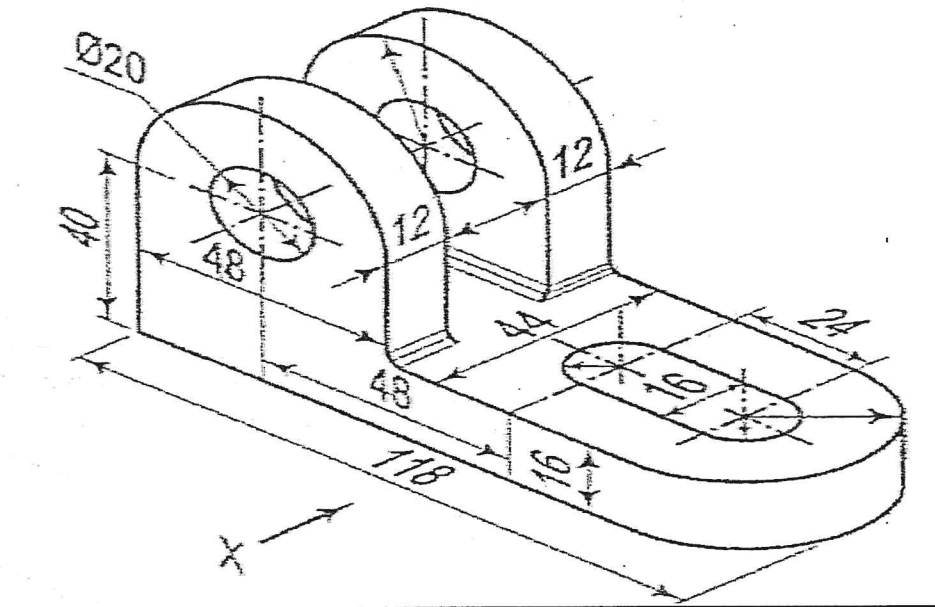


fig. 3

Question 4**(10 marks)**

The line diagram in-figure 4 below was drawn with AutoCAD to generate two-dimensional drawings covering all possible 2-D commands using Absolute Coordinate Method, where the points are located with respect to the origin (0, 0) and the syntax is X, Y. As in the steps mentioned below:

(1) Command: **LIMITS** (J), Reset Model space limits:

Specify lower left corner or [ON/OFF] <0.0000,0.0000>: (J)

Specify upper right corner <12.0000,9.0000>: **120,90** (J)

(2) Command: **ZOOM** (J)

Specify corner of window, enter a scale factor (nX or nXP), or

[All/Centre/Dynamic/Extents/Previous/Scale/Window] <real time>: **ALL** (J)

Regenerating model.

(3) Command: **LINE** (J)

Specify first point: **20,20** (J)

Specify next point or [Undo]: **100,20** (J)

Specify next point or [Undo]: **100,50** (J)

Specify next point or [Close/Undo]: **90,50** (J)

Specify next point or [Close/Undo]: **85,65** (J)

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Specify next point or [Close/Undo]: **50,50** (J)

Specify next point or [Close/Undo]: **50,65** (J)

Specify next point or [Close/Undo]: **30,65** (J)

Specify next point or [Close/Undo]: **30,50** (J)

Specify next point or [Close/Undo]: **20,50** (J)

Specify next point or [Close/Undo]: C (J)
(4) Save This File As **Module 4 DWG**

Output of Module (fig. 4):

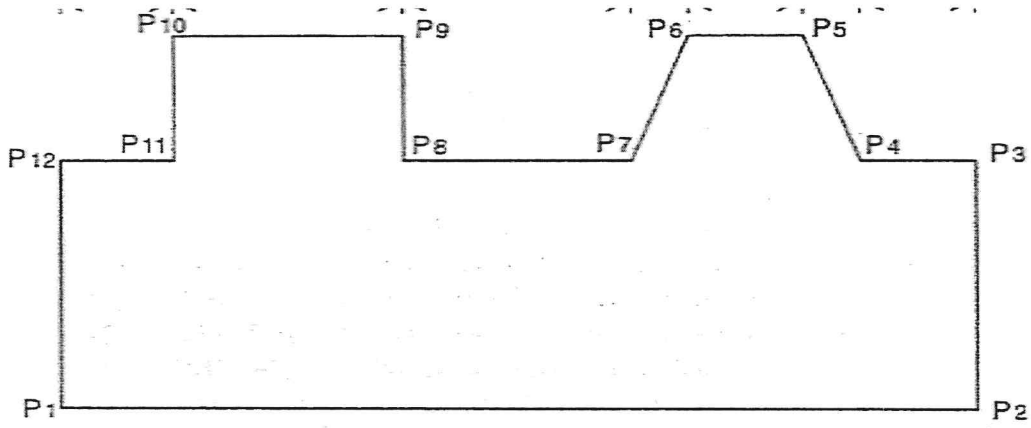


fig. 4

Following the above steps draw the figure above and dimension it accordingly

-- end --

