CE3L3   **COMPUTER AIDED DRAWING**   **Credits: 2**

Lecture: -   **Internal assessment: 25 marks**
Practice: 3 periods/week   **Semester end examination: 50 marks**

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Pre-requisites: Introduction to Computing, Autocad, Engineering drawing

Learning objectives:

- To gain the basic knowledge and skills in engineering drawings and the capability to read and interpret blue prints and develop an understanding of 2D and 3D computer aided drafting with the requirements of good engineering drawings.

Course outcomes:

After performing the experiments listed in the syllabus, the students will have:

1. Draw development and interpenetration of solids
2. Draw perspective projections
3. Develop the types of modeling
4. View points and view ports
5. Gain complete knowledge in computer aided solid modeling

PART A

UNIT –I

DEVELOPMENT AND INTERPENETRATION OF SOLIDS:
Development of Surfaces of Right Regular Solids – Prisms, Cylinder, Pyramid Cone and their parts. Interpenetration of Right Regular Solids – Intersection of Cylinder Vs Cylinder, Cylinder Vs Prism, Cylinder Vs Cone.

UNIT – II

PERSPECTIVE PROJECTIONS:
Perspective View: Points, Lines, Plane Figures and Simple Solids, Vanishing Point Methods (General Method only).

PART B

UNIT – III

INTRODUCTION TO COMPUTER AIDED DRAFTING:
Generation of points, lines, curves, polygons, dimensioning.
TYPES OF MODELING:
Object selection commands – edit, zoom, cross hatching, pattern filling, utility commands, 2D wire frame modeling, 3D wire frame modeling.

UNIT – IV

VIEW POINTS AND VIEW PORTS:
View point coordinates and view(s) displayed, examples to exercise different options like save restore, delete, joint, single option.

UNIT-V

COMPUTER AIDED SOLID MODELING:
Isometric projections, orthographic projections of isometric projections, modeling of simple solids, Modeling of Machines & Machine Parts.

Learning resources

Text books:

1. Engineering Graphics by John,K.C., PHI Publications, New Delhi, 2009.
2. Machine Drawing, (3rd edition) Narayana,K.L., Kannaiah,P. and Venkata reddy,K., New Age International Publishers, 2010.

Reference books:

1. "AutoCAD 2009", Galgotia Publications, New Delhi, 2012.
2. Text book of Engineering Drawing with Auto-CAD, (4th edition) by Venkata Reddy, K., B.S. Publications, 2009.
3. Engineering drawing, (38th edition) by Bhatt, N.D., Anand Charotar Publications, 1997.