ENGINEERING DRAWING

Course Code: 22ES11ED

L	T	P	C
1	0	4	3

Note: Part A is common to all branches and Part B is specific to the respective branch.

PART- A
(Common to all branches)

Course Outcomes:
At the end of the course, the student will be able to
CO1: Use engineering drawing instruments to draw various engineering curves (L3)
CO2: Show projections of lines, planes and solids (L3)
CO3: Draw conversion of orthographic to isometric views and vice versa (L3)

List of Exercises (Manual Drawing)

Introduction to Engineering drawing and its significance – Conventions in drawing, lettering and BIS conventions.

1. Geometrical constructions: construct regular polygons
2. Construction of conic curves, cycloid and involute of the circle.
3. Projection of lines.
4. Projections of planes.
5. Projections of solids and section of solids in simple positions.
6. Conversion of Orthographic to Isometric views.
7. Conversion of Isometric to Orthographic views.

Text Books:

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

Reference Books:

1. Dhanajay A Jolhe, *Engineering Drawing*, 1st Edition, Tata McGraw-Hill, 2007.
2. Venugopal, *Engineering Drawing and Graphics*, 5rd Edition, New Age Publishers, 2004.
3. Basant Agarwal and C. M. Agarwal, *Engineering Drawing*, 2nd Edition Tata McGraw-Hill, 2013.

PART-B

CIVIL ENGINEERING

Course Outcomes:

At the end of the Course the student shall be able to:

CO4: Construct basic geometric figures using CAD (L3)
CO5: Demonstrate the ability to create text entities (L3)
CO6: Construct Isometric views of objects (L3)

(Any 6 activities are to be completed)

List of exercises:

1. Point plotting using Absolute, Relative and Polar coordinate systems
2. Drawing Lines, Polylines, Rectangles, Circles, Arcs, Polygons and Ellipses using various coordinate systems
3. Editing Objects: Erase, Trim, Extend, Fillet, Stretch and selection methods by clicking, window and crossing, fence and last, add selected, deselecting objects, all objects.
4. Drawing objects using Object Snap and Polar Tracking
5. Create text entities using Single-line text and multiline text commands and editing text objects
6. Create multiple objects using Copy, Mirror and Array commands and adding hatch objects.
7. Add dimensions to drawing: associative dimensions, linear dimensions: horizontal and vertical, linear aligned dimensions; angular dimensions; dimensioning circles and arcs; adding and modifying dimension text.
8. Create isometric views of a given 3D object.

References:

1. Bhatt, N.D., *Engineering Drawing*, 53nd Edition, Charotar Publishing House, 2014.
2. Venkata Reddy, K., *Textbook of Engineering Drawing*, 2nd Edition, BS Publications, 2008.
3. George Omura, Brian C. Benton, *Mastering AutoCAD*, 1st Edition, Autodesk Official Press Paperback, 2020.