NIRMA UNIVERSITY
Integrated B. Tech. (CSE)-MBA programme
Term - II

L	T	P	C
2	0	4	4

Course Code	CSI0202
Course Title	Engineering Graphics

Course Outcomes:

At the end of the course, students will be able to-

1. interpret the fundamental principles of engineering graphics and related drawing standards,
2. construct profiles of various engineering curves,
3. apply the principles of orthographic and isometric projection for various solid geometries,
4. construct engineering drawing using computer aided drafting tools.

Syllabus:

Teaching hours: 20

Unit I **1**

Introduction to Engineering Drawing: Importance and applications of engineering drawing for various branches of engineering, drawing instruments, BIS Code of Practice, Lines, Lettering and Dimensioning, Scales, basic geometrical construction, Sheet Layout.

Unit II **4**

Engineering Curves: Construction of Conics by different methods, construction of cycloid, epicycloids and hypocycloid, construction of involutes, constructions of archimedean spiral and helix.

Unit III **7**

Solid Geometry: Principle of Orthographic Projections, projections of points, projections of straight lines, projections of planes.

Unit IV **4**

Orthographic Projections and Isometric Projections: Conversion of pictorial views into orthographic projections including sectional orthographic projection. Conversion of orthographic views into isometric projections / views.

Unit V **4**

Computer Aided Drafting: Understanding of GUI (Graphical User Interface) of drafting software, demonstration of use of available Drawing Commands, Modifying / Editing commands, Annotation and Dimensioning Commands, Concepts of Layers, demonstration of various line styles and construction of drawings in soft form using drafting software.

Self-Study:

The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Laboratory Work:

Laboratory work will be based on the above syllabus with minimum 8 experiments.

Suggested Readings^:

1. Bhatt, N. D., Engineering Drawing, Charotar publication.
2. John, K. C. Engineering Graphics, PHI Publication.
3. Luzzader, W. J. and Duff, J. M. Fundamentals of Engineering Drawing, PHI publication.
4. Bethune, J. D. Engineering Graphics with AutoCAD®, PHI Publication.
5. 5. IS SP 46: 2003. Engineering Drawing Practices for Schools and Colleges.

L=Lecture, T=Tutorial, P=Practical, C=Credit

^this is not an exhaustive list