NUST SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING, SMME

ENGINEERING DRAWING LAB REPORT

ASSIGNMENT#02

Section:AE-01

Course Code: AE-103

Department of Aerospace Engineering

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OBJECTIVE:

The objective of this assignment was to utilize AutoCAD software to create isometric projections of three views for the given 3-D diagrams.

INTRODUCTION:

Engineering drawings are crucial tools for conveying design concepts, specifications, and instructions in various fields of engineering. AutoCAD, a computer-aided design (CAD) software, is widely used for creating precise and detailed engineering drawings. In this lab assignment, the task was to translate given three-dimensional engineering diagrams into two-dimensional vies using AutoCAD.

KEY CONCEPTS:

- **Isometric Projections:**
  Isometric projection is a method of creating three-dimensional representations of objects on a two-dimensional plane. Unlike traditional orthographic projections, which show views from front, side, and top, isometric projections depict objects at a 30-degree angle from the horizontal axes.

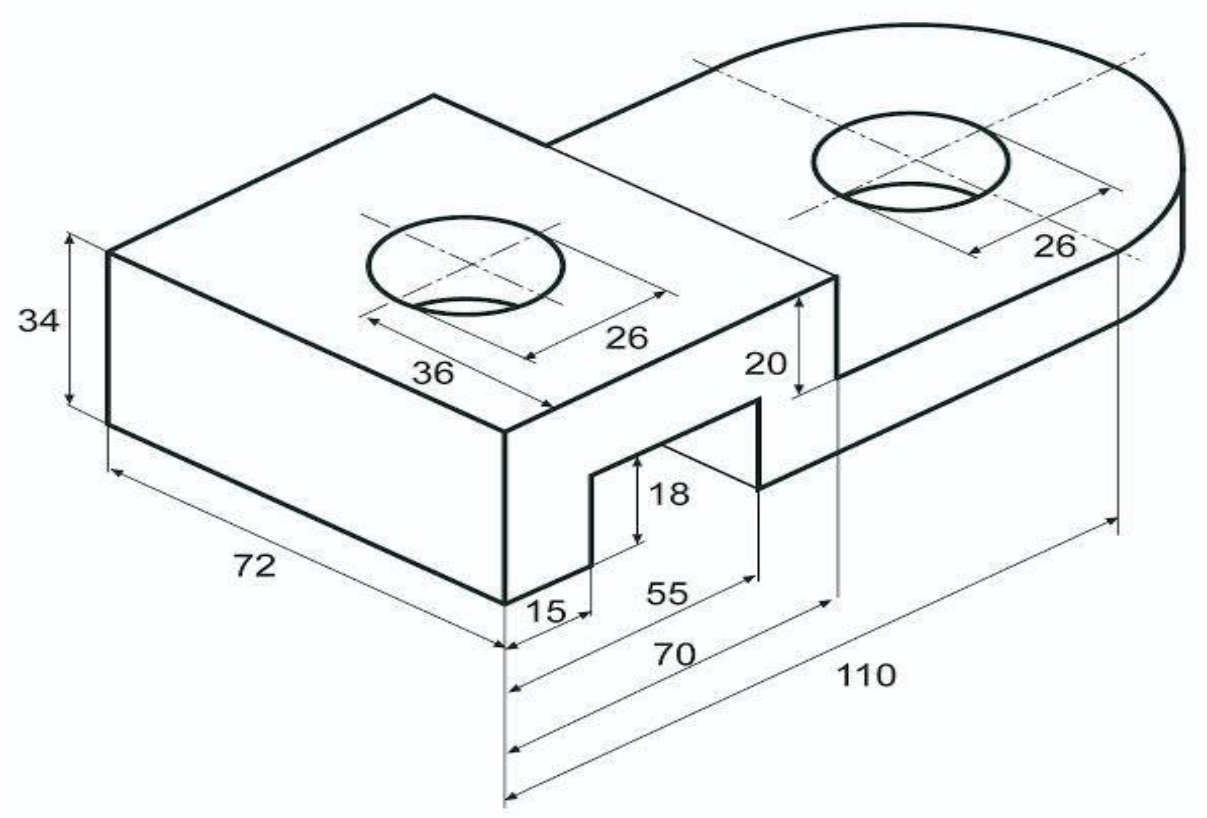
- **AutoCAD:**
  AutoCAD is a powerful computer-aided design (CAD) software developed by Autodesk, widely used for creating precise and detailed engineering drawings.

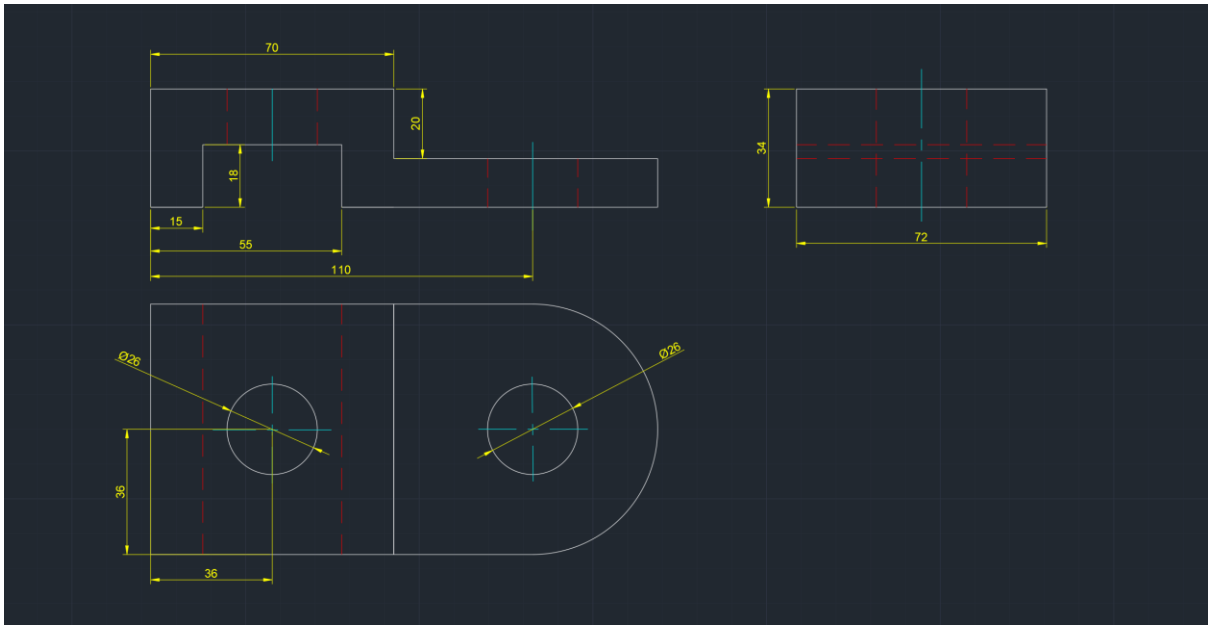
- **AutoCAD Tools:**
  - **Basic Drawing Tools:** Lines, circles, arcs, and polygons facilitate the creation of shapes and geometries.
  - **Editing Tools:** Move, copy, rotate, mirror, and scale for precise modification of objects.
  - **Annotation Tools:** Text, dimensions, leaders, and hatching for adding labels and annotations.

- **Layers and Properties:**
  Layers allow for organization and management of different components within a drawing. Each layer can have unique properties such as color, linetype, and lineweight.

- **Dimensioning and Constraints:**
  Dimensioning tools allow for the addition of accurate measurements and annotations. Constraints enable users to impose geometric relationships and rules on objects within the drawing.

DIAGRAM#1





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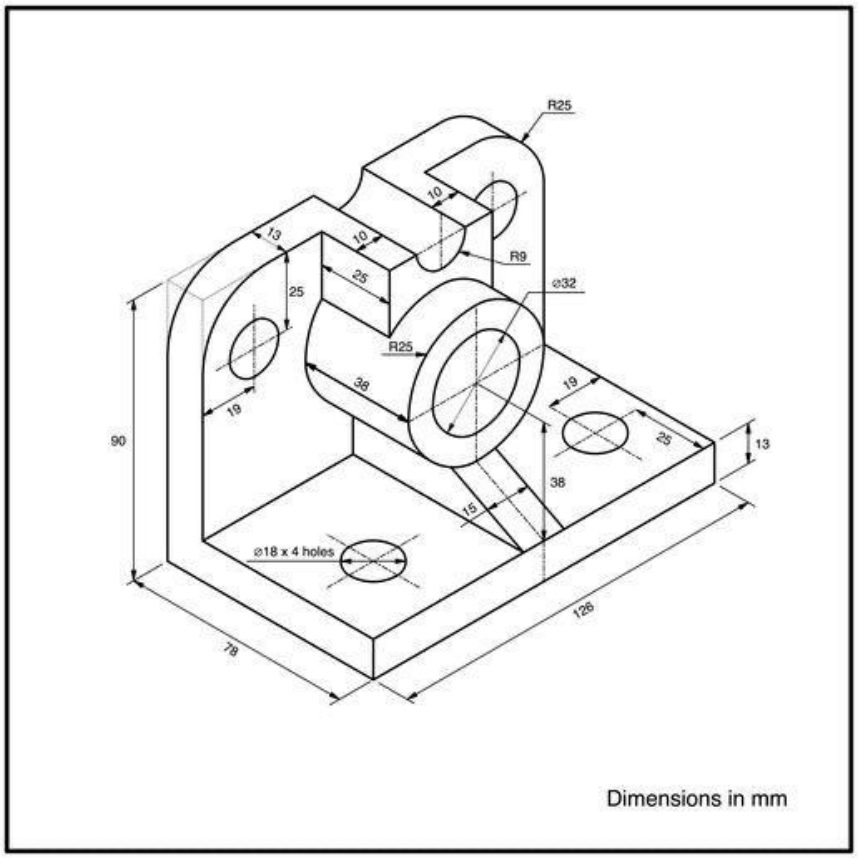
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R9
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⌀32
R25
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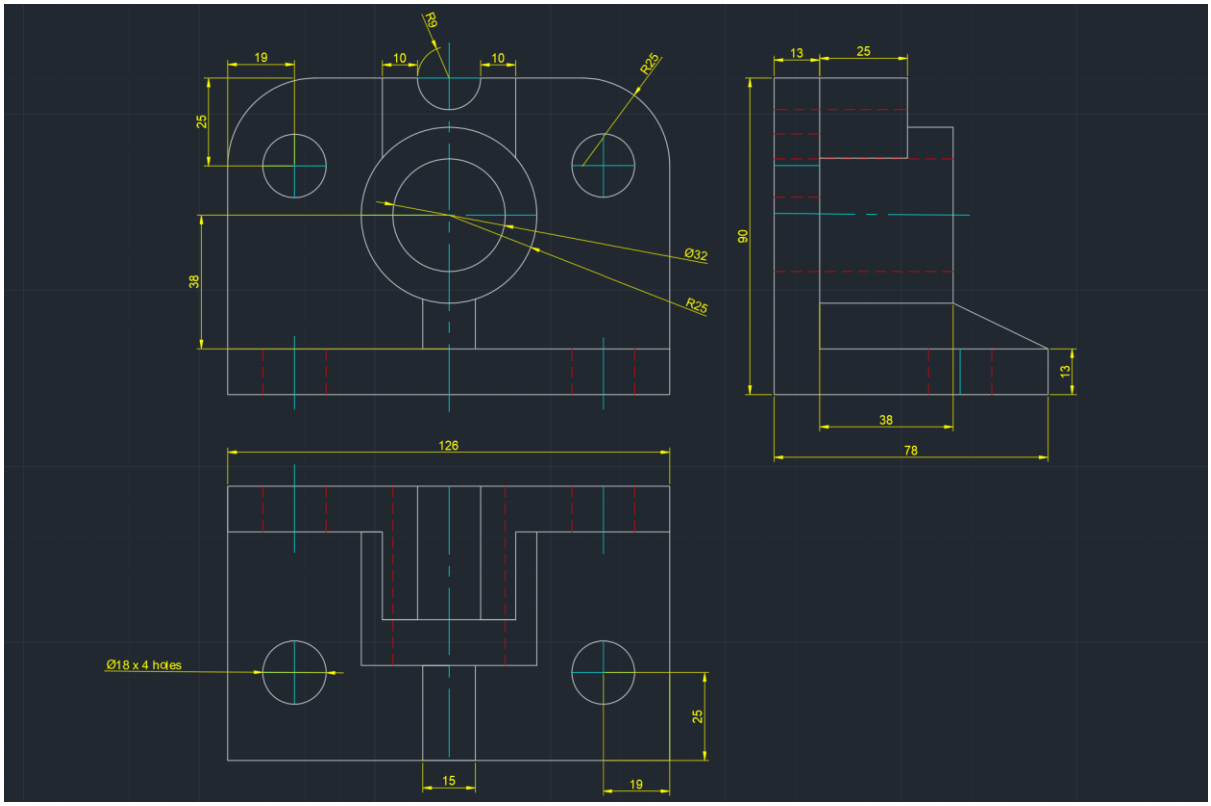
⌀18 x 4 holes
78
126
Dimensions in mm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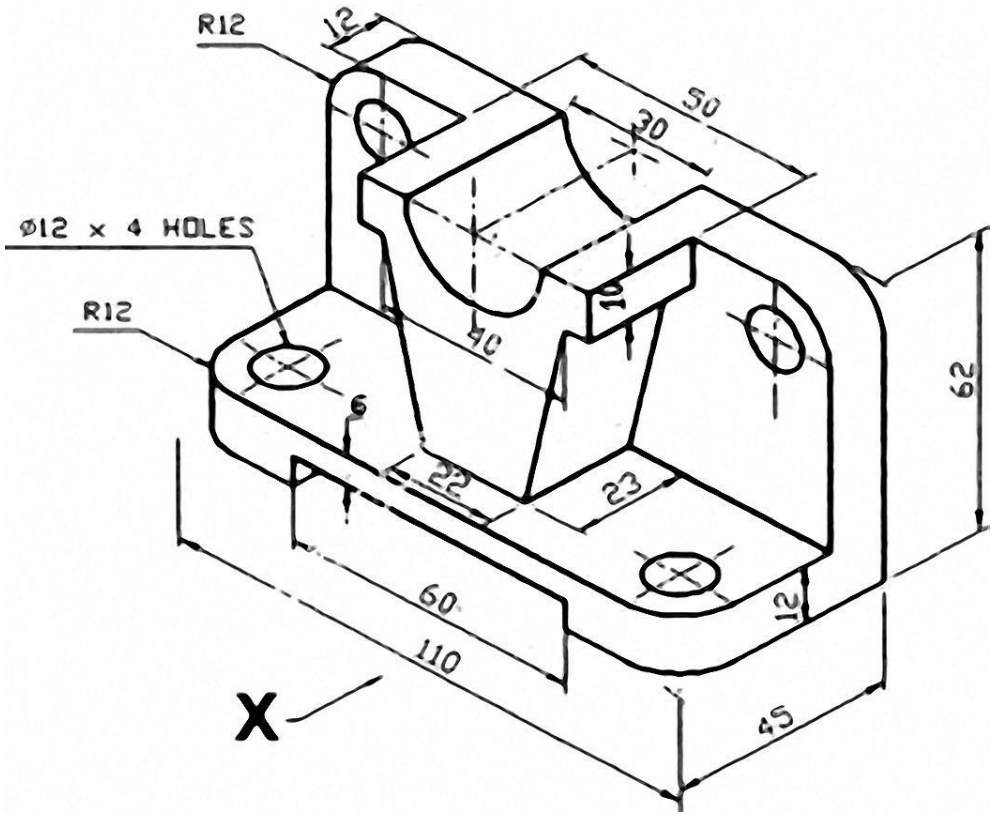
DIAGRAM#3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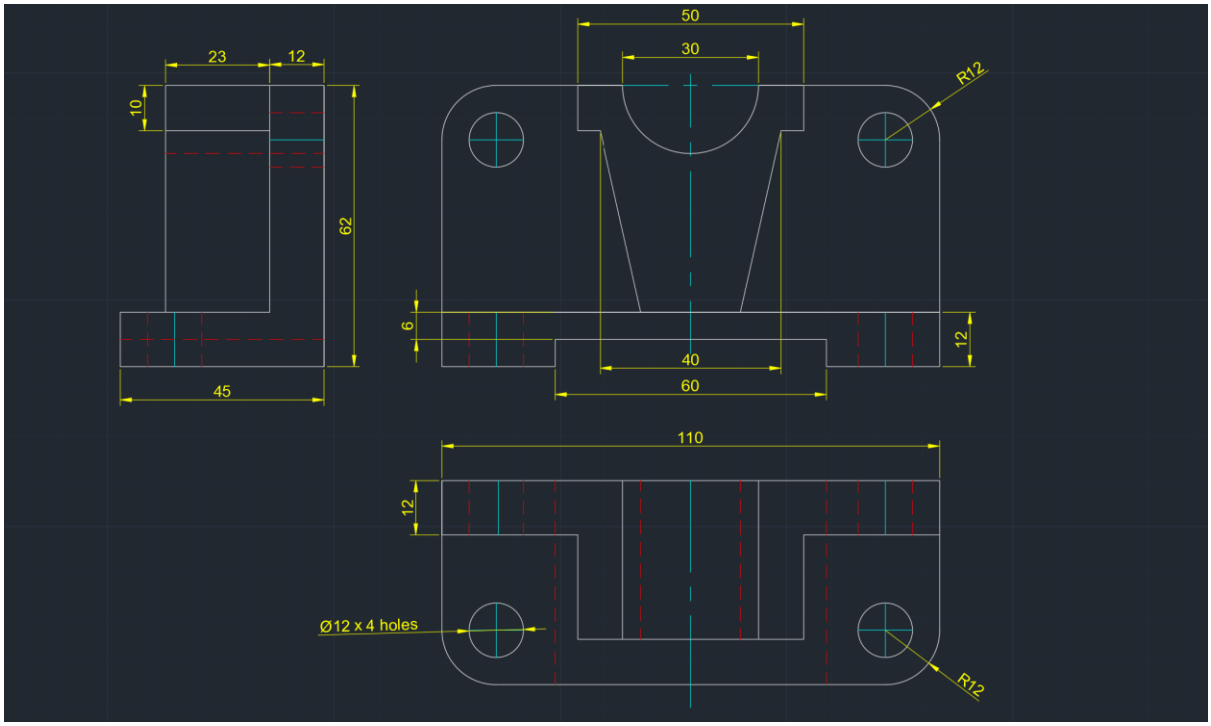
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Ø12 x 4 holes
R12