

**SEMESTER S1****ENGINEERING GRAPHICS AND COMPUTER AIDED DRAWING****(Common to A, B & D)**

<b>Course Code</b>	<b>GMEST103</b>	<b>CIE Marks</b>	40
<b>Teaching Hours/Week (L: T:P: R)</b>	2-0-2-0	<b>ESE Marks</b>	60
<b>Credits</b>	3	<b>Exam Hours</b>	2 Hrs. 30 Min.
<b>Prerequisites (if any)</b>	None	<b>Course Type</b>	Theory & Lab

**Course Objectives:**

1. To learn the principles and techniques of dimensioning and preparing engineering drawings.
2. To develop the ability to accurately interpret and understand engineering drawings.
3. To learn the features of CAD software

**SYLLABUS**

<b>Module No.</b>	<b>Syllabus Description</b>	<b>Contact Hours</b>
<b>1</b>	<p><b>Introduction:</b> Relevance of technical drawing in engineering field. Types of lines, Dimensioning, BIS code of practice for technical drawing. (No questions for the end semester examination)</p> <p>Projection of points in different quadrants, Projection of straight lines inclined to one plane and inclined to both planes. Trace of a line. Inclination of lines with reference planes. True length and true inclinations of line inclined to both the reference planes.</p>	<b>9</b>

<b>2</b>	Projection of Simple solids such as Triangular, Rectangle, Square, Pentagonal and Hexagonal Prisms, Pyramids, Cone and Cylinder only. Projection of solids in simple position including profile view. Projection of solids with axis inclined to one of the reference planes and with axis inclined to both reference planes.	<b>9</b>
<b>3</b>	<b>Sections of Solids:</b> Sections of Prisms, Pyramids, Cone and Cylinder only, with axis in vertical position and cut by different section planes. True shape of the sections. (Exclude true shape given problems)  <b>Development of Surfaces:</b> Development of surfaces of the solids and solids cut by different section planes. (Exclude problems with through holes)	<b>9</b>
<b>4</b>	<b>Isometric Projection:</b> Isometric scale- Isometric View and Projections of Prisms, Pyramids, Cone, Cylinder, Sphere, Hemisphere and their combinations.  <b>Computer Aided Drawing (CAD):</b> Introduction, Role of CAD in design and development of new products, Advantages of CAD. Creating two-dimensional drawing with dimensions using suitable software. (CAD, only internal evaluation)	<b>9</b>

**Course Assessment Method  
(CIE: 40 marks, ESE: 60 marks)**

**Continuous Internal Evaluation Marks (CIE):**

Attendance	Assignment+ Lab Exam	Internal Examination-1	Internal Examination- 2	Total
<b>5</b>	<b>10+5</b>	<b>10</b>	<b>10</b>	<b>40</b>



<b>Text Books</b>				
<b>Sl. No</b>	<b>Title of the Book</b>	<b>Name of the Author/s</b>	<b>Name of the Publisher</b>	<b>Edition and Year</b>
1	Engineering Graphics	Varghese, P. I.	V I P Publishers	2018 edn
2	Engineering Graphics,	Benjamin, J.	Pentex Publishers	2016 edn
3	Engineering Graphics	John, K. C.	Prentice Hall India Publishers	2017 edn
4	Engineering Drawing,	Bhatt, N., D.	Charotar Publishing House Pvt Ltd.	60th edn 2019
5	Engineering Graphics,	Anilkumar, K. N.	Adhyuth Narayan Publishers	2022 edn

<b>Reference Books</b>				
<b>Sl. No</b>	<b>Title of the Book</b>	<b>Name of the Author/s</b>	<b>Name of the Publisher</b>	<b>Edition and Year</b>
1	Engineering Graphics with AutoCAD,	Kulkarni, D. M., Rastogi, A. P. and Sarkar, A. K.,	Prentice Hall India Publishers	2020 edn
2	Engineering Drawing & Graphics	Venugopal, K.	New Age International Publishers	5th edn 2011
3	Engineering Drawing	Parthasarathy, N. S., and Murali, V.	Oxford University Press	2015 edn

<b>Video Links (NPTEL, SWAYAM...)</b>	
<b>Module No.</b>	<b>Link ID</b>
1	<a href="https://archive.nptel.ac.in/courses/112/102/112102304/">https://archive.nptel.ac.in/courses/112/102/112102304/</a>
2	<a href="https://archive.nptel.ac.in/courses/112/102/112102304/">https://archive.nptel.ac.in/courses/112/102/112102304/</a>
3	<a href="https://archive.nptel.ac.in/courses/112/102/112102304/">https://archive.nptel.ac.in/courses/112/102/112102304/</a>
4	<a href="https://archive.nptel.ac.in/courses/112/102/112102304/">https://archive.nptel.ac.in/courses/112/102/112102304/</a>