GANPAT UNIVERSITY

FACULTY OF DIPLOMA ENGINEERING

Programme	Diploma in Civil Engineering		
Semester	II	Version	1.0.0.0
Effective from Academic Year	2025-26	Effective for the batch Admitted in	JULY 2025
Course code	1CI2102	Course Name	Building Drawing

I.TEACHING-LEARNING AND ASSESSMENT SCHEME

Course Type	Course Code	Learning Scheme						Assessment Scheme										
		Actual Contact Hrs./Week			SLH	NLH	Credits	Theory				Practical				Based on SL		Total Marks
		CL	TL	LL				FA-TH	SA-TH	TOTAL		FA-PR	SA-PR	TOTAL		SLA		
								MAX	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX	MIN	
DSC	1CI2102	2	-	4	4	10	5	40	60	100	40	60	40	100	40	20	8	220

Abbreviation:	**CL-** Classroom Learning	**TL -** Tutorial Learning	**LL -** Laboratory Learning
	SLH - Self Learning Hours	**NLH -** Notional Learning Hours	**SLA -** Self Learning Assessment
	FA - Formative Assessment (Term work +Mid Sem Exam +Attendance)		**SA -** Summative Assessment

II. PRE-REQUISITES

Student must possess basic knowledge of drawing instruments, various drawings and its scales.

III. INDUSTRY / EMPLOYER EXPECTED OUTCOMES

Accurately interpret and prepare civil engineering drawings, including plans, sections, and elevations, using industry-standard symbols and conventions.

IV. COURSE LEARNING OUTCOMES

At the end of the course, students will be able to achieve the following course learning outcomes:

CO1. Understand and interpret civil engineering drawings using standard symbols, abbreviations and scale.

CO2. Understand principles of planning and building bye -laws as per local authorities.

CO3. Understand residential building drawing and its component.

CO4. Understand perspective drawing for given small objects by different methods.

CO5. Able to read building drawing and other construction details with Building services

V. THEORY LEARNING OUTCOMES AND ALIGNED COURSE CONTENT:

Name of Unit	Theory Learning outcomes (TLO's) aligned to CO's	Learning Content mapped with Theory Learning outcomes (TLO's) & CO's	Marks	Hours
Unit-1 Introduction	**TLO 1.1**Meaning and importance of drawing. **TLO 1.2** Types of projections adopted **TLO 1.3** Detail understanding of drawing sheet. **TLO 1.4** Scales for various types of drawings. **TLO 1.5** Understanding of drawing of residential buildings. **TLO 1.6** Symbols, Conventions and Abbreviations	**1.1**Purpose and requirement of drawing. Different types of drawing. Difference between layout plan and site plan. **1.2** Draw and explain first and third angle projection. **1.3**Detailed description of requirement of essential particulars for drawing a sheet. **1.4** Apply various types of scales as per needs. **1.5** Reading of working drawings of residential buildings and where and which type of drawing required. **1.6** Electrical fittings, water supply,	**06**	**03**

		sanitary fittings, material for construction etc		
Unit-2 Planning of Building	**TLO 2.1** Types of Residential Buildings. **TLO 2.2** Site Selection for Residential Building. **TLO 2.3** Building byelaw of sanctioning authorities for residential buildings. **TLO 2.4** Importance of Building byelaws **TLO 2.5** Minimum dimensions for Plot area, built up area, super built-up area, plinth area, carpet area, floor area and FSI, FAR, size of rooms, margins, height, passages, ventilation, circulation and others **TLO 2.6** Principal of planning for residential and public building **TLO 2.7** Colour code in Civil Engineering drawing. **TLO 2.8** Approval procedure with respect to byelaws **TLO 2.9** Line plans for residential building	**2.1** Various types of residential buildings. **2.2** Importance of site selection and evaluation. **2.3** Introduction to design criteria for planning public buildings. Rules and byelaws of local governing authorities for construction. e.g. building line, open spaces, FSI, headroom, minimum room dimensions etc. **2.4** Necessity and applications of byelaws in different conditions. **2.5** Various types of area and their significance in planning of building. **2.6**Aspect, Prospect, orientation, grouping, privacy, elegance, flexibility, circulation, furniture requirements, sanitation, economy. **2.7** Colour code for alteration and addition in existing buildings. **2.8** Approval procedure with respect to byelaws. **2.9** Line plan of Single storey residential building as per principle and byelaws.	**16**	**08**
Unit-3 Drawings for Residential building planning	**TLO 3.1** Drawing of Load Bearing Structure. **TLO 3.2** Drawing of Framed Structure. **TLO 3.3**Development of line plan, Elevation, Section, site plan, Location Plan, Foundation Plan, Area statement. **TLO 3.4**Significance for Submission of working drawing. **TLO 3.5**Concept plan of various public buildings.	**3.1** Drawing of Single storey Load Bearing residential building (2 - BHK) with staircase. Data drawing –detailed plan, elevation, section, site plan, schedule of openings, construction notes with specifications, area statement, Planning and design of staircase- Rise and Tread for residential building. Foundation plan of load bearing structure. **3.2** Foundation plan of framed bearing structure **3.3** Drawing of Two storey Framed Structure (G+1), residential building (2 BHK) with stair-case. Data drawing – detailed plan, elevation, section, site plan, schedule of openings, construction notes with specifications, area statement. Planning and design of staircase- Rise and Tread for residential and public buildings.	**20**	**10**

		3.4 Details of RCC footing, Column, Beam, Chajjas, Lintel, Staircase and slab. **3.5** Public buildings such as hospitals, schools, shopping centres, office buildings etc.		
Unit-4 Perspective Drawing	**TLO 4.**1 Introduction of perspective view and terms used in perspective drawing. **TLO4.2** Elements of Perspective drawing **TLO 4.3** Types of perspective.	**4.1**Types of perspective and its Applications. **4.2** Elements of Two Point Perspective. **4.3** Two Point Perspective of small objects only such as steps, monuments, pedestals. Two Point Perspective view of single room residential building.	**10**	**05**
Unit-5 Building Components	**TLO 5.**1 Types of Building **TLO 5.2** Draw sketches of different building components. **TLO 5.3** Show various building services	**5.1**Various types of building and their uses. **5.2**Wall and column footing, floors and floorings, roofs and roof coverings, false ceiling, doors, windows, ventilators, beam and slab reinforcement, etc. **5.3** Services like water supply, sanitary and electrification.	**08**	**04**

VI. LABORATORY LEARNING OUTCOME AND ALIGNED PRACTICAL			
Sr. No.	**Practical/Laboratory Learning Outcome (LLO)**	**Practical Titles**	**Relevant COs**
1	**LLO 1.1** Interpretation of building drawings approved under local authority.	Practical Analysis of Sanctioned Building Drawings	CO1
2	**LLO 2.1** Draw symbols of different construction materials, doors and windows used in construction. Details of any one typical door and window.	Drawing Symbols and Details of Doors, Windows, and Materials.	CO1
3	**LLO 3.1** Draw building components in sketch book (1) 200mm and 300mm thick wall foundation (2) Components of building (3) Components of staircase (4) RCC Lintel with chajja (5) Column footing (6) Types of Roofs	Sketching Key Building Components: Foundation to Roof	CO5
4	**LLO 4.1** Measured drawing of an existing residential building (Load bearing) with flat terrace, showing plan, elevation and sections. Construction notes, area statement, schedule of doors and windows on full size drawing sheet.Sheet-1 (A1 size)	Measured Drawing of Residential Building with Plan, Elevation and Section	CO2 CO3
5	**LLO 5.1** Draw detail of foundation	Sketching Foundation Plan of One or	CO5

	plan of one room building/two Room building in sketchbook.	Two Room Building	
6	**LLO 6.1** Draw working drawing sheet-2 (A1 size) for single storied residential building (Tenement) on 120 sq.m. plot with scale and show following details: GF plan with elevation, section and opening schedule.	Working Drawing Sheet of Single-Storey Tenement with All Views	CO3
7	**LLO 7.1** Develop perspective view of steps by two-point perspectivemethod. Drawingssheet-3 (A2-size)	Drawing Perspective View of StepsUsing Two-Point Method	CO4
8	**LLO 8.1** Develop perspective view of single room residential building with verandah& steps by two-point perspective method. Drawings sheet-4 (A1-size)	Developing 3D View of House Using Two-Point Perspective	CO4

VII. SUGGESTED MICRO PROJECT / ASSIGNMENTS / ACTIVITIES FOR SELF LEARNING / SKILL DEVELOPMENT (SELF LEARNING)

- Create a symbol chart.
- Interpret a local building plan. Obtain a sanctioned plan from the local authority/relative/home. Identify symbols, scale, and features.
- Draw a plan, elevation, and section of your own house.Sketch manually or digitally using basic measurements.
- Compare manual vs digital drawings. Prepare the same drawing by hand and in AutoCAD and write observations.
- Create a poster of drawing instruments and their uses.

Mini projects

- Presentation on "Common errors in building drawings"
- Comparative Study of Framed vs Load-Bearing Structures (with Drawings)
- Design a Small House Plan as per Vastu Principles.
- Prepare a model house using cardboard or any waste material.

VIII. LIST OF INSTRUMENTS / EQUIPMENT / TRAINER BOARD

1	Drawing hall with drawing tables.
2	Drawing board
3	Mini drafter/ T square/ Parallel, other manual drawing instruments.

IX. LIST OF REFERENCE BOOKS

Sr.No.	Title	Author	Publication
1	Textbook of Building Drawing	Shah, Kale, Patki	Edition 4th, Tata McGraw Hill
2	Civil engineering drawing with design	Shahane	Edition 3rd, Poona Allies Book Stall.
3	Civil engineering drawing	Malik & Mayo	New Asian Publishers
4	Civil engineering drawing	M. Chakraborty	BhaktiVedant Book Trust.
5	Building Byelaws	Urban Development Authority	Local Authority e.g. AUDA, GUDA, RUDA, etc.
6	National Building Code of India	Bureau of Indian Standards	Bureau of Indian Standards, Govt. Of India

X. LINK OF LEARNING WEB RESOURCE	
1	www.nptel.iitm.ac.in
2	www.Autodesk.com
3	www.drawingnow.com
4	www.learn-to–draw.com
5	https://swayam.gov.in/
6	https://civiljungle.com/

XI. SUGGESTED WEIGHTAGE TO LEARNING EFFORTS & ASSESSMENT PURPOSE

Unit	Unit Title	Aligned COs	Learning Hours	R-Level	U-Level	A-Level	Total Marks
1	Introduction	CO1	03	3	2	1	06
2	Planning of Building	CO3	08	4	8	4	16
3	Drawings for Residential building planning	CO2	10	5	5	10	20
4	Perspective Drawing	CO4	05	3	2	5	10
5	Building Components	CO5	04	2	2	4	08
		Grand Total	30	17	19	24	60

XII. COs AND POs AND PSOs MAPPING

Course outcome (Cos)	Programme Outcomes (POs)							Programme Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	2	3	2	3	1	2	2	3
CO2	1	2	1	2	1	1	2	2	3	1
CO3	2	2	3	2	3	2	1	3	2	1
CO4	1	2	3	2	1	2	3	1	2	3
CO5	3	2	2	2	3	2	1	2	1	3

Legends: -*3- High 2-Moderate/Medium 1-Slight/Low 0-None*