

1/4 B.Tech. SECOND SEMESTER

EM2L3

ENGINEERING DRAWING

Credits: 2

Lecture: --

Internal assessment: 25 marks

Lab : 3 periods/week

Semester end examination: 50 marks

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**Course Objectives:**

- To visualize and communicate all geometrical elements and also understand the fundamentals of geometry like engineering curves, planes, solids, sections, developments & isometric views and its applications in the daily life.

**Learning outcomes:**

At the end of the course the students will have drawing ability to:

- Represent various conics and curves.
- Construction of orthographic projections of Lines, Planes, and Solids, isometric projections and views.
- Sectioning of various Solids and their representation.

**Unit-I**

Polygons-Construction of Regular Polygons using given length of a side; Ellipse- Arcs of Circles and Oblong Methods; Scales-Plain and Diagonal Scales.

**Unit-II**

Introduction to Orthographic Projections; Projections of Points; Projections of Straight Lines parallel to both planes; Projections of Straight Lines-Parallel to one and inclined to other plane.

**Unit-III**

Projections of Straight Lines inclined to both planes, determination of true lengths, angle of inclinations and traces.

**Unit-IV**

Projections of Planes; Regular Planes Perpendicular / Parallel to one Reference Plane and inclined to other Reference Plane; inclined to both the Reference Planes.

**Unit-V**

Projections of Solids-Prisms and Cylinders with the axis inclined to one Plane.

**Unit-VI**

Projections of Solids- Pyramids and Cones with the axis inclined to one plane.

**Unit-VII**

Conversion of Isometric Views to Orthographic Views.

**Unit-VIII**

Conversion of Orthographic Views to Isometric Projections and Views.

**Learning resources**

**TEXT BOOK:**

1. Engineering Drawing by N.D. Bhat, Chariot Publications

**REFERENCE BOOKS:**

1. Engineering Drawing by M.B. Shah and B.C. Rana, Pearson Publishers
2. Engineering Drawing by Dhananjay A. Jolhe, Tata McGraw Hill Publishers
3. Engineering Graphics for Degree by K.C. John, PHI Publishers.