Government Polytechnic Hamirpur
DEPARTMENT OF MECHANICAL ENGINEERING
LESSON PLAN

Name of Faculty	**Tanuj Gupta and Nitish Sharma**	Academic Session	**August – November 2026**
Course Name	**Engineering Graphics**	Scheme	**N-2026**
Course Code	**ES103**	Semester	**1st (Computer & IOT)**
Course Type	**Engineering Science (ES)**	Semester Start Date	**01-08-2026**
L-T-P	**0-0-6 (L:0, T:0, P:6)**	Semester End Date	**28-11-2026**

STUDY AND EVALUATION SCHEME

Teaching Hours/Week		Internal Assessment		External Assessment				Total		Credit
Theory	Practical	Theory	Practical	Theory	Hrs.	Practical	Hrs.	Theory	Practical	
NA	06 Hrs.	NA	50	NA	NA	60	03 Hrs.	NA	100	03

COURSE OUTCOMES (COs)

	On successful completion of this course, students will be able to:-
CO1	Identify and use standard drawing instruments accurately.
CO2	Draw geometrical figures and apply different types of lines.
CO3	Apply standard dimensioning techniques, drawing codes, conventions, and symbols as per IS SP-46 (2003) in engineering drawings.
CO4	Draw orthographic projections, sectional and isometric views of simple objects.
CO5	Interpret and draw the free hand sketches of Civil, Electrical and Mechanical engineering symbols and conventions.

	Recommended Books
1	Engineering Drawing – P. S. Gill, S. K. Kataria & Sons, New Delhi
2	Elementary Engineering Drawing in First Angle Projection – N. D. Bhatt, Charotar Publishing House Pvt. Ltd., Anand
3	A Text Book of Engineering Drawing – Surjit Singh, Dhanpat Rai & Co., Delhi
4	Engineering Drawing – R. B. Gupta, Satya Prakashan, New Delhi
5	Engineering Graphics – Sharad K. Pradhan and K.K. Jain, Khanna Book Publishing Co., New Delhi
6	Engineering Drawing Practice for Schools and Colleges (SP 46:2003) – Bureau of Indian Standards, Government of India, New Delhi

Teaching Plan

Unit No.	No. of Sessions Planned	Topic / Sheet to be covered	Proposed date (as per time table)	Actual Date	Remarks
1. Introduction to Engineering Drawing (2 Sheets)	1	Introduction to engineering drawing instruments and materials; standard drawing sheet layouts and sizes (ISO A-series); standard sizes of drawing boards	11.08.2026		
	2	Convention of lines and their applications in Engineering Drawing as per BIS specifications	14.08.2026		
	3	Practice of vertical, horizontal and inclined lines	18.08.2026		
	4	Geometrical figures: triangles, rectangles, circles, ellipses and curves	21.08.2026		
	5	Hexagon and pentagon construction with the help of drawing instruments (Sheet-1 completion)	22.08.2026		
	6	Freehand lettering (5, 8 & 12 mm) and instrumental lettering of upper-case Gothic, single stroke, vertical (height 25–35 mm, ratio 7:4) (Sheet-2 completion)	25.08.2026		

Unit No.	No. of Sessions Planned	Topic / Sheet to be covered	Proposed date (as per time table)	Actual Date	Remarks
2. Dimensioning Techniques (1 Sheet)	7	Necessity and principles of dimensioning; elements of dimensioning; dimensioning methods and arrangement of dimensions as per BIS standards	28.08.2026		
	8	Dimensioning of overall sizes, circles, chamfered surfaces, angles	29.08.2026		
	9	Dimensioning of tapered surfaces, holes equally spaced on P.C.D. (Sheet completion)	01.09.2026		
3. Scales (2 Sheets)	10	Engineering scales – need and importance; types of scales	05.09.2026		
	11	Definition of R.F. and length of scale	08.09.2026		
		CLASS TEST-I (covering ~30% of syllabus)	**11.09.2026**		
	12	Concept, applications and construction of plain scales (practice) (Sheet-1 completion)	15.09.2026		
	13	Concept and applications of diagonal scales	18.09.2026		
	14	Construction of diagonal scales (practice)	19.09.2026		
	15	Construction of diagonal scales (practice contd.) (Sheet-2 completion)	22.09.2026		
4. Orthographic Projections (3 Sheets)	16	Theory of orthographic projections: concept and applications	25.09.2026		
	17	Projection of points in different quadrants (theory & practice)	26.09.2026		
	18	Projection of straight lines (1st and 3rd angle): line parallel or perpendicular to reference planes (theoretical concept only)	29.09.2026		
	19	Three views of orthographic projection – introduction & method (1st angle)	03.10.2026		
	20	Three views of orthographic projection – practice (1st angle) (Sheet-1 & 2)	06.10.2026		
	21	Three views of orthographic projection in 3rd angle – method & practice	09.10.2026		
	22	Three views of orthographic projection in 3rd angle – practice contd. (Sheet-3 completion)	13.10.2026		
5. Sectioning (2 Sheets)	23	Sectioning: conventional representation of materials	16.10.2026		
		CLASS TEST-II (covering ~61% of syllabus)	**17.10.2026**		
	24	Breaks for shafts, pipes, rectangular, square, angle, channel and rolled sections	23.10.2026		
	25	Orthographic sectional views: Full sections – theory	24.10.2026		
	26	Orthographic sectional views: Full sections – practice (Sheet-1 completion)	27.10.2026		
	27	Orthographic sectional views: Half sections – theory & practice	30.10.2026		
	28	Introduction to Partial/Broken-out sections	31.10.2026		
	29	Introduction to Removed sections; practice (Sheet-2 completion)	06.11.2026		
6. Isometric Views (1 Sheet)	30	Fundamentals of isometric projections (theory); Isometric scale (theory)	07.11.2026		
	31	Isometric views of cylinder and cone	10.11.2026		
	32	Isometric views of cube and prism	13.11.2026		
	33	Isometric views of combinations of regular solids (practice)	17.11.2026		
	34	Isometric views of combinations of regular solids (practice contd.) (Sheet completion)	20.11.2026		

Unit No.	No. of Sessions Planned	Topic / Sheet to be covered	Proposed date (as per time table)	Actual Date	Remarks
7. Common Signs, Symbols & Conventions (1 Sheet)	35	Importance of engineering symbols, conventions and their applications	21.11.2026		
	36	Freehand sketching of standard Civil engineering symbols and conventions	27.11.2026		
	37	Freehand sketching of standard Electrical engineering & Mechanical Engineering symbols and conventions	28.11.2026		

Class Test

Name of Test	Syllabus Covered in Test (Unit-wise)	Proposed date	Actual Date	Remarks
Class Test-I	Unit-1, 2 & most of Unit-3 (~30% of syllabus)	11.09.2026 (2nd week of September)		
Class Test-II	Unit-1 to Unit-4 & most of Unit-5 (~60% of syllabus)	17.10.2026 (2nd week of October)		

Signature of Course Teacher with Name

Approved by
OIC/HoD/Principal