

Engineering Graphics

1. Introduction to Engineering Graphics, Drawing instruments and accessories, BIS - SP 46. Use of plane scales and Representative Fraction.
2. Engineering Curves: Classification of Engineering Curves, Construction of Conics, Cycloidal Curves, Involute and Spirals.
3. Loci of Points: Path of the points moving on simple arrangements and simple mechanisms, slider crank mechanism, four bar chain mechanism etc.
4. Projections of Points & Lines: Introduction to principal planes of projections, Projections of the points located in same quadrant and different quadrants, Projections of line with its inclination to one reference plane and with two reference planes. True length of the line and its inclination with the reference planes.
5. Projections of Planes: Concept of different planes, Projections of planes with its inclination to one reference plane and with two reference planes. Concept of auxiliary plane method for projections of the plane.
6. Projections of Solids & Section of Solids: Classification of solids. Projections of solids like Cylinder, Cone, Pyramid and Prism with its inclination to one reference plane and with two reference planes. Section of such solids and the true shape of the section.
7. Development of Lateral Surfaces: Concept of development of the different surfaces. Parallel Line Development and Radial Line Development.
8. Orthographic Projections: Principle of projection, Principal planes of projection, Projections from the pictorial view of the object on the principal planes for View from Front, View from Top and View from Side using first angle projection method and third angle projection method, Full Sectional View.
9. Isometric Projections and Isometric View or Drawing: Isometric Scale, Conversion of orthographic views into isometric projection, isometric view or drawing.

NOTE: Topic No. 1, 8 and 9 of the above syllabus to be covered in Practical Hours.

Text Books:

1. A Text Book of Engineering Graphics By P.J.Shah
S.Chand & Company Ltd., New Delhi
2. A Text Book of Machine Drawing By P.J.Shah
S.Chand & Company Ltd., New Delhi
3. Elementary Engineering Drawing By N.D.Bhatt
Charotar Publishing House, Anand
4. Geometrical and Machine Drawing By N.D.Bhatt
Charotar Publishing House, Anand

Reference Books:

1. Engineering Graphics – I and II By Arunoday Kumar
Tech – Max Publication, Pune
2. Engineering Drawing & Graphics using Auto CAD 2000 By T. Jeyapoovan
Vikas Publishing House Pvt. Ltd., New Delhi
3. A text book of Engineering Drawing By R.K.Dhawan
S.Chand & Company Ltd., New Delhi
4. A text book of Engineering Drawing By P.S.Gill
S.K.Kataria & sons, Delhi
5. Engineering Drawing with an Introduction to AutoCAD By D.A.Jolhe
Tata McGraw-Hill Publishing Co. Ltd., New Delhi
6. Computer Aided Engineering Drawing, S. Trymbaka Murthy
I.K.International Publishing House Pvt. Ltd., New Delhi