

CE 101: ENGINEERING DRAWING (1-0-4 : 3)

Introduction: Importance of Engineering Drawing, Drawing instruments and materials, B.I.S. and ISO conventions, lines lettering and dimensioning.

Plane Geometry: Geometrical Construction : line, arc and angle, divisions of straight line and circumference, construction of polygon, **Scales** : types of scales – plane scale, diagonal scale, vernier scale, functional scale, concept of conversion scale and nomogram

Conic Sections: Ellipse, conjugate diameters, parabola, hyperbola, rectangular hyperbola.

Orthographic Projection: Principle of first and third angle projection, projection of points, projection of straight lines, projection of planes.

Building Drawing: Building components and terminology, building plans, elevation & sections.

Solid Geometry: Projection of solids : polyhedral, prisms, pyramids, cylinder, cone, auxiliary projection method, one view, two view and three view drawings. Missing view, rules for selection of views.

Section of Solids: Sectional view, section plane perpendicular to the HP & VP and other various positions, true shape of sections.

Intersection: Classification, line of interaction, line/generator method and section plane method; intersection of two prisms, two cylinders, interaction of cone and cylinder.

Development of Surface: Method of development, parallel line development, radial line development, developments of cylinder, cone, prism, pyramid, true length of edges – oblique surface.

Isometric Projections: Terminology, isometric scale, isometric view and isometric projection, isometric axes and lines, missing view.

Text Books:

1. N.D. Bhatt, Engineering Drawing, Chrotar Publishing House.

References:

1. K.L. Gopal Krishna, Engineering Drawing, Subhas Publications.
2. K. Venugopal, Engineering Drawing made Easy, Wiley Eastern Ltd.
3. M.L. Agrawal, R.K. Garg, Engineering Drawing Vol-I, Dhanpatrai & Co.