

(4 Lect./Week)
(4 hrs. Lab/Week)
(1 Student's presentation /Week)

(Total Credits -7)

Paper 604: Engineering graphics and Drawing

- Unit I Introduction of Drawing instruments, sheet layouts lines, lettering and Dimensioning scales, various types of projections, First and Third angle systems of orthographic projections. Projection of Points in different quadrants.
- Unit II Projections of Planes – parallel to one reference plane, inclined to one plane but perpendicular to the other, inclined to both reference planes.
- Unit III Projections of Polyhedra Solids and Solids of Revolution – in simple positions with axis perpendicular to a plane, with axis parallel to both planes, with axis parallel to one plane and inclined to the other, Projections of sections of Prisms, Pyramids, Cylinders and Cones.
- Unit IV Section of ployhendra, Solid and solids of Renoution
- Unit V Isometric projections – introduction, isometric scale, Isometric views of plane figures, prisms, pyramids and cylinder.
- Unit VI Development of surfaces.
- Unit VII Orthographic drawings of Bolts and Nuts, Bolted Joints, Screw threads, screwed joints.
- Unit VIII Free Hand sketching- Orthographic Views from Isometric, Views of Simple Machine Components such as Brackets. Bearing Blocks, Guiding Blocks and Simple Couplings.

Text Book

1. Engineering Drawing Plane and Solid Geometry: N.D. Bhatt and V.M. Panchal, Forty-Fourth Edition 2002, Charotar Publishing House.

Reference Books

1. Engineering Graphics and Drafting: P.S. Gill Millennium Edition, S.K. Kataria and Sons.
2. A Text Book of Engineering Drawing: S.B. Mathur, Second Revised and Enlarged Edition 2000, Vikas Publishing House.
3. Engineering Graphics using AUTOCAD 2000: T. Jeyapooan, First Edition 2002, Vikas Publishing House.

Practical Engineering Drawing

List of Experiments

1. UNIT 1
 - Lines, lettering & Dimension (Sketch Book)
 - Scale-representative Fraction, Plan scale, Diagonal Scale, Vernier scales (In sheet), comparative Scale, & scale of chords (Sketch Book)
2. Unit 2
 - Geometric conception, caners used in drawing practice.
 - Conic Section: Construction of Ellipse, Parabola & Hyperbola by different methods (In sheet)
 - Engineering curves: Construction of cycloid, Epicycloids, Hypocycloid and Involutes (In sheet) Archimedean and Logarithmic spiral, (Sketch book)
3. Unit 3
 - Type Projection, Orthographic Projection: First Angle and third Angle Projection (Sketch Book)
 - Projection of Points (Sketch Book)
 - Projection of Straight lines, different position of straight lines, methods for determining True length, true inclinations and Traces of straight lines (Four problems in sheet and three problems in Sketch Book)

- Projection of Planes: Different positions of Plane lamina like.: - Regular polygon, circle three of planes (Four problems in Drawing sheet and three problems in Sketch Book).
4. Unit 4
- Projection of Solids:- Projection of right and regular Polyhedron, Prisms, Pyramids and cone (Four Problem in Drawing sheet and there in Sketch Book).
 - Section of Solids:- Projection of Frustum of a cone and pyramid, Projection of Truncated Solids (like Prism, Pyramid, Cylinder and Cone) in different positions.
5. Unit 5
- Development of Surfaces:- Parallel line and Radial line method for right, regular solids
 - Section of solids: - Projection of Frustum of cone and pyramid, Projection of Truncated Solids (Like Prism, Pyramid, Cylinder and Cone) in different potions.
6. Unit 6
- Screw fastening s such a nut and Bolts drawing.

Text Book

1. Engineering Drawing Geometrical Drawing, P.S. Gill, S.K. Katara & Sons.
2. Engineering Drawing, Dhanarajay A Jolhe, Tata McGraw Hill.
3. Engineering Drawing, Basant Agarwal & CM Agrawal, Tata McGraw Hill.
4. Engineering Drawing, N.D. Bhatt, Charotar Publishing House Pvt. Ltd.