



MANIPAL UNIVERSITY JAIPUR
School of Automobile, Mechanical and Mechatronics
DEPARTMENT OF MECHANICAL ENGINEERING

Course Hand-out

Engineering Graphics| ME1101 | 3 Credits | 3003

Session: July 2018 – May 2019 | Course Coordinator: Dr. Mithilesh Kumar Dikshit |
Class: B.Tech Sem.I/II

[ME1101.1]. Students will be able to know and understand the conventions and the methods of engineering drawing.

[ME1101.2]. Students will be able to understand the theory of projections. Draw orthographic projections of lines, planes and solids.

[ME1101.3]. Apply sectional views to most practically represent engineered parts. Students will have skill to prepare basic engineering models.

[ME1101.4]. Student will have problem solving skill for various engineering design problems.

[ME1101.5] Student will learn design and drafting in autocad. Understand the application of industry standards and techniques applied in engineering graphics.

A. SYLLABUS

Principle of Orthographic Projections: Points, straight lines parallel to one ref. plane (HP/VP) and inclined to other ref. plane; Straight lines inclined to both HP and VP; Straight lines inclined to both HP & VP and parallel to PP; Straight lines with traces; Practical problems on straight lines. Projections of Plane surfaces: Perpendicular one ref. plane (HP/VP) and inclined to other ref. plane, Inclined to both HP & VP, Inclined to both HP & VP and perpendicular to PP. Projections of Solids (right regular) by change of position method: Axis parallel to one ref. plane (HP/VP) and inclined to other ref. plane, Resting on one of the ref. plane, axis inclined to both HP & VP, Suspended freely, axis inclined to both HP & VP, Axis inclined to both HP & VP parallel to PP. Projections of solids by Auxiliary plane method: Axis inclined to both HP and VP. Sections of solids (right regular and no spheres): Using Horizontal and vertical section planes using section plane perpendicular to one ref. plane and inclined to the other ref. plane, Given the regular true shapes of various solids and find the inclination of section plane. Development of surfaces: Parallel line development, Radial line development, Triangulation development. Isometric projections: Plane surfaces and simple solids (prisms & cylinders), Frustum and combination of solids, Simple machine elements. Introduction to Computer Aided Drafting.

A. TEXT BOOKS:

- i. Bhat N. D., Engineering Drawing Charotar Publishing House, Anand , 2000.
- ii. Jeyapooan T. Engineering Drawing and graphics Using AutoCAD, 3rd Ed. Vikas Publishing House Pvt. Ltd.,2010.

REFERENCE BOOKS:

- i. Gopalkrishna K. R., Engineering Graphics, Suhas Publications, Bangalore, 2001.
- ii. Venugopal K., Engineering Drawing and Graphics + Autocad Newage International Publishers, Delhi (2001).

