



## DEPARTMENT OF MECHANICAL & ENGINEERING SYLLABUS

Name of the Subject	Engineering Graphics	Subject Code	ME101
Semester	I & II	Board of Studies	Mechanical Engg.
Maximum Marks	ESE-70	Minimum Marks	
Lecture Periods/Week	Tutorial Periods/Week	Practical Periods/Week	Credits
2	0	4	4

### Unit I – Scales & Curves

- a) **Introduction to Engineering Drawing**, Scales: Representative Fraction, Type of Scale, Plain and Diagonal Scale, Scale of chords.
- b) **Engineering Curves**: Conic section, Ellipse, Parabola, Hyperbola, Cycloidal Curves: Cycloid, Epicycloids, Hypocycloid, Involute, Helix, Spiral.

### Unit II – Projection of Points & Lines

- a) **Projection**: Introduction, Principle of Projection, Method of projection, Planes of projection, Four quadrant, first and third angle projection, Reference line, symbols for methods of projection, Orthographic projection.
- b) **Projection of Point**: Introduction, Point situated in first, second, third & fourth quadrant.
- c) **Projection of lines**: Introduction, Line parallel to One or both the planes, Line contained by One or both the planes, Line perpendicular to one of the planes, Line inclined to one plane and parallel to other. Line inclined to both the planes, Traces.

### Unit III – Projection of Planes & Solids

- a) **Projection of planes**: Introduction, Types of planes, Projection of planes, Projection of planes perpendicular to both the reference planes, Perpendicular to one plane and parallel to other plane, Perpendicular to one plane and inclined to the other plane, Inclined to both planes.
- b) **Projection of solids**: Introduction, Type of solid, Projections of solids in simple position, Projection of solids with axes inclined to one of the reference planes and parallel to the other, Projections of solids with axes inclined to both H.P. and the V.P.

### Unit IV – Section of Solids & Development of Surfaces

- a) **Section of solids**: Sectional Planes, Section of solids, True Shape of Section.
- b) **Development of Surfaces**: Introduction, Method of development, Development of lateral surfaces of right solids, Cube, Prisms, Cylinders, Pyramids & Cone.

### Unit V – Isometric Projection

**Isometric Projection**: Introduction, Isometric axes, Lines & planes, Isometric scale, Isometric projection and Isometric view, Conversion of Isometric to Orthographic Projections.

**Problems from the above units should also be practiced on computer aided drafting software.**

### Text Books

- (i) "Elementary Engineering Drawing" by Bhatt, N.D., Charotar publishing Co.
- (ii) "Engineering Graphics" by K.L. Narayana and P.Kannaiah, SCITECH PUBLICATIONS (INDIA) PVT.LTD. October 2008
- (iii) "Engg. Drawing with Auto CAD 2009"- T Jeyapavan, Vikas Publishing House Pvt. Ltd.