

GUJARAT TECHNOLOGICAL UNIVERSITY

CIVIL AND INFRASTRUCTURE ENGINEERING BUILDING, TOWN AND INFRASTRUCTURE PLANNING

SUBJECT CODE: 2144001

B.E. 4th Semester

Type of course: Core Subject in Civil and infrastructure engineering

Prerequisite: No Prerequisite

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
L	T	P		Theory Marks			Practical Marks			
			ESE	PA(M)		PA(V)		PA (I)		
				PA	ALA	ESE	OEP			
3	0	2	5	70	20	10	20	10	20	150

Contents:

Sr. No.	Topics	Hours	% Weightage
1	<p>Building Planning:</p> <ul style="list-style-type: none"> Study of general principles of Planning and Architecture. Typical Building Byelaws as per National Building Code and General Development Control Regulation. Planning of residential buildings, Public buildings and Multi-storied structure. Planning of Earthquake resistant buildings considering symmetry, simplicity, continuity, staircase, water tank etc. Preparing Working Drawings of Residential Buildings. Various types, Scale selection, Material description. 	21	50
2	<p>Town & Infrastructure Planning:</p> <ul style="list-style-type: none"> Origin and Growth of towns, Satellite Town, Ribbon development Definitions of town planning and urban design, levels of planning and steps for preparation of a town plan, survey techniques in planning and urban design, concepts, functions, components and preparation of a development plan. Elements of City Planning, Circulation, Zoning and land use, Housing, Landscape pattern, Master plan, Town Center, Civic centers, Shopping Center, Town Planning Schemes, CBD. Urban Design principles and criteria, Urban Scale and Spaces. Design for the Pedestrians. Waterfront Development. Principles of Urban Conservation. Principles of Streetscape Design. Urban design regulations and control, the comprehensive role of urban design in town planning process. Slum: definition, Slum improvements. Introduction to Smart City, its Characteristics as per present scenario. 	21	50

Term Work:

(A) Four A1 Size Drawing sheet:

- (1) Residential Planning: Two storied Building: Plans, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening. Scale - 1:100.
- (2) Public Building: Ground Floor plan, typical floor plan, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening.
- (3) Working Drawing: sheet should accommodate min. six types with sectional details. (Furniture plan, Drainage lay out, Toilet Detail, Wood work detail, Kitchen detail, Electrical plan etc)
- (4) Perspective Drawing: Two point perspective of sheet -1 planning.

(B) Assignments:

- (1) Assignment -1: Principles of Planning & Architecture
- (2) Assignment -2: Building Bye laws
- (3) Assignment -3: Town Planning

Field Visit: Field visits based on course content are suggested.

Text/References:

- Building drawing by M.G.Shah, C.M. Kale and S.Y.Patki, Tata Mcgraw Hill, New Delhi
- Building planning, designing and scheduling by Gurcharan Singh, Standard Book House, New Delhi
- Planning and designing building by Y.S. Sane, Allies Book Stall.
- Town Planning by G.K.Hiraskar, Dhanpatrai & Sons Delhi.
- National Building Code-2005 , New Delhi.
- Town Planning by S.C. Rangwala, Charotar Publishing House, Anand.
- General Development Control Regulations published by AUDA and GICEA
- Peter Hall and M.Tewdwr-Jones, Urban and regional planning, Routledge, Fifth Edition, 2010
- Peter Hall, Urban and regional planning, Routledge, 4th Edition, 2002
- K. V. Sundaram, Urban and regional planning in India, Vikas Pub. House, Fifth Edition, 1977