

104th Senate approved Modified Syllabus:

ME2091E MACHINE DRAWING

Pre-requisites: Knowledge of Engineering Graphics

L	T	P	O	C
1	0	2	3	2

Total Sessions: 13L + 26 P

Course Outcomes:

CO1: Develop mechanical engineering components adopting the Indian Standard Code of practice.

CO2: Create assembly drawings of mechanical engineering systems.

CO3: Create production drawings of components and systems using the applicable GD&T conventions.

Fundamentals:

Orthographic projections of complex machine parts and other components, sketching exercises, introduction to CAD packages, standard conventions for sectional views, screwed threads and fasteners, welded joints, etc., modeling of 3D parts from orthographic views.

Assembly Drawings:

Concepts of assembly drawings, keys, cotter-joints and pin-joints, shaft bearings and hangers, valves, shaft couplings, steam engine parts, internal combustion engine parts, assembly of parts and motion simulation using CAD software, development of 2D drawings from assembly.

Production Drawings:

Elements of production drawing: geometrical dimensioning and tolerancing (GD&T), limits, fits and tolerances, specification of surface roughness and lay, exercises on reading, interpreting and developing production drawings, development of production drawings using CAD software.

References:

- [1] Bhatt, N. D., Panchal, V. M., and Ingle, P. R., 2016. *Machine Drawing*, 50th ed. Charotar Publishing House.
- [2] Narayana, K. L., Kannaiah, P., and Reddy, K.V., 2009, *Machine Drawing*, 3rd ed. New Age.
- [3] John, K. C., and Varghese, P. I, 2009, *Machine Drawing*. PHI Learning Private Limited.
- [4] Gill, P. S., 2013, *A Textbook of Machine Drawing*, 18th ed. S. K. Kataria & Sons.
- [5] Sidheswar, N., Kannaiah, P., and Sastry, V. V. S., 2007, *Machine Drawing*. Tata McGraw-Hill.
- [6] Singh, A., *Machine Drawing: Includes AutoCAD*, 1020, 2nd ed. Tata McGraw-Hill.
- [7] BIS Standards: IS919, IS2102 and IS8000, Bureau of Indian Standards.