

GOVERNMENT POLYTECHNIC GARIYABAND

GARIYABAND (C.G.)

LESSON PLAN

SESSION - JULY-DEC 2025

NAME OF FACULTY : Prakash Vibhor Baghel

COURSE : Diploma in Engineering

SUBJECT:- Machine Drawing & Computer Aided Drafting

SESSION STARTS FROM : 29/09/2025

DESIGNATION : Lecturer (Mechanical)

DEPARTMENT : Mechanical Engineering

COURSE CODE 2037374(037)

SEMEST: III

TOTAL CLASS PER WEEK:- 3

Unit No.	Lecture No.	Topics to be covered	Planned Date	Execution Date	Remark
1	1	Curves of intersection of surfaces of the regular solids in the following cases: Prism with prism (Tri- angular and square), Cylinder with cylinder, Square Prism with Cylinder when a. the axes are at 90° and intersecting	06/10/2025		
	2	Curves of intersection of surfaces of the regular solids in the following cases: Prism with prism (Tri- angular and square), Cylinder with cylinder, Square Prism with Cylinder when b. The axes are at 90° and Offset	06/10/2025		
	3	Tutorial Class	07/10/2025		
	4	Cylinder with Cone: when axis of cylinder is parallel to both the reference planes and cone resting on base on HP with axis intersecting with axis of cylinder.	13/10/2025		
	5	Cylinder with Cone: when axis of cylinder is parallel to both the reference planes and cone resting on base on HP offset from axis of cylinder.	13/10/2025		
	6	Tutorial Class	14/10/2025		
2	7	Development of Lateral surfaces of objects cylinder, cone & pyramids	28/10/2025		
	8	Development of Lateral surfaces of objects cylinder, cone & pyramids	03/11/2025		
	9	Tutorial Class	03/11/2025		
	10	Development of Lateral surfaces of objects cylinder, cone & pyramids	04/11/2025		
	11	applications such as funnel, Chimney, pipe bend.	10/11/2025		
	12	Tutorial Class	10/11/2025		

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3	13	Standard conventions as per BIS [SP – 46 (1988)], Materials- C.I., M.S, Brass, Bronze, Aluminum, wood, Glass, Concrete and Rubber	11/11/2025		
	14	Standard conventions as per BIS [SP – 46 (1988)] Long and short break in pipe, rod and shaft. Ball and Roller Bearings. Pipe joints, cocks, valves.	17/11/2025		
	15	Tutorial Class	17/11/2025		
	16	Internal / external threads, Knurling Serrated shafts, splined shafts, and keys and key ways	18/11/2025		
	17	Springs with square and flat ends, Gears, sprocket wheel, chain wheels Countersunk & counter bored holes, Tapers	24/11/2025		
	18	Springs with square and flat ends, Gears, sprocket wheel, chain wheels, Countersunk & counter bored holes, Tapers	24/11/2025		
	19	Tutorial Class	25/11/2025		
4	20	Limits, fits and tolerances: Definitions, Introduction to ISO system of tolerances - unilateral and bilateral tolerance and its representation on drawing, dimensional tolerances,	01/12/2025		
	21	Elements of interchangeable system, hole & shaft base systems, tolerance diagram, Selection of fit (clearance, transition and interference) for engineering applications.	01/12/2025		
	22	Tutorial Class	02/12/2025		
	23	Geometrical tolerances Definitions, Tolerances of form and position and its geometric representation-tolerance frame, datum feature, magnitude of tolerance and symbol, interpretation of a given symbol on drawing, simple examples.	08/12/2025		
	24	General welding symbols, length and size of weld, surface contour and finish of weld, all round and site weld, symbolic representation in Engineering practices and its interpretation.	08/12/2025		
	25	Characteristics of surface roughness Indication of machining symbol showing direction of lay, roughness grades, machining allowances, manufacturing methods, using ISO code. Relation of surface roughness values with manufacturing processes.	09/12/2025		
	26	Tutorial Class	15/12/2025		

Unit No.	Lecture No.	Topics to be covered	Planned Date	Execution Date	Remark
5	27	Introduction, types of assembly drawing, accepted norms to be observed for assembly drawings, sequence for preparing assembly drawing. Bill of Material.	15/12/2025		
	28	Exploded view of : i. Flange coupling ii. Bushed Bearing	16/12/2025		
	29	Tutorial Class	22/12/2025		
	30	Exploded view of : iii. Plummer Block iv. Lathe Square Tool Post	22/12/2025		
	31	v. Knuckle Joint vi. Cast Iron Pulley Any other assembly consisting of 6 -10 parts.	23/12/2025		
	32	Tutorial Class	29/12/2025		
6	33	Introduction, types of assembly drawing, accepted norms to be observed for assembly drawings, sequence for preparing assembly drawing. Bill of Material.	29/12/2025		
	34	Flange coupling, Plummer Block,	30/12/2025		
	35	Tutorial Class	05/01/2026		
	36	Lathe Square Tool Post, Knuckle Joint, Cast Iron Pulley.	05/01/2026		
	37	Tutorial Class	06/01/2026		

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7	38	Recall Isometric and orthographic projections. Conversion of pictorial view into Orthographic views and			
	39	Conversion of orthographic views into isometric View/projection.			
	40	Tutorial Class			
	41	Need for sectional views, Cutting plane and line, Sectioning conventions and section lines.			
	42	Types of sections: Full, Half, Broken, Removed, Revolved and Offset.			
	43	Tutorial Class			
	44	Recall AutoCAD Draw, Modify, Edit and Plot commands.			
	45	Tutorial Class			
	46	Isometric and Orthogonal drawings using any computer aided drafting software (AutoCAD).			
	47	Isometric and Orthogonal drawings using any computer aided drafting software (AutoCAD).			
48	Tutorial Class				