

**GOVERNMENT POLYTECHNIC, PUNE**  
(An Autonomous Institute of Govt. of Maharashtra)

<b>Programme</b>	:	<b>Diploma in ET/CE/EE//ME/MT/CM/IT/DDGM</b>
<b>Programme Code</b>	:	<b>01/02/03/04/05/06/07/08/17/21/22/23/24/26</b>
<b>Name of Course</b>	:	<b>Engineering Drawing</b>
<b>Course Code</b>	:	<b>ME 284</b>

**Teaching Scheme:**

	<b>Hours /Week</b>	<b>Total Hours</b>
<b>Theory</b>	<b>02</b>	<b>32</b>
<b>Practical</b>	<b>02</b>	<b>32</b>

**Evaluation Scheme:**

	<b>Progressive Assessment</b>	<b>Semester End Examination</b>			
		<b>Theory</b>	<b>Practical</b>	<b>Oral</b>	<b>Term work</b>
<b>Duration</b>	<b>Two class tests, each of 60 minutes</b>	<b>4 hrs.</b>	--	--	--
<b>Marks</b>	--	--	--	--	<b>50</b>

**Course Rationale:**

Engineering drawing is the graphical language. It is used by engineers, designers, planners, supervisors and also the workers to express their thoughts, ideas and concepts. The expression by drawing is very accurate, precise and brief. At a glance one can understand detailed description of any part to be manufactured or a dam to be built or an electric circuit to be used. For all technicians through understanding of principles of engineering drawing (Graphic Skills) is essential.

**Course Objectives:**

After studying this course, the student will be able to

- Draw various engineering curves.
- Incorporate Indian Standards in drawings.
- Sketch various orthographic and isometric views.
- Draw all different views from given components vis-à-vis.
- Draw free hand sketches.

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**Course Content:**

Chapter No.	Name of Topic/Sub topic	Hrs	Marks
<b>1.</b>	<b>Introduction of Drawing Instruments, Lines, Letters etc.</b>		
	1.1	Use of different drawing equipments.	<b>02</b>
	1.2	Type of letters.	
	1.3	Conventions of lines.	
	1.4	Scales.	
<b>2.</b>	<b>Engineering Curves and Tangential Exercises</b>		
	2.1	Geometrical constructions and tangential exercises.	<b>04</b>
	2.2	To draw an ellipse by concentric circle method.	
	2.3	To draw a parabola by : i) Directrixfocus method.	
	2.4	To draw a hyperbola by : i) Directrixfocus method.	
<b>3.</b>	<b>Orthographic Projections</b>		
	3.1	Introduction to orthographic projections first and third angle method of projection. Conversion of simple pictorial view in to orthographic view, Dimensioning technique.	<b>10</b>
<b>4.</b>	<b>Sectional Orthographic Projections</b>		
	4.1	Introduction, converting the given pictorial view into sectional views.	<b>06</b>
<b>5.</b>	<b>Isometric Views</b>		
	5.1	Isometric scale and isometric views of simple objects.	<b>08</b>
	5.2	Isometric views of rectangular, cylindrical objects, Slots on sloping surface.	
<b>6.</b>	<b>Free Hand Sketches</b>		
	6.1	Fasteners, temporary threaded fasteners, locking arrangement, Foundation Bolts.	<b>02</b>
<b>Total</b>			<b>32</b>

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**List of Practicals/Experiments/Assignments:**

Sr. No.	Name of Experiment/Assignment	Hrs
<b>Six sheets on topics covered in the syllabus.</b>		
1.	Line letters and numbers. (Sheet No.1)	06
2.	Engineering curves and tangential exercises. Any four problems (Sheet No.2)	06
3.	Orthographic projection, Sectional views, Each One Problems (Sheet No.3)	10
5.	Isometric projection. Minimum Two Problems. (Sheet No.4)	08
6.	Free hand sketches. Any Eight elements (Sheet No.5)	02
<b>Total</b>		<b>32</b>

**Instructional Strategy:**

Sr. No.	Topic	Instructional Strategy
1.	Introduction to Drawing instruments lines letters etc.	Classroom teaching and Demonstration.
2.	Curves and tangential exercises	Demonstrations and classroom teaching.
3.	Orthographic projection	Use of models and classroom teaching.
4.	Sectional orthographic projection	Use of models, transparencies and classroom teaching.
5.	Isometric views	Classroom teaching, self study and assignments.
6.	Free hand sketches	Classroom teaching and assignments & use of Models.

**NOTE : Termwork evaluation on graphic skill.**

**Text Books:**

Sr. No	Author	Title	Publication
1.	N.D. Bhatt	Elementary Engg. Drawing ( Including plan and solid geometry )	Charotar Publication, Anand.
2.	Mali, Choudhary	Engineering Drawing	VrindaPrakashan, Jalgaon


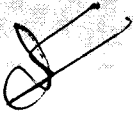

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**Reference Books:**

Sr. No	Author	Title	Publication
1	N.D. Bhatt	Geometrical and Machine Drawing	Charotar Publication, Anand.
2	--	I.S. 696 Latest version	B.I.S.
3	Curriculum Development Centre, TTTI, Bhopal	A Workbook in Engineering Drawing	Somaiyya Publication Pvt. Ltd., Mumbai
4	--	SP 46 – 1988	B.I.S.
5	G.R. Nagpal	Machine Drawing	--
6	K. Venugopal	Engineering Drawing and Graphics + AutoCAD	New Age International Publications.

**Learning Resources:** Video cassettes No. 122, 123 of G.P.P. Library.

**Prepared By:**

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