

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

**PROPOSED TEACHING SCHEME**

**(W.E.F. July 2012)**

**Semester I**

| SR.<br>No. | SUBJECT                                               | TEACHING SCHEME(HOURS) |          |           | CREDITS   |
|------------|-------------------------------------------------------|------------------------|----------|-----------|-----------|
|            |                                                       | THEORY                 | TUTORIAL | PRACTICAL |           |
| 714801     | Planning History & Theory (Core-I)                    | 4                      | 0        | 0         | 4         |
| 714802     | Urban Housing (Core-II)                               | 3                      | 0        | 0         | 3         |
| 714803     | Infrastructure and Transportation Planning (Core-III) | 2                      | 0        | 2         | 3         |
|            | Inter disciplinary – I                                | 3                      | 2        | 0         | 4         |
|            | Major Elective – I                                    | 2                      | 2        | 0         | 3         |
| 710001     | Communication and Research Skills                     | 2                      | 2        | 0         | 3         |
| 714809     | Planning Studio – I                                   | 0                      | 0        | 6         | 3         |
| 714810     | Graduate Report – I                                   | 0                      | 0        | 0         | 2         |
|            | <b>TOTAL</b>                                          |                        |          |           | <b>25</b> |

| <b>Interdisciplinary Elective – I</b> |                               |
|---------------------------------------|-------------------------------|
| 714804                                | Sustainable Building Planning |
| 714805                                | Urban Heritage Conservation   |

| <b>Major Elective – I</b> |                                             |
|---------------------------|---------------------------------------------|
| 714806                    | Socio-economic bases for planning           |
| 714807                    | Urban Land Management                       |
| 714808                    | Urban Governance and Development Management |

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Planning History & Theory

**Subject Code:** 714801

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>EVOLUTION IN TOWN PLANNING:</u></b><br>Evolution in planning and physical form, Impacts of Industrial revolution on town and regional planning, Contemporary developments in planning, Urbanization on formation of metropolitan areas, socio – economic impacts of growth of population, rural – urban migration. Contribution of eminent Planners. |
| 2.    | <b><u>URBANIZATION:</u></b><br>Concept, Indian scenario - issues and Policies, Global scenario.                                                                                                                                                                                                                                                            |
| 3.    | <b><u>URBAN STRUCTURE:</u></b><br>Elements of town structure, changes with time and growth, Town classification, growth theories, Characteristics of the urban environment and its components, land use, physical structure and relationship between parts of city.                                                                                        |
| 4.    | <b><u>PLANNING SURVEY AND PROCESS:</u></b><br>Objectives, types, significance, methodology, analysis, Presentation and applications. Planning parameters, aims, objectives, principles, methodology and systems approach, environmental parameters.                                                                                                        |
| 5.    | <b><u>URBAN LAND USE PLANNING:</u></b><br>Land use Structures, demand and supply of land relationship.                                                                                                                                                                                                                                                     |
| 6.    | <b><u>SITE PLANNING:</u></b><br>Selection criteria, principles, process and constraints.                                                                                                                                                                                                                                                                   |

### **REFERENCE BOOKS:**

1. A.B. GILLION AND SIMON EISNER, “The Urban Pattern”, CBS Publishers and Distributors, Delhi.
2. RISHMA A., “Town Planning in Hot Cities”, Mir Publishers, Moscow.
3. Ward S (2002), “Planning the 20<sup>th</sup> Century City” John Wiler& Sons.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Urban Housing

**Subject Code:** 714802

| Sr_No | Content                                                                                                                                                                                                                                                                                                               |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>URBAN HOUSING:</u></b><br>Housing forms, problems, shortage, growth, urbanization pressure, quantitative, and qualitative aspects, Housing scenario.                                                                                                                                                            |
| 2.    | <b><u>HOUSING FOR URBAN POOR:</u></b><br>Housing Evaluation for urban Poor, Aerial and cluster standards, materials, social amenities and services, locational parameters, Policies. Housing schemes, housing schemes, Slum theories, up gradation and relocation issues of slum dwellers, site & service schemes.    |
| 3.    | <b><u>HOUSING POLICIES &amp; FINANCE:</u></b><br>Housing policies, Co-operative housing, Role of private and public sectors, financing institutes and their role, Housing Boards, HUDCO, housing demand models, housing market analysis.                                                                              |
| 4.    | <b><u>PLANNING OF RESIDENTIAL AREAS:</u></b><br>Household and housing, housing requirement for different sections of society, building byelaws, housing projects layouts, Neighborhood, Plan preparation, other amenities, housing norms, mass housing, Housing for different climatic conditions, institute housing. |

### **REFERENCE BOOKS:**

1. FREDRICK GIBBERD, "Town Design", Architectural Press, London.
2. CHARLES ABRAHMS, "Housing in the Modern World", Faber and Faber, London.
3. D.J. DWYER, "People & Housing in 3rd. World Cities", Longman, London.
4. D. HEGGADE AND F. CHERUNILAM, "Housing in India", Himalaya Publishing House, Bombay.
5. Dwivedi R. M. (2007) "Urban development and housing in India 1947- 2007" New Century Publications, New Delhi.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Infrastructure and Transportation Planning

**Subject Code:** 714803

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>Role of Infrastructure in Development</u></b><br>Elements of Infrastructure (physical, social, utilities and services); Basic definitions, concepts, significance and importance; Data required for provision and planning of urban networks and services; Resource analysis, provision of infrastructure, and land requirements; Principles of resource distribution in space; Types, hierarchical distribution of facilities, Access to facilities, provision and location criteria, Norms and standards, etc.                                                                                                                                                                                                                                                                                                                                                 |
| 2.    | <b><u>Planning and Management of Water, Sanitation and Storm Water</u></b><br>Water – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, institutional arrangements, planning provisions and management issues;<br>Sanitation – points of generation, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, institutional arrangements, planning provisions and management issues.<br>Storm water – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, ground water replenishment, storm water collection and disposal, norms and standards, institutional arrangements, planning provisions and management issues; |
| 3.    | <b><u>Planning and Management of Municipal Wastes, Power and Fire</u></b><br>Municipal and other wastes – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, institutional arrangements, planning provisions and management issues.<br>Power – Sources of power procurement, distribution networks, demand assessment, norms and standards, planning provisions and management issues. Fire – History of fire hazards, vulnerable locations, methods of fire fighting, norms and standards, planning provisions and management issues.                                                                                                                                                                                                                             |
| 4.    | <b><u>City Development and Transport Infrastructure Planning, Management and Design</u></b><br>Role of transport, types of transport systems, evolution of transport modes, transport problems and mobility issues; Urban form and Transport patterns, land use – transport cycle, concept of accessibility; Hierarchy, capacity and geometric design elements of roads and intersections; Basic principles of Transport infrastructure design; Traffic and transportation surveys and studies, traffic and travel characteristics; Urban transport                                                                                                                                                                                                                                                                                                                    |

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|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | planning process – stages, study area, zoning, data base, concept of trip generation<br>Transport, environment and safety issues; principles and approaches of traffic<br>management, transport system management. |
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### **REFERENCE BOOKS:**

1. BRUTON, M.J., “Introduction to Transportation Planning,” Hutchinson Publication, London.
2. KADIALI, L.R., “Traffic and Transportation Planning”, Khanna Publishers, Delhi.
3. Ray, S.K., “Transport Planning for Developing Countries”, Prentice Hall of India, New Delhi.
4. FAIR, G.M., GAYER, J.C. AND OKUN, D.A., “Elements of water supply and Waste water Disposal”, John Wiley & Sons, New York.
5. T.M. VINODKUMAR, “Networks and services”, ITPI Reading Manuals.
6. TCPO AND MINISTRY OF WORKS AND HOUSING, “Norms and Standards for Urban Water Supply and Sewerage Services”, New Delhi.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Sustainable Building Planning (Interdisciplinary Elective – I)

**Subject Code:** 714804

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>SUSTAINABLE DEVELOPMENT AND PLANNING:</u></b><br>Concept, perspectives, need and importance, Environmental impact of building sector, current situation of environmental policies for building sector, concept and elements of sustainable planning for building industry, past perspectives on planning, situating sustainable planning within planning theory, Planners roles.                                                 |
| 2.    | <b><u>SUSTAINABLE BUILDING PLANNING:</u></b><br>Policies and exploring implementation gaps, urban design, Environment protection, site planning, energy conservation through planning and modeling, water use reduction, passive solar design, building technologies, indoor air quality, barriers to implementation of sustainable building measures, checklist for sustainability, policy recommendations for sustainable buildings. |
| 3.    | <b><u>URBAN HOUSING AND INFRASTRUCTURE:</u></b><br>Urban climate and effect of built environment, Impact of urbanization on sustainability, growth and issues related to sustainability                                                                                                                                                                                                                                                |
| 4.    | <b><u>GREEN BUILDINGS:</u></b><br>Concept and need, design principles, growth at International and national level, benefits, construction techniques, green materials, planning and case studies of residential. Commercial and industrial buildings                                                                                                                                                                                   |
| 5.    | <b><u>BUIDING PERFORMANCE ASSESSMENT:</u></b><br>Concept, tools at international and national level, process of green building certification, comparison of different tools like LEED INDIA, GRIHA, SB Tool etc. Recent researches on sustainable building development and assessment tools.                                                                                                                                           |

### **REFERENCE BOOKS:**

1. “Planning for sustainability: creating livable, equitable and ecological communities” by Stephen M. Wheeler (2004), Routledge, Taylor and Francis group, New York.
2. “Towards sustainable building” by Nicola Maiellaro (2001), Kluwer academic publishers, Netherlands.
3. “Sustainable building design manual: Sustainable building design practices” by The Energy and Resources Institute, New Delhi.
4. “Environmentally sustainable buildings: challenges and policies” by Takahiko Hasegawa (2003), Organization for economic co- operation and development (OECD) publications, France.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Urban Heritage Conservation (Interdisciplinary Elective – I)

**Subject Code:** 714805

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>Introduction to Urban Heritage</u></b><br>Typology / classification, inventories, mapping; Human habitation in historical context; Heritage as a motivating force in sustainable urban conservation and development,                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2.    | <b><u>Heritage Conservation</u></b><br>Natural heritage conservation - typologies, policies for conservation, regulatory measures, community participation; Concept of Historic Urban Landscapes; Built heritage conservation - determinants of built form on heritage; Historic urban infrastructure and traditional water harvesting systems. Integration of historic monuments / areas / cores / urban systems in the developmental process and land use, regulatory measures and community involvement; Intangible cultural heritage and development: issues, conservation strategies. Preparation of conservation and heritage management plans. |
| 3.    | <b><u>Heritage and Tourism, Policies and Programmes, Legislation</u></b><br>Cultural and heritage based tourism - nature, potential and prospects, marketing aspects; Acts and laws recognizing conservation / regeneration; Heritage toolkit; Implications of 74th Constitution Amendment Act.                                                                                                                                                                                                                                                                                                                                                       |
| 4.    | <b><u>Design in Human Habitation</u></b><br>Social / cultural / ecological / energy determinants of design; Imagability of the city; Structure of urban spaces – location criteria of activities and urban uses; Urban Regeneration, renewal, rehabilitation, revitalization, reconstruction and redevelopment - concepts, interventions, processes, approaches and methods, tools.                                                                                                                                                                                                                                                                   |

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Socio-economic bases for planning (Major Elective – I)

**Subject Code:** 714806

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>Nature and Scope of Sociology</u></b><br>Sociological concepts and methods, man and environment relationships; Socio-cultural profile of Indian society and urban transformation; Tradition and modernity in the context of urban and rural settlements; Issues related to caste, age, sex, gender, health safety, and marginalized groups; Displacement, resettlement and rehabilitation due to compulsory land acquisition.                                                                                                                                                                                                                                                                                          |
| 2.    | <b><u>Community and Settlements</u></b><br>Social problems of slums and squatters communities, urban and rural social transformation and their impact on social life, safety, security; Crimes in urban areas and their spatial planning implications, social structure and spatial planning; Role of socio-cultural aspects on growth patterns of city and neighbourhood communities; Social planning and policy, and community participation; Marginalization and concepts of inclusive planning, and gender concerns in planning. Settlement Policy: National Commission on Urbanization, Rural Habitat Policy and experiences from developing countries regarding settlement structure, growth and spatial distribution. |
| 3.    | <b><u>Elements of Micro and Macro Economics</u></b><br>Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing; Determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty, and long-term investment planning.                                                                                                                                                                                                                |
| 4.    | <b><u>Development Economics and Lessons from Indian Experiences</u></b><br>Economic growth and development, quality of life; Human development index, poverty and income distribution, employment and livelihood; Economic principles in land use planning; Policies and strategies in economic planning, balanced versus unbalanced growth, public sector dominance; changing economic policies, implications on land.                                                                                                                                                                                                                                                                                                      |

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Urban Land Management (Major Elective – I)

**Subject Code:** 714807

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>LAND MARKET DYNAMICS:</u></b><br>Concept, Scope, Principles, Land Use and Land Value, Parameters of Land dynamics market mechanism and land use pattern, Land use restriction; compensation and acquisition, Urbanization and land price speculations                                                                                                                                                                                                       |
| 2.    | <b><u>LAND ECONOMICS:</u></b><br>Economics and Principles of land use, Development of land and real properties, Land Development charges and betterment levy PPP in urban land development & case studies                                                                                                                                                                                                                                                         |
| 3.    | <b><u>LAND POLICIES AND PRACTICES AND TECHNIQUES:</u></b><br>Policy: Concept, Need, Objective, Significance, Factor influencing location decision, Analysis of location of specific land use like residential-industrial commercial and institutional in intra regional as well as inter regional level Case studies of various land use policies and practices at national, state , district and settlement level, Land acquisition and land pooling techniques. |
| 4.    | <b><u>LEGAL ASPECTS:</u></b><br>Town planning Acts, Origin, Objectives and applications. Building Bye-laws-Formations, Provisions and implications. Impacts on real estate developments.                                                                                                                                                                                                                                                                          |

### **REFERENCE BOOKS:**

1. Somik V. Lall (2009),”Urban Land Markets: Improving Land Management for Successful Urbanization”, Springer.
2. John Randolph (2009),”Environmental Land use planning and Management”, island Press.
3. Philip R. Berke (2009),” Urban Land use Planning”, University of Illinois Press.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

## Semester I

**Subject Name:** Urban Governance and Development Management (Major Elective – I)

**Subject Code:** 714808

| Sr_No | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | <b><u>PUBLIC ADMINISTRATION:</u></b><br>Meaning, Nature, Scope and importance of Public administration, Administrative Planning, Leadership and Supervision.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2.    | <b><u>URBAN GOVERNANCE:</u></b><br>Government to Governance; Productivity in Urban Government; Total Quality Management Millennium Development Goals and Urban Governance. Good Urban Governance – Participation, Transparency, Decentralization, Responsiveness and Responsibility, Accountability; Report Card System; Right to Information; Public Disclosure; Citizen Charter.                                                                                                                                                                                                                                                                     |
| 3.    | <b><u>INDIAN SYSTEM OF URBAN GOVERNMENT:</u></b><br>Salient Features of Local Government System in India-historical overview; Commissions & Committees; Council of State Ministers; All India Council of Mayors; Centre-State-Local Relationships. Role of Municipal bodies, City/Urban development authority in urban development. It's background, functions, powers, organizational structure, achievement and limitation, case studies. Taxation, Central and State; Property Tax Administration, tax-rate, tax-bases, Valuation Assessment, Collection. Budget, Municipal Accounting, Municipal Audit – Concepts, Settlement of Audit Objectives. |
| 4.    | <b><u>HUMAN RESOURCE MANAGEMENT:</u></b><br>Principles of Management; Theories of Management-Scientific Management, Human Relations and Behaviors. Meaning, Nature, Scope and Significance of Human Resource Management                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5.    | <b><u>URBAN PERSONNEL MANAGEMENT:</u></b><br>Municipal Personnel Systems; Municipal Human Resource: Planning, Recruitment; Human Resource in Urban Prastatals: Systems, Planning, Recruitment.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### **REFERENCE BOOKS:**

1. U. B. Singh, 1997, Administrative System in India, IPH, New Delhi.
2. C. P. Barthwal, 2002, Understanding Local Government, Bharat Book, Luckhnow.
3. M. Bhattacharya, 1979, Bureaucracy and Development Administration, Uppal, New Delhi.
4. Arvind K. Sharma, 2004, Bureaucracy and Decentralisation, Mittal, New Delhi.

5. M. Pandey, Financial Management, Vikas, New Delhi.
6. M. Y. Khan and P. K. Jain, 1982, Financial Management, Tata McGraw Hill, New Delhi.
7. S. L. Goel, 2002, Advanced Public Administration in India, Deep & Deep, Delhi.
8. S. Bhatnagar, E-Government, Sage, New Delhi, 2004.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)  
**Semester I**

**Subject Name:** Planning Studio – I

**Subject Code:** 714809

Two planning projects are required to be completed from the following areas.

- (1) Housing
- (2) Traffic/Transportation Planning Project.

(A) The Project on Housing includes preparing lay-out plans neighborhood incorporating field studies and familiarization with site development standards, zoning and subdivision regulations. Project cost etc. Neighborhood plan Preparation.

(B) The project on Traffic /Transportation planning covers the Traffic Planning of certain area assessing of Transportation demand and Modal split for given Urban zone/ dub zone.

The students are required to submit typed report along with studio exhibits for both the projects. The work shall be carried by the project team and to be presented to the panel of examiners including one external examiner.

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Civil (Town and Country Planning)

**Semester I**

**Subject Name:** Graduate Report – I

**Subject Code:** 714810

- Graduate reports on specific topic for each subject of the semester is to be prepared in consultation with the faculty advisor and to be submitted in duplicate typed on A4 sheet. One of the reports is to be presented on scheduled date.
- Graduate reports are assessed by the P.G. Centre at Departmental Level.