I Year I Semester

Code: 20ES1010

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ENGINEERING DRAWING

Course Objectives:

1. To teach the practices for accuracy and clarity in presenting the technical information used in industry.
2. To train the students with graphical skills in design of mechanical engineering components.
3. 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 involute.
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.
2. 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.