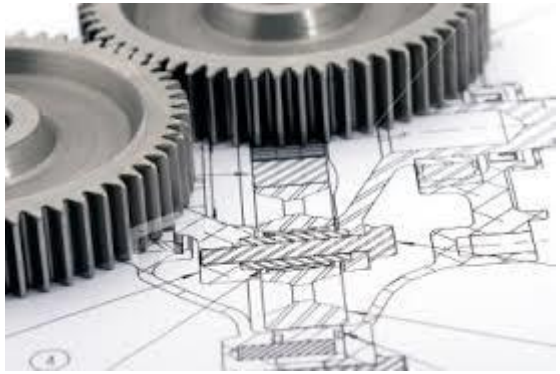
ENGINEERING GRAPHICS

MEC103

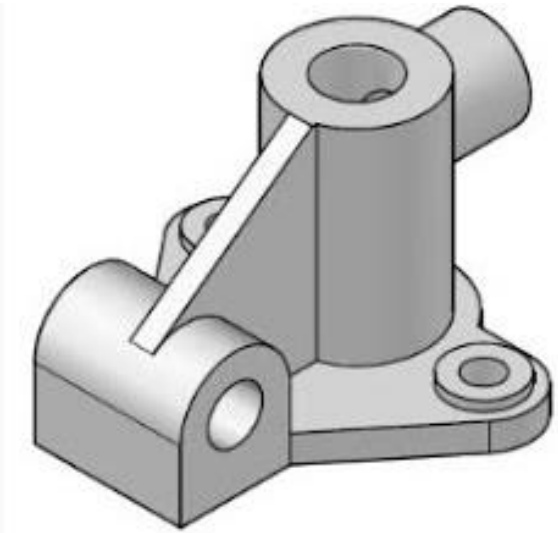


Learning Outcomes

- Overview of the subject.
- Course outcomes.
- LTP count / Credits of the subject.
- CA pattern
- Text books / reference books.
- Overview of the syllabus.

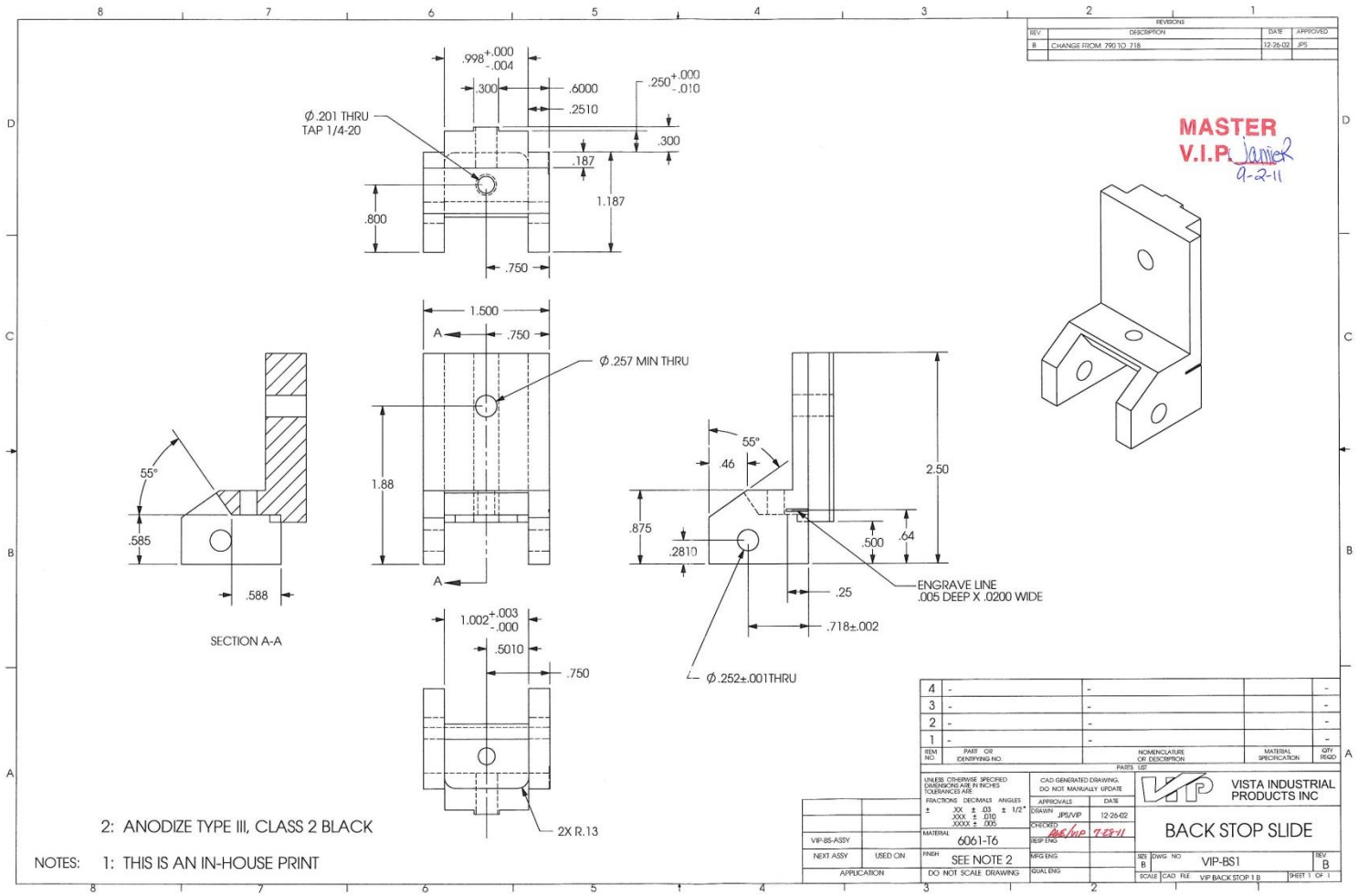
Introduction to Engineering Drawing

- The role of engineers is to design & develop products.



Introduction to Engineering Drawing

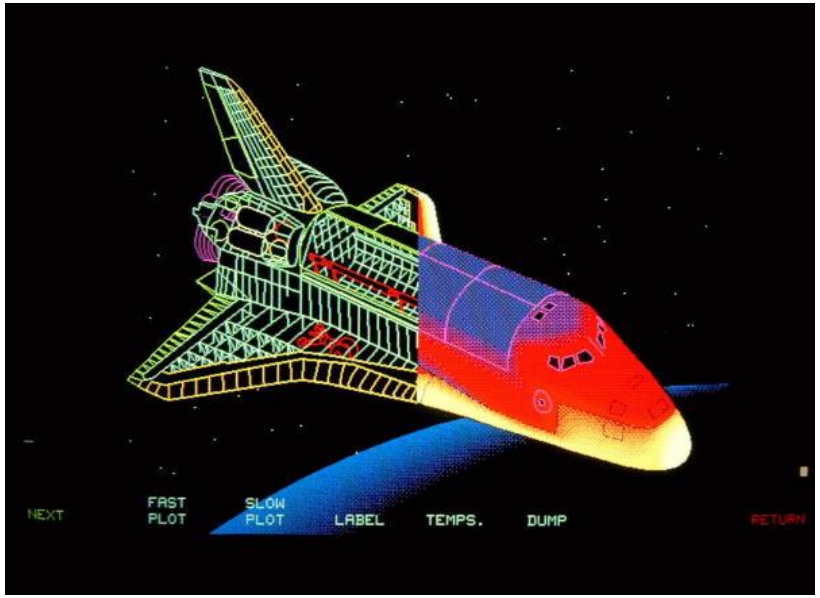
- To communicate their ideas they use engineering drawings.

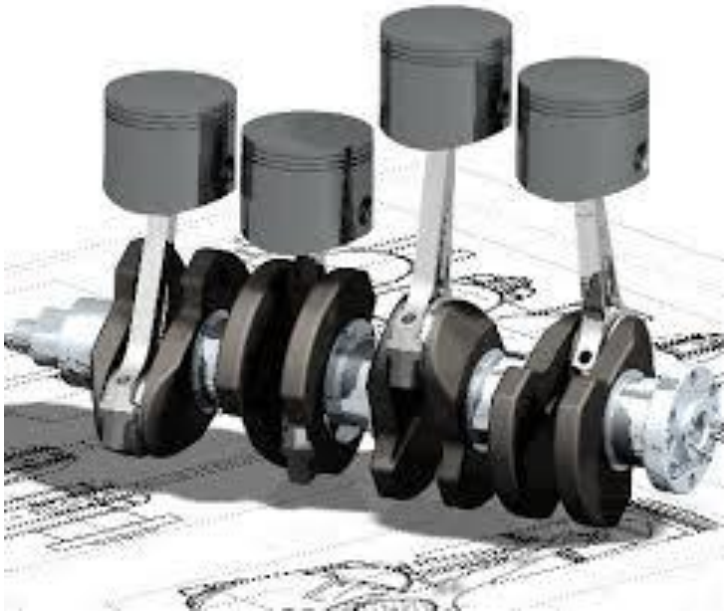


Introduction to Engineering Drawing

- Engineering drawing is a graphical language used by engineers to communicate their ideas. So it acts as a communication link between designers and manufacturers.
- It is completely different from artistic drawing, which is used to express aesthetic, philosophical and abstract ideas.
- Just as a picture speaks thousands of words, a complete technical drawing tells everything about the geometry of the product.

Applications





Course Detail

- LTP – 2, 2, 0
  (Two lectures, Two Tutorials, Zero practical hours per week)
- Credit – 4

Course Assessment Model

- 3 online assignments
  - Assignment 1 in 3rd week.
  - Syllabus – Unit 1 & 2

Books

- Text Books

  - Engineering Drawing with an introduction to AutoCAD by DHANANJAY A JOLHE

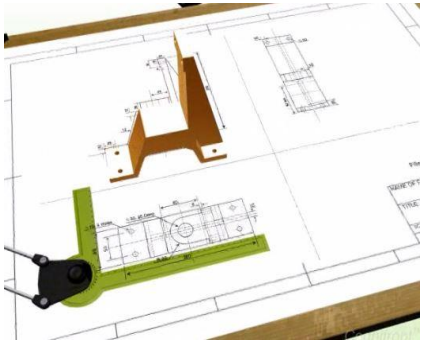
- Reference Books

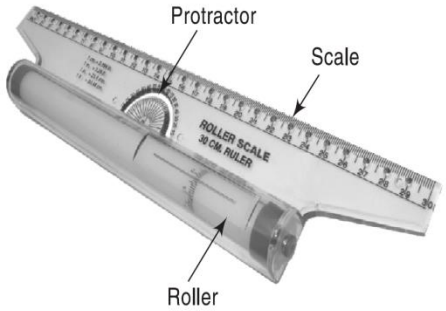
  - Engineering Drawing by AMAR PHATAK
  - Engineering Drawing by M.B. SHAH & B.C. RANA
  - Engineering Graphics by K.C. JOHN
  - Engineering Drawing by N.D. BHATT & M. PANCHAL

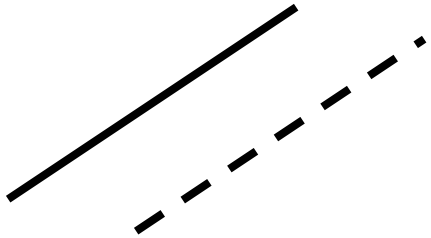
Syllabus

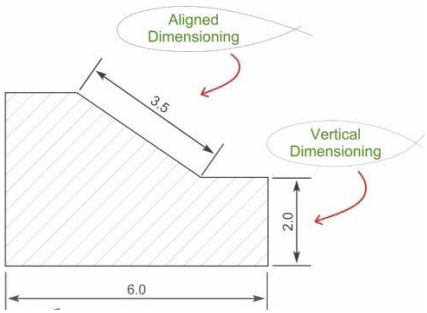
Unit 1 (Introduction to Engineering Drawing)

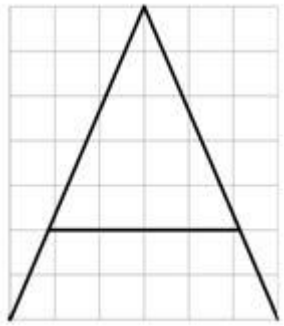
- Principles of Engineering Graphics and their significance.
- Drawing instruments.
- Lettering in vertical Gothic letters using single stoke.
- Dimensioning.
- Different types of lines used in engineering drawing.
- Plane and Diagonal Scale.







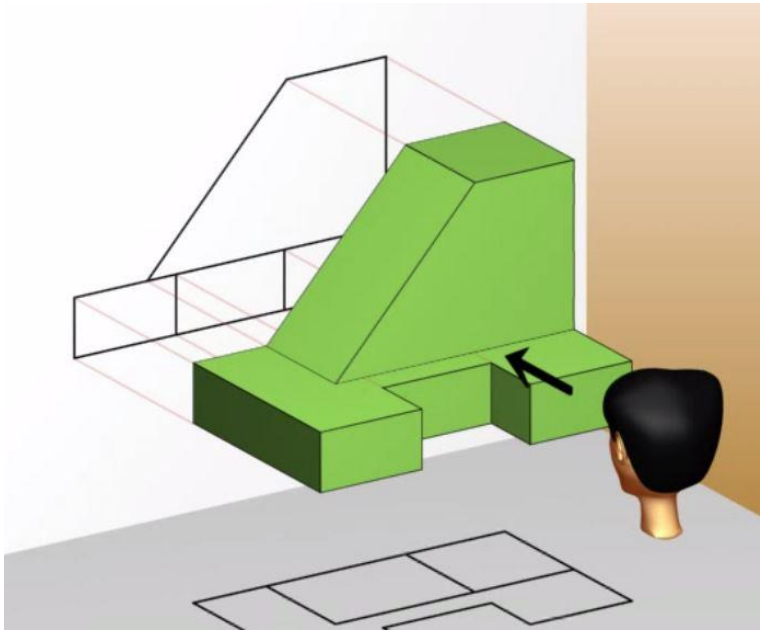


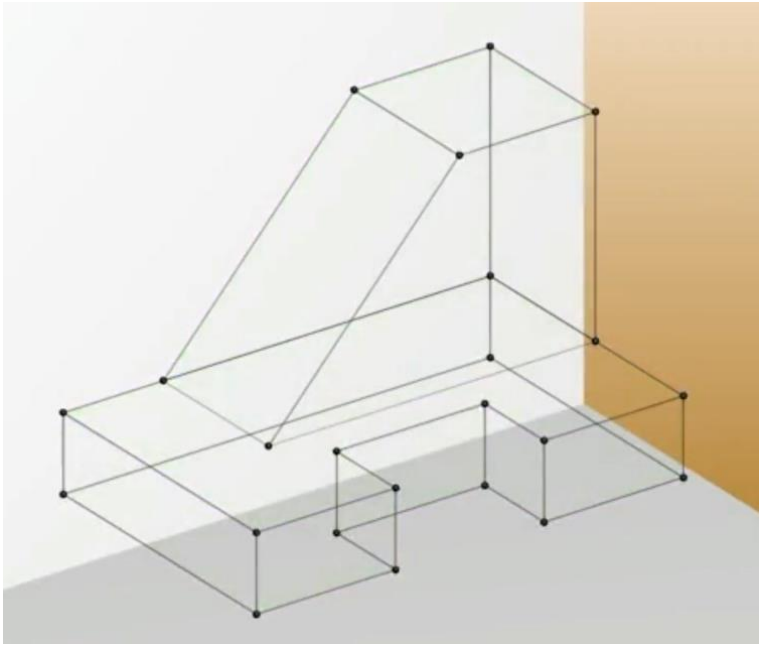


Syllabus

Unit 2 (**Projection of Points and Lines**)

- Projection of Points.
- Projection of Lines.

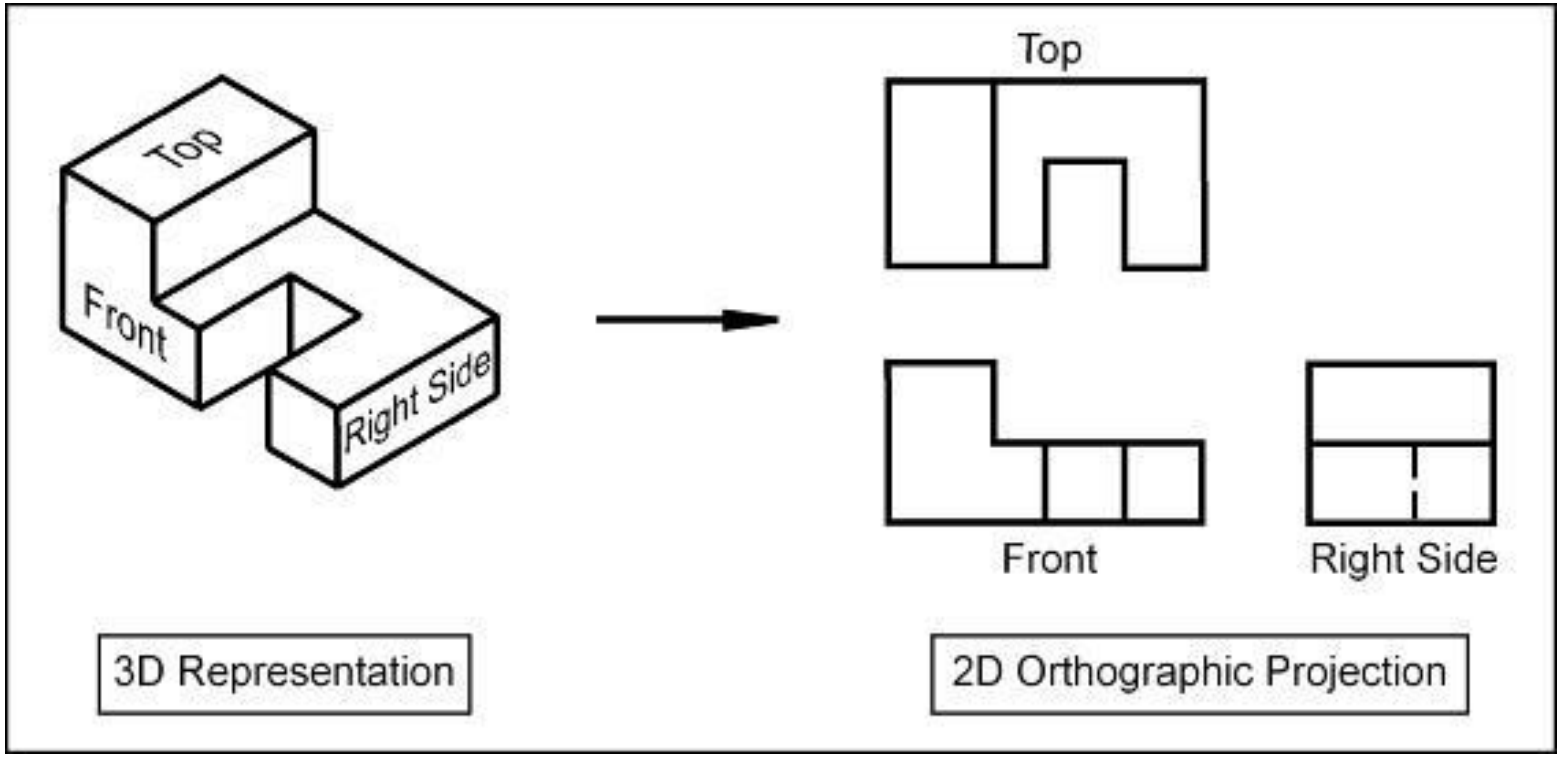




Syllabus

Unit 3 (**Orthographic Projections)**

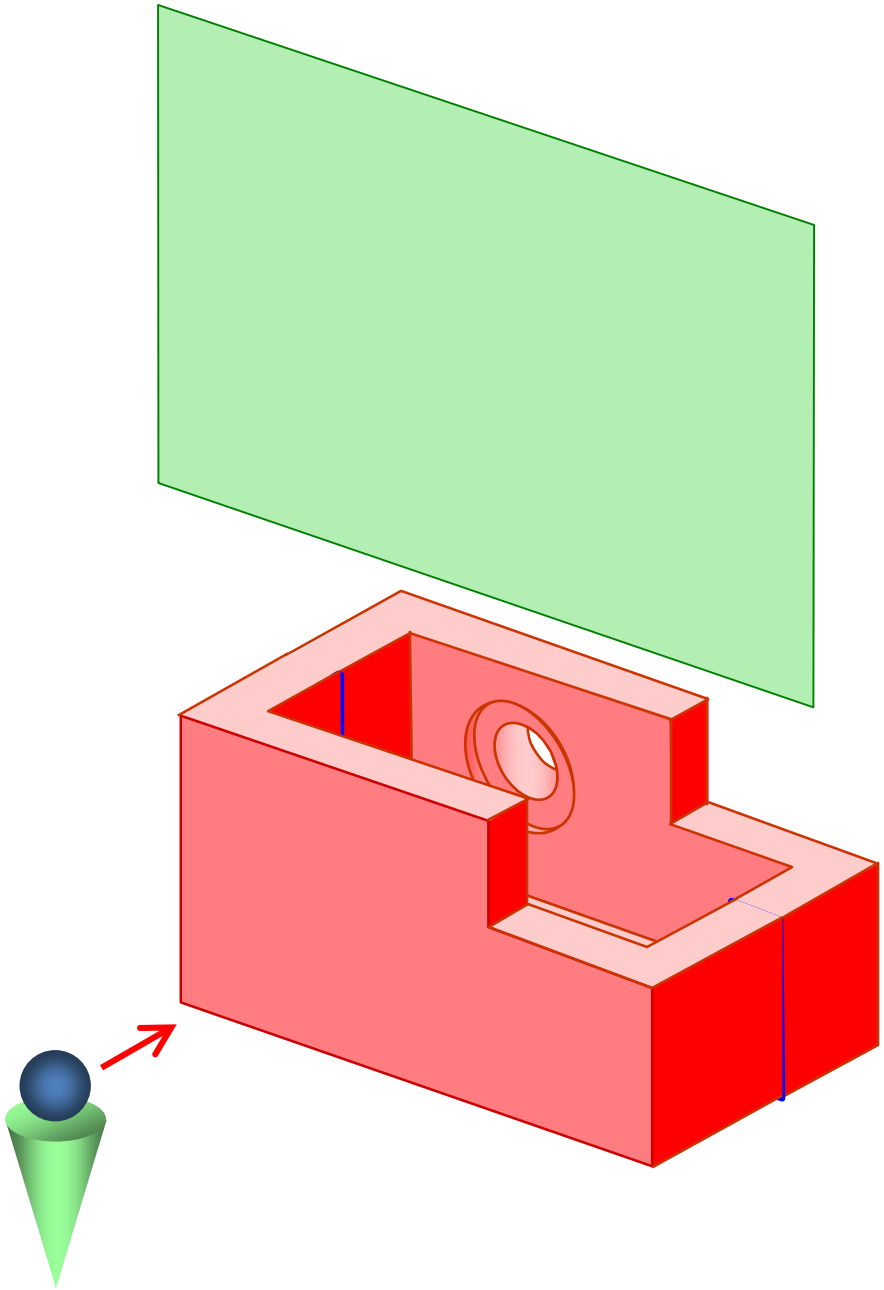
- Methods of obtaining Orthographic Projections (First angle and third angle)
- Principles of orthographic projections.

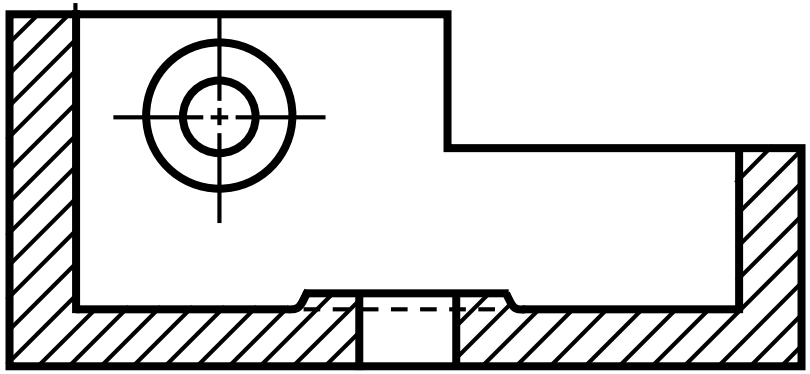


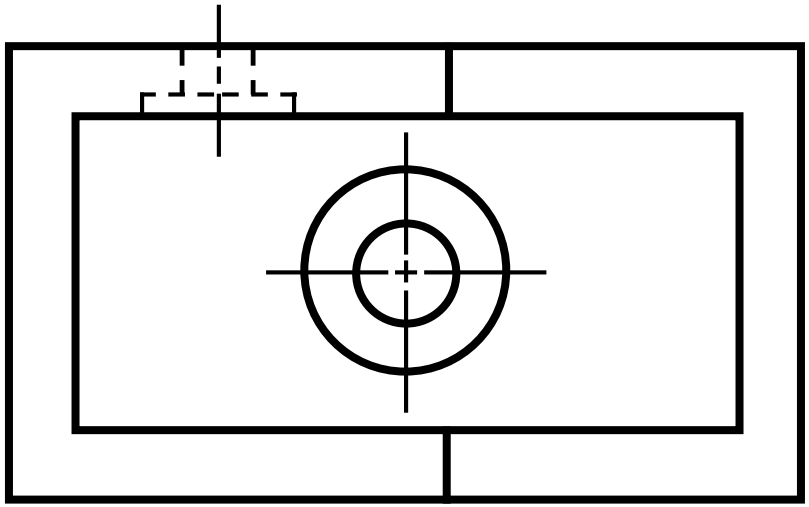
Syllabus

Unit 4 **(Sectional views)**

- Importance of sectioning.
- Types of sectioning (Full, Half & Offset)



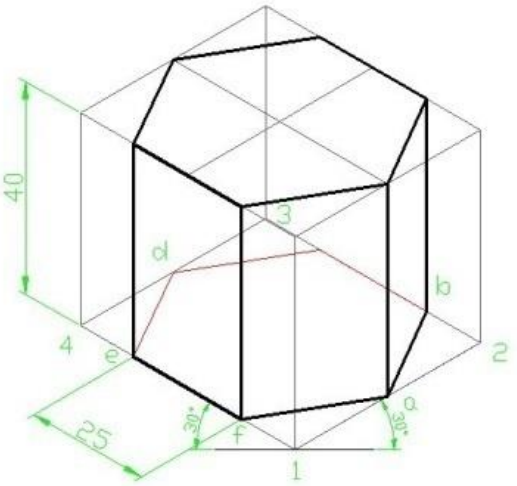


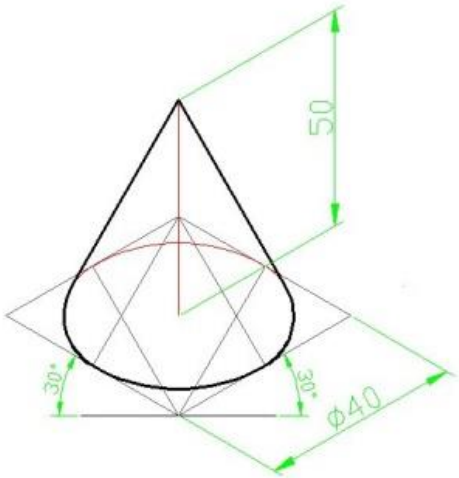


Syllabus

Unit 5 (**Isometric Projections**)

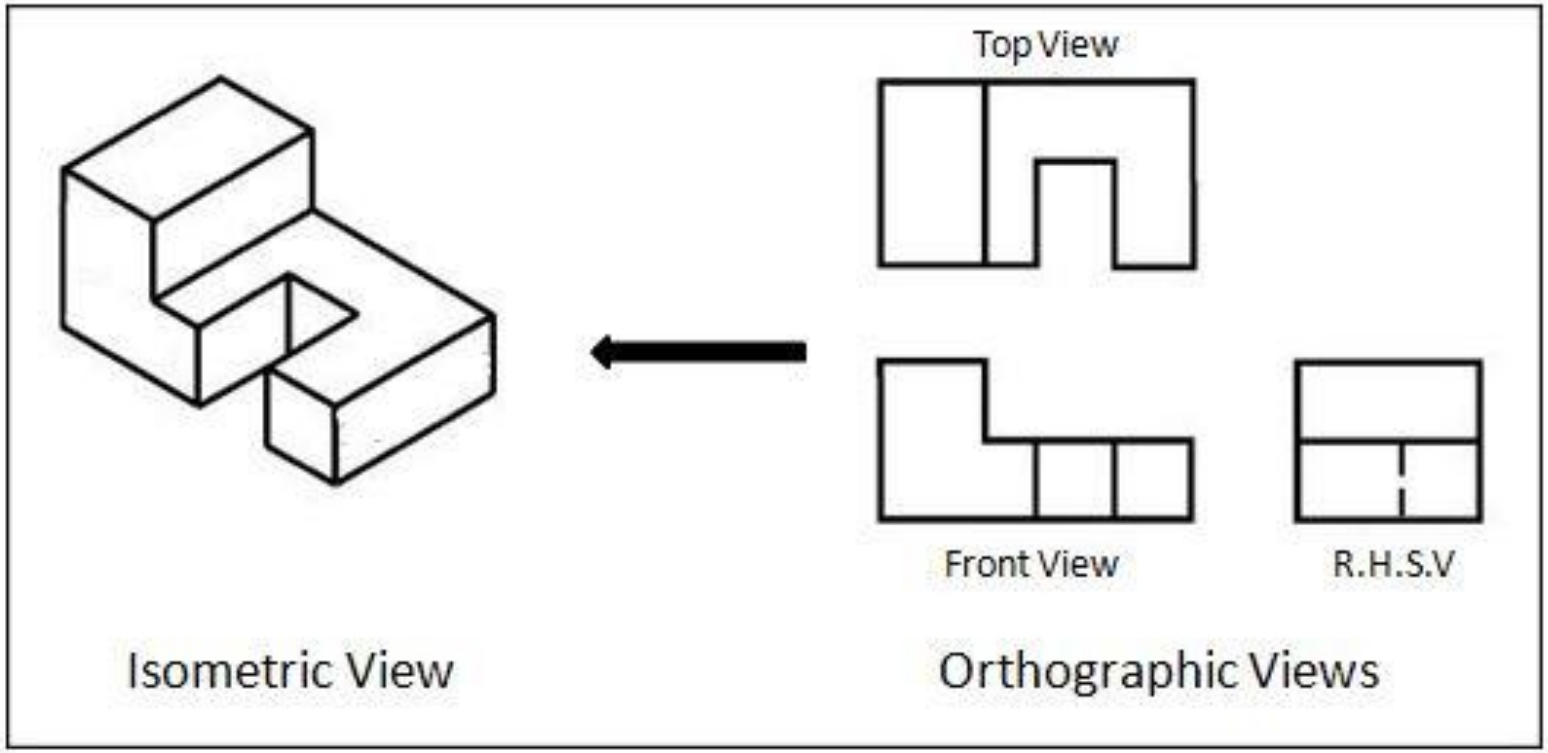
- Isometric Projections.
- Isometric Scale.
- Terminology.
- Isometric Dimensioning.





Syllabus

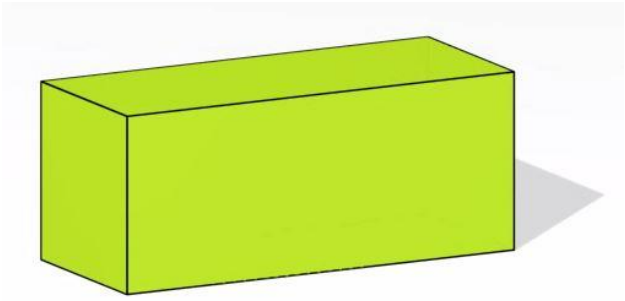
Unit 5 **(Isometric Projections)**

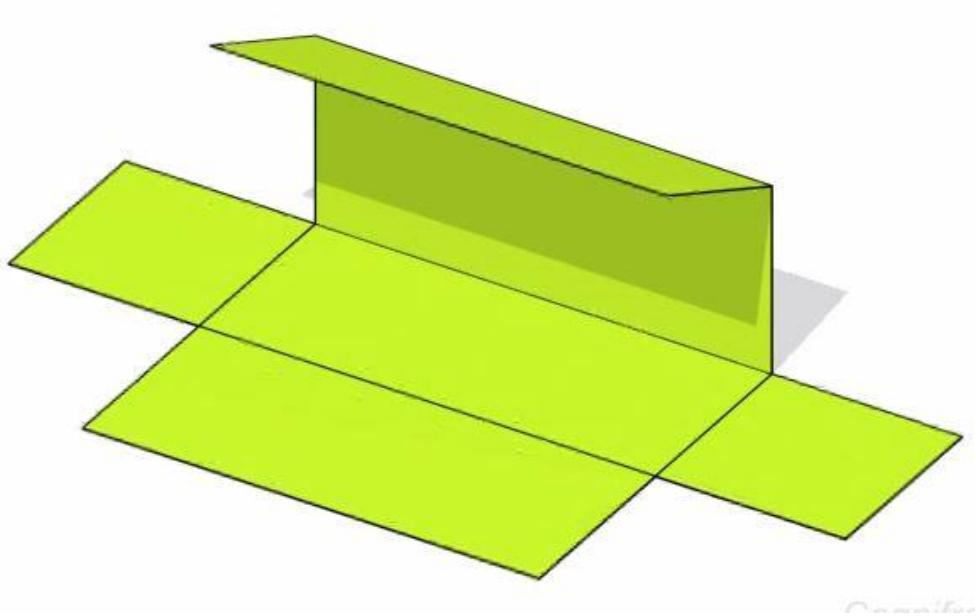


Syllabus

Unit 6 (**Development of Surfaces)**

- Methods of development (Parallel line & Radial line).
- Parallel line development of cylinder and prism.
- Radial line development of cone and pyramid.





Thanks