ENGINEERING GRAPHICS LAB

(Common to CSE, IT, EEE during I B.Tech., I Semester)

Course Code(s): CS1L3, IT1L3, EE1L3 **Credits: 2**
Lecture: -- **Internal assessment: 25 marks**
Lab: 3 periods/week **Semester end examination: 50 marks**

COURSE OBJECTIVES:

1. To improve imagination skills.
2. Increase ability to communicate with people.
3. Learn to sketch and take field dimensions.
4. Learn to take data and transform it into graphic drawings.
5. Learn basic engineering drawing formats.
6. Prepare the student for future Engineering positions.

COURSE OUTCOMES:

At the end of course the student will be able to:

1. Get acquainted with the knowledge of various lines, geometrical constructions and construction of various kinds of scales, and Ellipse.
2. Improve their imagination skills by gaining knowledge about points, lines and planes.
3. Become proficient in drawing the projections of various solids.
4. Gain knowledge about orthographic and isometric projections.

UNIT - I

Polygons-Construction of Regular Polygons using given length of a side; Ellipse-General method and Oblong Methods for Construction of ellipse; Scales-Plain,Vernier and Diagonal Scales.

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 - II

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

UNIT - III

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

UNIT - IV

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

UNIT - V

Conversion of Isometric Views to Orthographic Views.
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