ENGINEERING DRAWING

Course Objectives:

- > To teach the practices for accuracy and clarity in presenting the technical information used in industry.
- > To train the students with graphical skills in design of mechanical engineering components.
- To impart the knowledge of drawing machine components using AutoCAD

Course Outcomes: At the end of the Course, Student will be able to:

- 1. Make use of fundamentals of Engineering Drawing to sketch basic curves, conic sections, cycloid, epicycloid, hypocycloid and in volute.
- 2. Apply the principles of orthographic projections for points, lines and planes.
- 3. Apply the principles of orthographic projections for solids.
- 4. Apply the AutoCAD software for the orthographic projection of the machine parts.
- 5. Apply the AutoCAD software for the isometric projection of the machine parts.

CONVENTIONAL DRAFTING

UNIT-I

Introduction to Engineering Drawing: Importance, Significance and scope of Engineering Drawing. Lettering, Dimensioning, – BIS Specifications.

Scales (Plain and Vernier) - Conic sections (General Method)

UNIT-II

Projection of points, lines and planes: Projection of points in any quadrant, lines inclined to one or both planes – Traces - True lengths - Projections of plain figures.

UNIT-III

Projections of solids: Simple cases when solid is placed in different positions, axis, faces and lines lying in faces of the solid making given angles.

COMPUTER AIDED DRAFTING

UNIT-IV

Introduction to Computer Aided Drafting: Basic drawing and editing commands-Dimensioning principles and conventional representations, Systems of projections, Conventions and application to orthographic projections

UNIT-V

Isometric Projections: Principles of isometric projection- Isometric scale; Isometric views: lines, planes, figures, simple and compound solids

Text Books:

- 1. N.D.Bhatt, Engineering Drawing, 53rd Edition, Charotar Publishers, 2016.
- K.L.Narayana & P.Kannaiah, Engineering Drawing, 3rd Edition, Scitech Publishers, Chennai, 2012.

Reference Books:

- 1. Dhanajay A Jolhe, Engineering Drawing, Tata McGraw-Hill, Copy Right, 2009.
- 2. Shah and Rana, Engineering Drawing, 2/e, Pearson Education, 2009.
- 3. Venugopal, Engineering Drawing and Graphics, 3/e, New Age Publishers, 2000.
- 4. K.C.John, Engineering Graphics, 2/e, PHI, 2013.
- 5. Basant Agarwal & C.M.Agarwal, Engineering Drawing, Tata McGraw-Hill, Copy Right, 2008.