

Engineering Drawing & Computer Graphics

Code: ME292

Contacts: 1L+3P

Credits: 3

A. THEORETICAL PART

1. Introduction to Lines, Lettering, Dimensioning, Scales. - [1L]
2. Geometrical Construction and Curves - [1L]
3. Projection of Points, Lines and Surfaces - [2L]
4. Projection of Solids - [2L]
5. Isometric Views - [1L]
6. Sectional Views - [1L]
7. Development of Surfaces - [1L]
8. Introduction to Computer Aided Drafting - [3L]

B. PRACTICAL PART

1. LINES, LETTERING, DIMENSIONING, SCALES; Plain scale, Diagonal scale. - [6hrs]
2. GEOMETRICAL CONSTRUCTION AND CURVES; Construction of polygons, Parabola, Hyperbola, Ellipse. - [6hrs]
3. PROJECTION OF POINTS, LINES, SURFACES; Orthographic projection- 1st and 3rd angle projection, Projection of lines and surfaces– Hexagon. - [3hrs]
4. PROJECTION OF SOLIDS; Cube, Pyramid, Prism, Cylinder, Cone. - [6hrs]
5. DRAWING ISOMETRIC VIEW FROM ORTHOGONAL/ SECTIONAL VIEWS OF SIMPLE SOLID OBJECTS. - [3hrs]
6. FULL AND HALF SECTIONAL VIEWS OF SOLIDS. - [3hrs]
7. DEVELOPMENT OF SURFACES; Prism, Cylinder, Cone. - [3hrs]
8. COMPUTER AIDED DRAFTING (Using AutoCAD and/or similar softwares); Introduction: Cartesian and Polar coordinate system, Absolute and Relative coordinates; Basic editing commands: Line, Point, Trace, Rectangle, Polygon, Circle, Arc, Ellipse, Polyline; Editing methods; Basic object selection methods, Window and crossing window, Erase, Move, Copy, Offset, Fillet, Chamfer, Trim, Extend, Mirror; Display commands: Zoom, Pan, Redraw, Regenerate; Simple dimensioning and text, Simple exercises. - [6hrs]

References / Books:

- Narayana, K.L. and Kannaiah, P. "Engineering Graphics", Tata McGraw Hill, New Delhi, 1988
- Bhatt, N.D. "Elementary Engineering Drawing", Charotar Book Stall, Anand, 1998
- Lakshminarayanan, V. and Vaish Wanar, R.S., "Engineering Graphics", Jain Brothers, New Delhi, 1998
- Chandra, A.M. and Chandra Satish, "Engineering Graphics", Narosa, 1998
- Jolhe, "Engineering Graphics", Tata McGraw-Hill- WBUT Series
- Gill, P.S., "A Text Book of Engineering Drawing", Katson Publishing House (Kataria and Sons)
- Venugopal, K., "Engineering Drawing & Graphics + AutoCAD", New Age International
- Ventaka Reddy K., "Text Book of Engineering Drawing (2nd Edition)", BS Publication.