



Gyanmanjari
Innovative University

Course Syllabus
Gyanmanjari Institute of Technology
Semester-2 (B.Tech)

Subject: Building And Town Planning–BETCV12304

Type of course: Major

Prerequisite: Engineering Drawing

Rationale:

The vernacular of engineers and architects is drawing. Students studying civil engineering start out with a course called building and town planning. Each chapter of readers can gain a thorough understanding of the subject of building and town planning. The entirety of the topic is covered in chapters like "Basics of Building Drawing," "Basics of Buildings," "Site Selection for Residential Buildings," "Climate and Its Influence on Building Planning," "Orientation of Buildings," "Principles of Planning Of Buildings," "Building Bye-Laws," "Planning of Residential Buildings," "Planning of Public Buildings, green buildings, anthropometric studies, and fundamental building element concepts; Building planning and construction nomenclature; Standard Building Drawing Guidelines; Guidelines for Residential Building Planning and Drawing; Drafting Materials and Their Use; B.I.S. Code Colors and Common Signs; Several Vaastu Sastra Facts; Drawings in perspective; Typical building drawings, computer-aided building drawings.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		C	Theory Marks		Practical Marks		
			ESE		MSE	V	P	ALA	
3	0	4	5	60	30	10	20	30	150

Legends: CI-ClassRoom Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.



Course Content:

Sr. No	Course content	Hrs.	% Weightage
PART A: BUILDING DRAWING TECHNIQUES			
1.	THE FUNDAMENTALS OF ENGINEERING DRAWING Introduction to buildings, Types of drawing appropriate scale & uses (index map, key plan, village map, site plan, layout plan.), Types of Projection adopted in Building Drawing., Scales for various types of Drawings., Working drawing, large scale drawing, enlarge scale drawing., Symbols, Conventions and Abbreviations for Electrical fittings, water supply, sanitary fittings, material for construction etc., Utilization of drafting material.	06	10
2.	INTRODUCTION OF BUILDING PLANNING Types of buildings, site selection for Residential building, Principal of building planning, orientation criteria for Indian condition, Principal of architectural planning.	04	10
3.	GENERAL BUILDING REGULATION AND BUILDING BYELAWS General, Objects of bye law, Importance of bye law, Applicability of bye laws, Bye laws of residential Building, Bye laws of public Building, overview of RERA, National Building code, pre-DCR and GDCR.	04	05
4.	PLANNING OF BUILDINGS General, Preparing working drawing of residential buildings, Planning of residential buildings, Planning of two story buildings, Planning of public buildings., Software application in planning, prepare planning by using GDCR bye-laws.	10	20
5.	BUILDING SERVICES Provisions in drawings for building services such as air conditioning, plumbing, water supply and firefighting, elevators, lifts and escalators etc., Draw the building service drawing with water supply, sanitary, electrification on line plan.	02	5
6.	CIVIL BUILDING SECTION DETAILS DRAWINGS General, Brief idea about buildings components such as staircases, chajjas, projections, columns, pier, slabs, footings doors, windows, flooring, plastering etc., Drawings of Parts of buildings such as staircases, chajjas, projections, columns, pier, slabs, footings doors, windows, flooring, plastering etc.	02	5
7.	PERSPECTIVE VIEW Elements of perspective views, Types of perspective views, software application in building planning and building Drawing for 3D model generation	04	5



PART B: TOWN PLANNING TECHNIQUES			
8.	THE FUNDAMENTALS OF TOWN PLANNING Origin of town planning in the world and in India., Objects of town planning, Principal of town planning, Necessity of town planning, Stage in town planning, Growth of town planning, Economic justification for town planning	02	10
9.	INTRODUCTION OF CITY PLANNING Necessity, Site for an ideal town, Collection of data, Types of survey, Methods adopted of collection data, Uses of zone, Objects of zoning, Principal of zoning, Advantages or importance of zoning, Economy of zoning, drawings, Object of master plan, Necessity of master plan, Data collection, Drawing to be prepared, Feature of master plan, Stages of preparation of master plan, Method of execution of master plan, Report, Conclusion	04	10
10.	REPLANNING EXISTING TOWNS General, Objects of re-planning, Defects of existing town, data to be collected, Urban renewal projects	03	10
11.	SMART CITY AND GREEN BUILDING Climate zone of India, Built environment with livability, Eco housing assessment scheme, Concept and components of green building., Evaluation system of various authorities (GRIHA, IGBC)	02	05
12.	NEIGHBOURHOOD & SLUMS Concept and importance, principal of neighborhood planning, causes, effects & characteristics of slums	02	05
Total		45	100

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	Research and planning design : Engage in an active learning assignment by initiating research on diverse residential buildings, architectural styles, and features. Challenge students to discern the purpose of their chosen building, whether it's a single-family home, apartment complex, or eco-friendly design. Following the identification and on-site visitation of residential structures, each student will actively sketch the plan, elevation, and section, incorporating the observed dimensions. The final step involves uploading the completed sheets onto the GMIU web portal	10
2.	Green building and smart city model: Faculty will give the model making on Smart and Green building among the 2-3 students group. Student will make the model as per the instruction and make the short video and upload on GMIU web portal.	10



3.	<p>Micro project: To arrange Field visit to a Local Planning Office. Students will meet with town planners, ask questions, and gain information of real-world challenges of urban development. After the visit of town planning office each students prepare the brief report on local planning office. Including in report all real-world challenges of urban development. Student will upload the report on GMIU web portal.</p>	10
Total		30

Suggested Specification table with Marks (Theory): 60

Distribution of Theory Marks						
(Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20%	30%	30%	10%	-	10%

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course the students should be able to:	
CO1	Demonstrate the proficiency to interpret symbols, conventions, abbreviations, and scale presented in accompanying civil engineering designs.
CO2	Draw a perspective view of the given building or feature.
CO3	Plan structures, integrating green building concepts and adhering to building by laws and regulations.
CO4	Generate conceptual plans for multi-storeyed buildings and produce working drawings for straightforward civil engineering constructions, encompassing both single and double stories.
CO5	Possess a comprehensive understanding of the application of Building Regulations such as GDCR, Building Byelaws, and NBC 2005 specifically tailored for both residential and commercial building projects.



List of Practical:

Sr. No	Descriptions	Unit No	Hrs
1.	Draw in sketchbook, doodle several kinds of graphical symbols for materials, doors and windows, sanitary, water supply, and electrical installations, and write abbreviations.	01	02
2.	By gathering precise measurements, you may draw the detailed plan, elevation, section, site plan, and schedule of openings for an existing residential structure. (Drawing Sheet No. 01)	04	08
3.	Draw working drawings showing the following information: GF & FF plan with elevation, section, and opening schedule for a single-story residential structure (bungalow) on various sized plots with scale. (Drawing Sheet-02)	04	10
4.	Draw the one commercial building plan from the followings: post office, Hospital, Bank School, shopping Mall, Market, etc.(Drawing Sheet-03)	04	10
5.	Draw the residential building plan as per the following details: GF and FF plan with all residential building services, like with furniture detail.(Drawing Sheet-04)	05	04
6.	In a sketchbook, draw the design in detail for a structure with at least two rooms.	06	04
7.	In your sketchbook, draw building components such stairs, weather shelters, projections, columns, piers, slabs and footings.	06	04
8.	Draw the one point approach, develop a perspective view of a challenging item or piece. (Drawing Sheet No. 05)	07	04
9.	Draw two point perspective view of single room residential building with verandah & steps by any methods. (Drawing Sheet-06)	07	04
10.	Mini Project	ALL	10
		Total	60



Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

- [1] Civil engineering drawing, S.C. Rangwala, Charotar Publication
- [2] Civil engineering Drawing, V. B. Sikka, B. D. Kataria Sons, Ludhiana
- [3] Civil Engineering Drawing, Gurcharan singh, Subash chander, Standard Publishers Distributors, Delhi
- [4] Town Planning, S. C. Rangwala, Charotar Publication
- [5] Building planning, designing and scheduling, Gurucharan Singh, Standard Publisher
- [6] National Building Code of India, Bureau of Indian Standards; Bureau of Indian Standards, Govt. Of India

