

# **COURSE OUTLINE**

( ACADEMIC REGULATIONS, COURSE STRUCTURE AND SYLLABUS )  
( with effect from academic year 2011 – 12 )

**(Master  
of  
Technology)  
PLANNING )**

**DEPARTMENT OF URBAN & REGIONAL PLANNING**  
J.N.A.F.A.U SCHOOL OF PLANNING AND  
ARCHITECTURE  
MAHAVIR MARG, HYDERABAD - 500 028, INDIA







# **JAWAHARLAL NEHRU ARCHITECTURE AND FINE ARTS UNIVERSITY**

Mahaveer Marg, Masab Tank, Hyderabad

## **COMMON ACADEMIC REGULATIONS**

### **for 4 semester Masters Degree Programmes**

*(Effective from the Academic Year 2011 – 2012 )*

(Approved by the University Adhoc Academic Committee on 09-08-2011)

#### **1.0 COURSE WORK:**

- 1.1 A Candidate after securing admission must pursue the prescribed course of study for four semesters.
- 1.2 Each semester shall be of 90 working days duration excluding preparation holidays and examinations.
- 1.3 A candidate admitted to a program should complete it within a period equal to twice the prescribed duration of the program.

#### **2.0 CREDIT STRUCTURE:**

- 2.1 The program is offered on a unit basis with each subject being considered a unit.
- 2.2 A candidate shall be deemed to have successfully completed a subject if he has put in at least 75% of attendance; and secured the minimum academic requirement in that subject.
- 2.3 In order to qualify for the award of the Post-Graduate Degree, the candidate shall have completed the academic requirements in all the subjects, as per the course structure.

#### **3.0 EVALUATION:**

The performance of the candidate in each semester shall be evaluated subject wise, with a maximum of 100 marks for theory, 100 marks for practicals or as specified in the course structure.

- 3.1 In all the subjects, except where specifically mentioned, 50% of the marks will be for the End Semester Examination, 50% of the marks will be for Internal Evaluation, based on the assignments, term papers, seminars, debates, etc.

##### **3.2 *Mode of Internal Evaluation***

Internal evaluation shall be based on assignments / tests / term papers / seminars/general participation of the student in seminars / debates/exhibitions/presentations etc.

However in the case of practical subjects, evaluation may be on the basis of performance based on projects or assignments

- 3.3 A candidate shall be deemed to have secured the minimum academic requirement in a subject if he /she secures a minimum of 50% of marks in the End Examination and a minimum aggregate of 50 % in the End Examination and Internal Evaluation taken together.

3.4 In case the candidate does not secure the minimum academic requirement in any subject (as specified in 4.3.) he has to reappear for the End Semester Examination, in that subject, or re-register the course when next offered. A candidate shall be permitted to register for a maximum of 2 subjects at a time in addition to the other subjects in the regular semester. In case of such re-registration the new internal evaluation marks shall be taken into account.

3.5 A candidate shall be allowed to take the Viva-Voce Examination of the thesis / dissertation project only if he has no more than 2 backlogs of all semesters.

#### 4.0 **EVALUATION OF PROJECT WORKS:**

Every candidate shall be required to submit thesis or dissertation after undertaking project work and on a topic approved by the college level committee.

4.1 Each student should be allotted a supervisor and periodic internal review shall be conducted which is evaluated by panel of examiners. In final end evaluation, Internal Examiner shall award 25% of the prescribed marks, and 75% of marks shall be assessed by the appointed External Examiner.

4.2 Three copies of the Thesis / Dissertation, certified in the prescribed form by the supervisor shall be presented to the University.

4.3 The End Examination (Viva-Voce) of the Thesis / Dissertation shall be evaluated by at least two member jury, in which one of the members shall be an External Examiner.

4.4 If the candidate does not perform satisfactorily in the Viva-Voce evaluation he/she shall re-submit and take the Viva-Voce Examination again after three months.

#### 5.0 **ATTENDANCE:**

The Candidate shall put in a minimum of 75% in aggregate in a semester.

5.1 Condonation of shortage of attendance up to 10% in i.e. from 65% to 74% may be given by the College Academic Committee.

5.2 Condonation of shortage of attendance shall be granted only on genuine and valid reasons on representation by the candidate with supporting evidence.

#### 6.0 **AWARD OF DEGREE AND CLASS:**

A candidate shall be eligible for the award of respective degree if he satisfies the minimum academic requirements in every subject.

6.1 A candidate who becomes eligible for the award of the respective degree shall be placed in the following three divisions based on the combined aggregated of marks secured by the candidate in the subjects' taker for credit.

First Class with Distinction	:	70% or More
First Class	:	Below 70% but not less than 60%
Second Class	:	Below 60% but not less than 50%

#### 7.0 **WITH-HOLDING OF RESULTS:**

If the candidate has not paid dues to the University or if any case of indiscipline is pending against him the result of the candidate may be withheld and he will not be allowed into the next higher semester.

The issue of degree is liable to be withheld in such cases.

#### 8.0 **TRANSITORY REGULATIONS:**

Candidate who have discontinued or have been detained for want of attendance or who have failed after having undergone the course are eligible for admission to the same or equivalent subjects as and when such subjects are offered.

#### 9.0 **GENERAL:**

The academic regulations should be read as a whole for purpose of any interpretation.

- 9.1 The University reserves the right of altering the regulations as and when necessary.  
The regulations altered may be applicable to all the candidates on rolls.





9.2 Wherever the word he, him, his, occur, it will also include she, her, hers.





# JAWAHARLAL NEHRU ARCHITECTURE AND FINE ARTS UNIVERSITY

Mahaveer Marg, Masab Tank, Hyderabad

## COMMON ACADEMIC REGULATIONS

### for 4 semester Masters Degree Programmes

*(Effective from the Academic Year 2011 – 2012 )*

(Approved by the University Adhoc Academic Committee on 09-08-2011)

Course structure corrected on 02-07-2013

S.No.	<u>Code</u>	<u>Subject</u>	Periods /wk	Marks			End Exam
				Int.	End	Total	Hrs.

<b>FIRST SEMESTER</b>							
1	URP 1.1	Settlement Evolution And Planning Theory	4	50	50	100	3
2	URP 1.2	Planning Analysis & Techniques	4	50	50	100	3
3	URP 1.3	Computer Applications & Information Systems	3	50	50	100	Pract
4	URP 1.4	Housing and Community Planning	4	50	50	100	3
5	URP 1.5	Economics and Sociology for Settlement Planning	4	50	50	100	3

6	URP 1.6	Infrastructure Planning	4	50	50	100	3
7	URP 1.7	Planning Lab – I	12	200	200	400	Viva
			<b>35</b>			<b>1000</b>	
8	URP 1.8	Habitat Study - Report	During 2 weeks vacation			pass	Viva
<b>SECOND SEMESTER</b>							
1	URP 2.1	Metropolitan & Regional Planning	4	50	50	100	3
2	URP 2.2	Traffic & Transportation Planning	4	50	50	100	3
3	URP 2.3	Information Technology in Planning	4	50	50	100	Pract.
4	URP 2.4	Ecology and Environmental Planning.	4	50	50	100	3
5	URP 2.5	Planning for Rural Development	4	50	50	100	3
6	URP 2.6	Planning Lab –II	15	250	250	500	Viva
			<b>35</b>			<b>1000</b>	
7	URP 2.7	Planning Organization – Appraisal / Training Report	During 6 weeks vacation			pass	Viva
<b>THIRD SEMESTER</b>							
1	URP 3.1	Urban Development Management	4	50	50	100	3
2	URP 3.2	Planning Legislation	4	50	50	100	3
3	URP 3.3	Urban Design, Conservation & Landscape	4	50	50	100	3
4	URP 3.4	Planning Colloquium and Seminar	4	100	Nil	100	Nil
5	URP 3.5	Project Planning, Appraisal & Management	4	50	50	100	3
6	URP 3.6	Planning Lab -III	15	250	250	500	Viva
			<b>35</b>			<b>1000</b>	
<b>FOURTH SEMESTER</b>							
1	URP 4.1	Planning Thesis		500	500	<b>1000</b>	Viva

## FIRST SEMESTER

### **URP 1.1 SETTLEMENT EVOLUTION AND PLANNING THEORY**

Periods per week : 4 Internal Marks : 50 End Exam marks : 50 End Exam : 3 Hours

#### SETTLEMENT EVOLUTION :

##### **Objectives:**

Achieve an overview and general understanding of the main factors involved in and the many changes during the evolution of settlements around the world during different time periods. The main basis of the course can best be captured in words of Peter Hall;

“As elsewhere in human affairs, we too often fail to realize that our ideas and actions have been thought and done by others, long ago; and that we should be conscious of our roots” (Hall, 1988).

**Introduction** - Need to study history of planning. Relevance of evolution of human settlements in modern context. Historic determinants of settlement evolution: - mobility, socio-cultural, benefits, climate, technology, political power, geographical location etc.

**Cities in History** - Settlement types and patterns in the ancient, medieval, renaissance, industrial, colonial eras. Historical background of planning

**The Post-industrial City** - Changes in society and settlements following industrial revolution. - Political and ideological basis of planning in different contexts. Contribution of Ebenezer Howard, Geddes, Mumford, Corbusier, Doxiadis and others to city planning - Garden City idea and new towns, Regional Planning – ideas and practices

**Settlements in India** : Pre-colonial Town and Cities in India - Ancient texts and treatises on settlements and area planning in India.- Pre-colonial Planning - **The Colonial City** - Effects of colonization on the third-world urban pattern and city structure - Planning under the colonial rule.

**Garden – Regional City in India** -New Towns and IDSMT, Regional contexts of metropolitan plans, Proposals of National Commission on Urbanization

**The City of Neighbourhoods and Communities** - Neighbourhoods in planning, Birth and development of the neighbourhood idea, The Indian neighbourhood, Urban renewal and its aftermath

**Advocacy Planning and NGOs in Planning** - Rise of advocacy planning, Changing role of NGOs in India, Urban social movement - India

**Post-war Developments in Britain, America and India** - Master plan to structure plan and beyond, Urban modelling and empiricism, Political influences and planning

**International Agencies and Privatisation** - Nature of urban programmes by World Bank, UNCHS, etc. Concept of privatization and its relevance

**Informal City of the Poor** - Concept of the informal sector, Concern for urban poverty

**Other Emerging Issues** - Gender issues in planning, Human rights and empowerment, Vulnerable groups – pavement dwellers, street kids, Social and communal conflicts in urban area, Environmental issues in planning

#### PLANNING THEORY

##### **Objectives**

The basic objective of this course is to introduce to the students of planning the various theories of planning and city design along with necessary details in terms formulation of activity structure, formulation of goals and objectives for any planning work to be carried out. The course also tries to expose the students to the importance of transportation planning and its interface with land use planning. This course is also aimed at students getting enough theoretical background to carry concurrent laboratory exercise in area planning and city planning.

**Theories And Concepts : An Overview** – Introduction, Definition of planning; the necessity and rationale of planning; the characteristics of planning., The planning process; Normative planning, positive planning and ameliorative planning.

Aims and objectives of physical planning. Levels of planning in India and their broad inter-relationships, components of settlements.

Urban/Rural Settlements and their classification, Theories of Urban Structure, Urban Sub-systems

Concepts of land Location attributes and land uses, Determinants of Land use and relationship to the Planning Process, Demand and supply of land for urban use - means and mechanisms - impact on urban structure. General goals of land policy.

Rationales for land use planning, Approach to land use planning. Land use and transportation planning. Transport Network classification and standards, elements, etc., planning principles Land use planning information system. Activity systems and choice of space qualities; Systems approach and physical planning.

Urban Planning in India – An Overview. Development plan - types, scope and objectives, local/area, city and regional levels, - Overview of Town Planning Process - Case studies in Urban Planning And Design Practice -

Other alternative approaches to planning - disjointed incremental; structure planning; blue print planning; process or adaptive planning; rational - comprehensive planning; mixed scanning approach; Choice theory and advocacy planning and their relevance. Action planning and its applications in Indian context.

Brief overview of techniques - Urban Economics Analysis (Economic base, input-output, shift share, etc.) - Population studies and forecasting, Land use allocation models, (Lowry/gravity/LP), Planning norms and standards..

## **URP 1.2 PLANNING ANALYSIS & TECHNIQUES**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3*

### **Objectives**

The primary objective of this course is to provide understanding of the application of quantitative research methods and techniques to analysis of planning problems.

**Introduction and Overview** - An overview of planning practice in India, scope and methods of analysis and techniques and their application to spatial planning.

**Data Collection** - Primary and Secondary sources of data, Survey design, Observational methods; Triangulation, Types of observation, controlled observation. Mail questionnaire, personal and telephone interview.

Qualitative research., Secondary data, limitations and search process; Census - A brief introduction and nature of organization., Sampling; sample designs, size, types., Sources of various data in India

**Data Presentation** – Tabulation, Classification, Graphical methods

**Data Analysis and Interpretation** - Coding and its construction..

**Simple Descriptive Statistics** – Measurement, Univariate analysis - Frequency tables and graphs, Central Tendency, Dispersion, Distribution, Bivariate analysis - concepts of relationship; Nominal, ordinal and interval measures of relationship

**Correlation and Regression** - Linear and nonlinear

**Multiple Regression and Correlation** - Linear and nonlinear, Partial correlation and regression

**Probability and Sampling** - Types of probability, Why Sample?, The Population, Sampling Unit and Frame

Sample Size, Sample Design, Non-response errors Probability and normal distribution - binomial and Poisson distribution

**Time Series Data Analysis** - Time-series analysis; trend, variation, business cycles.

**Index Numbers** - Price index, Quantitative index, construction, tests, types, problems and specific uses

**Linear Programming** - General introduction to Linear programming Methods for maximizing, Methods for minimizing, Transport problem

**Measures of Association and Hypothesis Testing** - Percentage difference, Nominal ( $\lambda$ ) and ordinal ( $\gamma$ ) measure, The Chi ( $\chi^2$ ) Test, The Z-Score Test, The T-Test, Test for Proportion

**Demographic Analysis : Population Projection** - Simplex population forecasting models - The linear model, Exponential curves., modified exponential, Gompertz growth curve, comparative method, ratio method.

Composite population forecasting models - The cohort- survival model, Migration model.

**Economic Analysis** :- Multipliers, Input-Output Analysis, Brief introduction to projection techniques like ratio and econometric methods, .Analysis of labour force; sectoral shifts and employment.

**Spatial Analysis** : Comparative analysis techniques - Specialization, Concentration and Independence association Gini coefficients and Lorenz curves., Spatial distribution analysis using centrography techniques, Rent and Gradient models., Location equilibrium of the firm - transport and labour orientation., Market and supply area analysis and thresholds, Pure gravity model, Reilly's law and mapping of trade areas - constrained and unconstrained gravity model - methods for parameter estimation.

**Land Use and Transportation Models** : General approaches to land use and transportation forecasting.



Basic sector land use models., Residential distribution models, Retail and local service activity location models.

**Decision making Models** : General introduction to various decisions making models.

### **URP 1.3 COMPUTER APPLICATIONS & INFORMATION SYSTEMS**

*Periods per week : 3 Internal Marks : 50 End Exam Marks : 50 ( Practical and Viva-voce )*

Review of computer systems, networks and languages, computer peripherals, software/hardware. Principles of digital computer, machine languages, higher level language and its advantages – flow charts and algorithm writing.

Brief introduction to programming languages like C, C+, VISUAL BASIC, JAVA, SQL, ORACLE, etc. Concepts and general knowledge of currently popular and widely used application software for word processing, spread sheets, database, presentation etc. ( for example – MS OFFICE ) with particular application in planning tasks

Introduction to drawing and drafting packages like AUTOCAD particularly to AUTOCAD MAP and to GIS enabling software like ARC/INFO. Simple exercises in updating / preparing base maps by scanning / vectorizing Survey of India Topo sheets or existing Aerial photo based city maps.

Information systems:- Introductory concepts for information systems – data and information, cost and value of information, general system theory. System approach, MIS as a system, MIS for land use planning and development control.

### **URP 1.4 HOUSING & COMMUNITY PLANNING**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3*

#### **Objectives**

Objective of this course is to provide theoretical understanding and relevant techniques for formulating urban housing strategies

Housing as a basic need. Role of Housing in social and economic development. Housing in relation to stages of development, particularly in relation to developing economy. Introduction to the subject of housing in Planning Programme - relevance and scope of the subject. Essential components and issues in Housing situation in India quantitative and qualitative terms, housing statistics. Micro and macro economic views of housing sector. Role of private, co-operative and public sectors in housing. Problems and issues of housing in India and emerging priorities in Urban and Rural housing. Housing finance-institutions, constraints and merging trends. Housing programmes in Five Year Plans of India, Social Housing programme, National Housing Policy, Housing in informal sector.

Housing stress areas. Slums and squatter settlement in urban areas. Process of settling in urban slums and in low income settlements --- case studies – planning and design issues in slum upgrading and slum reconstruction projects. Participatory design process (The concept of planner builder. Peoples involvement in layout and building design and construction., Merits over conventional housing development.)

Methods of assessing housing stress conditions in an urban area. Building construction, nature of utility services, tenureship of land and other social amenities, Housing the poor. Strategies and programs tried at various metropolitan cities

Quantification of housing needs. Estimating and forecasting housing requirements.

Financial aspect of housing. Concept of household affordability --- production cost of housing --- economic rent in housing --- amortisation and equated monthly instalments.

Land development process. Land development control and regulation and housing question

Housing standards, and housing designs in relation to economic, social and climate aspects.

Housing form as shaped by physical technological, socio-economic, demographic and political factors.

Housing and its relation to non-residential components of the settlement. Mixed residential development.

Socio-cultural perspective of housing, housing and family life, Community organisation, Social aspects of residential satisfaction.

Urban Housing Strategy. A methodology for formulating urban housing strategy

Housing policy and perspective at the national level. Review of past policies and the new National Housing Bill.

Brief review of the historical development of housing typologies in various contexts - The pre-urban house., Transient dwellings., Temporary dwellings., Semi-permanent and permanent dwellings., The oriental urban house.(Mesopotamia., The Indus., Egypt., China., The Greek and the Romans.)) Evolution of Housing - The urban house - history of modern housing typologies. (The age of the Renaissance., The industrial revolution., Current practices various design approaches Issues in rural housing, housing technology and landscape design. Sire planning for residential lay outs. Review of different types of residential lay outs. Lay out of various services in residential lay outs ( for a maximum of 5000 population).

Code for humane habitat - issues in habitat planning and design. (Goals and objectives., Performance criteria., Quantity versus quality., Issues at various scales of planning and design .) Project formulation - requirements, standards, costs and affordability - introduction to site planning software like Bertaud's model, Design guidelines for housing layouts and for house extensions., neighbourhood streets., small shops, trees, landscape elements and public spaces. Infrastructure design for housing.

### **URP 1.5 ECONOMICS AND SOCIOLOGY FOR SETTLEMENT PLANNING**

*Periods per week : 4 Internal Marks: 50 End Exam Marks : 50 End Exam Hours : 3*

#### **Development Theory**

Concepts and definition of development. Indicators of development. Factors influencing development. Efficiency versus equality. Theories of development (Trickle down, Bottoms up ) Settlements systems / secondary cities.

Broad introduction to main stream, classical and market theories of development and under development.

Dependency, imperialism as an hegemonic influence of developed over the under developed Dichotomy of North-South, Rich-Poor in relation to development. Regional disparities in development. Surplus generation of primary sector and its influence on development. Investment, public policy and development. Development as defined and implied in Indian planning and related development programmes. Development planning as distinct from other types of planning.

#### **Economics:**

The economy of urban areas; urban resources, activities- types and extent – and factors governing them. Economic base of cities and regions, Basic concepts of economic resources and resource economic. Basic concepts in macro-economic and economic analysis. Economics of scale, external economics.

National and State five year plans – brief appraisal. Economic development in relation to regional plans – balanced regional development.

Fiscal programming and budgeting. National and regional accounts; Income and Product Account; economics of Central, State and Local Governments.

Introductory concepts of macro economics – supply, demand and equilibrium conditions.

Economic concept of land; economic principles of land use; economic rent – land use pattern and land values; location economics.

Development of land and real property in India and its trend.; financial balance sheet of land development; land and real estate market; Different kind of land and its uses - Nature of land - contract purchase and transaction of land - registration of land and land record procedure. Concepts and factors of land value and its prices, Assessment and prediction of land value and its prices. Real estate business set up - market and demand analysis. (Field based assignments are for generating case studies on land and real estate business.) Private ownership and social of land.

Economics of Town Planning decisions; effects of legislation on land development and urban land economics.

#### **Environmental Economics**

##### **Objectives**

The intent of the course is at understanding the interrelation of economic processes and the environment. that economic process take place in the physical world and are subject to the same physical laws that operate on or constrain other physical, chemical and biotic processes, is to be accepted, though late, in the mainstream of economic theories.

Evolution of environmental economics. Environmental economics as a sub-discipline of mainstream economics. The body of environmental economics today.

Economics, Environment Interrelationship - .Economics and Ecology, Material/ Energy Balance, Application of Physical Principles to Economics (The Laws of Thermodynamics), Technology and Negentropy, v. Emerging Issues).

Environmental Externalities : .Definition, conditions for externalities, Significant types, .Externalities and property rights, The case of small and large numbers, Nature of pollution (securing optimum levels?).

The Question of Allocative Efficiency : Neoclassical Approach ( .Marginal utility, consumer surplus and indifference map, Pareto optimality, Compensation tests (Hicks-Kaldor), iv. Pigouvian Taxes).

Environmental Valuation : Approaches to Pricing ( Prices and decision-making, Valuation methods) (.Based on Demand and WTP, \* Contingent valuation, \*Travel-cost method, \*Game theory models, \*Hedonic prices, \*Isoquants involving EQ) (.Based on opportunity cost - \*Direct OCS, \*Replacement costs, \*Cost savings)

Environmental Policy : Some Issues - .Perfections and priorities in environmental policy, Standards for environmental policy .

The Range of Policy Instruments, Administrative mechanisms, .Direct control versus the pricing system, -- Pricing techniques).

### **Sociology:**

**Introduction** - Definition and scope of sociology; relationship between sociology and town planning  
Relative significance of social, geographical, biological and economic factors in shaping the total environment.

**Basic Concepts of Society** - Basic concepts, social groups, social institutions, social stratification's, orders and changes and changes and social control

Introduction to the sociological concepts of Marx, Talcot Parsons, Weber, Durkheim, Riesman, Jane Jacobs, Gans, Castells, David Harvey, etc.

**Sociology of India** - Culture, language, religion, caste, rural community and its relationship with urban community, social division of urban and rural poor. Rural-Urban continuum and dichotomy – physical and social setting, peasant society and industrial, post industrial society.

**World Urbanization and Urbanization in India** - Urban revolution; its preconditions brief history of urbanization in the world leading to the industrial cities, related problems, concepts of urbanism and urbanization; brief history of urbanization in India; Mughal and British influences of Indian cities; post-independence urbanization; urbanization process as influences by socio-cultural, political, economic and administrative factors;.

Spatial and social aspects of village community. Urbanization in India-trends and social characteristics. Urban social structure and stratification, dynamics of growth and change.

Migration, population growth and its impact on policies of Urban development.

**Urban and Industrial Sociology** - Urbanization and urbanism ; social aspects of urban-rural migration; concepts of industrial society; social aspects of industrialization; social problems of urban community crime delinquency and violence. The Chicago school of sociological thought, sociation, social organization and space in the city – urban space and segregation, labour markets and housing markets, suburnaization and gentrification, changing inequalities.

**Perspectives on Urban Culture** – Louis Wirth and the urban way of life, Simmel and metropolitan culture, the culture of modernity, the social construction of urban meaning, urban culture and post modernity.

Social problems of urban community – crime, delinquency, blight and obsolescence; old age incompatibility and disabilities etc.

Personal space, territoriality; the influence of environment on behavior; perception; attitudes and behavior; preferences and satisfactions.

**Neighborhood Concept** - Implications and limitations in India context.

## **URP 1.6 INFRASTRUCTURE PLANNING**

Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3

### **Objectives**

This course is designed to provide a general understanding of various issues and approaches to planning, designing, and maintenance of Infrastructure. The major emphasis in this course will be on water supply, sewerage, storm water drainage, roads and solid water management.

**Introduction:**

Concepts of basic needs, formation of objectives and standards. Data requirements for programme planning of urban networks and service; feasibility planning studies for structure the infrastructure systems

General Introduction to Infrastructure and its components and overview of the course contents.

**Water Supply:**

Planning water supply; resource analysis quality of water system design; technological choices of alternatives – Issues related to the choice of centralized city water supply versus decentralized systems.

Water demand (Context, Need Assessment and Planning requirements ) - data to be collected, rate of demand, variations in rate of demand and effects of variations on design. Measurements of water qualities, forecasting demand. Conveyance and distribution system - General considerations, methods of distribution, service reservoirs, systems of supply, methods of lay out distribution pipes, wastage of water and permissible factors. Maintenance of distribution system. Filtration, disinfection, storage and distribution and their building complexes.

Sewerage and Storm Water Drains (Need Assessment in the context of Urbanisation, Planning Considerations and Norms, Basic Design Parameters and Appurtenances). Waste generation process in cities. Waste water disposal systems including storm water drainage, system designs, nodal facilities, technological and environmental considerations. Issues related to hydrological and geographical and development parameters – eutrophication.

Biological concepts in environmental sanitation.

Sanitation technologies, their relevance to incremental growth of urban areas. Low cost sanitation technologies and concepts as related to Indian and third world country contexts

Sewage Treatment Plant and Water Treatment Plant (Components, Planning Considerations, Basic Design Parameters).

Urban Roads (Planning Considerations, Road Categories, Design Parameters/Cross Sections, Transportation).

**Solid waste disposal and management:**

Resource recovery, technology options and determination of type and choice of systems as related to land use, density, economic levels and location of urban industrial and commercial activity areas.

Quantity of sewage, quantity of storm water, run off, time of concentration, design of sewers, flow diagrams, laying of sewers, sewer appurtenances. Design and lay out of sewerage system.

Project Management (Need Assessment, Structure, MIS, Project Management Packages (Brief Introduction to MSPROJ/WINPROJ).

Integrated Infrastructure Planning: Case Studies in India..

**Fire Fighting:**

Planning for fire protection, services and space standards. Prevention fire requirements, fire classification of construction, fire fighting, fittings and fixtures and design for tall building and neighbourhood lay out fire hazards, water demand calculations.

**Other Infrastructure:**

Concepts and theories for design and operation of electricity networks, power generation (conventional and non-conventional) communication networks like telephone facilities, WLL, cable TV, Fibre optic and other broadband communications networks, etc.

**Critical Issues in Infrastructure planning:**

Economics of urban services and networks. Socio-cultural aspects, community participation in the delivery of services and networks, problems of operation and maintenance; Environmental issues related to quality and level of network and services, impacts of choice of technology, system design, costs benefits to the urban community. Effects of land use and density.

## **URP 1.7 PLANNING LAB - I**

Periods per week : 12

Internal Marks : 200

End Evaluation & Viva-Voce Exam : 200

Planning surveys and analysis at the neighborhood level. Understanding local problems through planning surveys and analysis, Area planning exercise for different areas; residential lay outs; commercial areas; recreational areas; industrial estates; mixed use development; old city cores etc. Including detailed site planning for part of the areas. Use of physical standards and socio-economic surveys; Application of widely used software packages for the processing and presentation of the data, maps and reports.

### **Area Planning**

#### **Introduction**

Exercises to build awareness of design issues related to planning of small areas within a city, - to understand the implication of socio-economic and demographic characteristics of the population on the physical plan. Issues related to provision of infrastructure services, its costing, financing and implementation strategies especially defining the role of various agencies in realising the plan need to be addressed.

#### **Stage-1: Perception Studies (One and half weeks to two weeks)**

In this stage students will work in very small groups of only two to three students or individually, and undertake quick perception studies of various components of existing urban areas (eg, housing typology and layouts, building and population densities, streets, junctions, open spaces and its hierarchy, heritage buildings, etc). After field visits, the students will be required to present the status of the existing situation in form of sketches, photographs, drawings, small write-ups, flow charts, etc. Based on the analyses, this study would terminate with identification of problems and possible solutions. Undertaking this stage of the lab exercise, the students will get exposed to urban areas in a technical manner and the experience of the perception study would equip them better in understanding and analyzing various design issues in urban areas while dealing with subsequent stage-2 of the lab exercise. Two assignments would be given to each group.

#### **Stage-2: Area Planning Problem (eight to ten weeks)**

In stage-2 of the lab exercise students would be divided into multidisciplinary group of not more than five students in each group to facilitate better interaction. A study area from any of the urban areas in the Hyderabad Metropolitan Region would be identified for each group. After the study area for each group is announced, stage-2 would proceed as per the following phases.

##### **[a] Data Collection (one to two weeks)**

In this phase, each group would have to undertake a field visit of the study area over one week. Various data such as demographic and socio, status of physical and social infrastructure, economic activity, etc would have to be collected. On return from the field visits, each group would make a presentation.

##### **[b] Analysis, Identification of Problems and Design Issues (one to two weeks)**

Each group after thorough analysis of data collected would be required to describe the existing situation. In addition, after describing the existing situations, the problems therein would be identified and based on which design issues would be identified that would need to be addressed in planning for the area. This phase will terminate in a presentation by each group to a small group of faculty members.

##### **[c] Conceptual Plan (one to two weeks)**

Each group after through analysis of data, identification of the problems and design issues would start work on the conceptual plan for their study area. The proposed concept plan for the study area should contain the following components:

- Objectives and design parameters of the proposed development
- Site analysis
- Linkages of the study area with the city
- Physical layout plan indicating the broad land use (residential, commercial, open spaces, industrial, institutional, etc)
- Circulation plan
- Major infrastructure services
- Supporting data tables and charts for arriving at various decisions

The conceptual plan would be presented by each group and will be evaluated an all faculty jury.

#### **[d] Master Plan (one to two weeks)**

After receiving feedback on the conceptual plan each group would start working towards a master plan for the study area and further refine and substantiate each development proposal with appropriate numbers. The master plan would include the following components:

- Detailed land use
- Detailed circulation plan with all levels of roads
- Detailed infrastructure plan
- Block cost estimates
- Options of implementation strategy

This phase will terminate in a presentation by each group to a small group of faculty members.

#### **[e] Final Plan (one to two weeks )**

During this phase, the master plan would be further refined in all aspects governing the physical character of the plan followed by the organisational arrangements for development. A phasing plan for the proposed development with supporting financial analysis is required. The lab exercise will terminate in a submission of the report and presentation to faculty members and external experts. To the external jury members, each group will submit an executive summary of their proposal three days prior to the date of final presentation will be given to the invited external jury member to facilitate better understanding. Each group along with the final drawings is required to submit a brief report (minimum 30 pages) on their proposals. The chapter outline would mostly follow the phases of stage-2 of the lab exercise.

### **Rural Area Planning**

#### **Introduction:**

The academic objective of this exercise is to get a first hand experience about the life and living of rural people. Students will undertake study of a particular village for a group of five students and conduct a detailed primary survey. The primary survey is also expected to give them an exposure to research methodology and techniques of data collection.

The main objective is to identify the problems of rural life and evolve a strategy for the overall short and long term development of the village.

Life and living of the rural people will be explained in terms of:

**Demography** - Population, literacy, sex ratio, etc., for the year 1981, 1991, 2001.

**Employment and Asset Structure** - Nature of employment, land ownership, tenancy.

**Agriculture and Allied Activities** - Total area, landuse, Cropping pattern, irrigation, finance, marketing, Agriculture-labour, etc.

**Social and Cultural Issues** - Caste system, stratification, housing, settlement pattern, location of facilities, etc.

**Institutions** - Panchayat, Mahila Mandal, Credit Co-operative, Bank, Schools, Medical, NGOs, etc.

**Government Programmes** - Rural Development programmes like IRDP, JRY, rural housing schemes, road and drinking water related schemes. Peoples perception about different schemes and its impacts.

**Village Level Amenities and Linkage** - List of existing amenities, distance for non-available amenities, transportation and related issues.

**Energy utilization pattern** - Source of energy, future prospect.

**Recent changes and development in the village and surrounding area.**

#### **Data Collection:**

Village level information will be collected from the Panchayat Office, Census handbook and other secondary sources. Primary survey will be conducted by taking about 50 households for detailed study. Household selection will be done either by using the caste group, settlement pattern or land holding. A detailed interview schedule will be prepared for this purpose.

#### **Time:**

The total exercise will be for five weeks.

Week One and Two - Literature survey, collection of secondary data, preparation of the interview schedule.

Week Three - Field visit for primary survey.

Week Four and Five - Data processing and data analysis, preparation for the final jury.

### **URP 1.8 HABITAT STUDY REPORT**

*Periods per week : Nil ( to be done during the two week vacation )      Internal Marks : Nil      End Exam Marks : Nil ( Only pass / satisfactory result )      End Exam : Viva*

Each student has to visit a town or city as identified by the faculty in charge of the studio. The students will have to submit a report on the urban settlement that they have visited and this should be based on a review of published literature, discussion with the development authorities, town planning officers, municipal officers, and other planning and development agencies. The actual format and content of the report has to comply with the guidelines formulated by the faculty in charge.

## **SECOND SEMESTER**

### **URP 2.1 METROPOLITAN & REGIONAL PLANNING**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3*

**Metropolitan Growth:** Scale and Complexity and its impact on national development.

Past and future of metropolitan growth and related characteristics problems and issues in India and the world. Primary and polarisation as process of metropolitan growth: case of India.

National settlement policies.

Structure of a metropolitan, socio-economic and political issues in metropolitan growth.

Unintended growth in metropolitan areas, multi-nuclei development and functional inter-linkages; Dynapolis, Megalopolis and Ecumenopolis; concepts and their applicability to India cities.

Issues in metropolitan management; institution development/financing and land management.

Inner city problems and approach to development. Urban redevelopment and renewal; Goals and objectives; costs and benefits, methods of plan preparation implementation, Administration, legal and fiscal framework. Alternative strategies to metropolitan growth planning for new towns- type design criteria, development process and issues.

#### **Urban informal sector**

Dimensions of urban poverty. Magnitude of the problems and major characteristics of spontaneous growth.

Basic need and their provision for various target groups and informal sectors.

Concepts and causes of spontaneous growth: Regional inadequacies and the settlements systems.

Identification of migratory impulses, characteristics of migrants and their significance in development socio-economic deprivation and informal sector. Development of informal sector concept.

Consequences of spontaneous growth: study of major aspects-spontaneous living and working, their characteristics and function in urban context. Actions for improvement: Appraisal of the role of government, private and voluntary organisation. Existing management and organisational set up, their limitations. Possible approaches such as labour recognition and integration into organised market structure, resource generation. Provisions of buildings and equipment, infrastructure development, appropriate regulatory control and standards for basic needs, flexibility in bye-laws and organisation through self-help and community development. Policies for assistance and implications for promotion.

Planning and development of urban settlement in terms of employment, shelter services and management for the informal sector at all levels.

#### **Regional Development**

##### **Objectives**

The Regional Planning course attempts to understand the theoretical basis for various concepts and analytical tools borrowed from social science and regional science and learn the practice of regional planning in the Indian context.

The course tries to provide an in-depth understanding of the issues of regional disparity and the need for balanced regional development in the country. The spatio economic basis of regional planning is supplemented by detailed discussion of sectoral issues like agriculture, industry, etc. Regional policies and sectoral policies are also discussed. Effort is made to focus on macro economic policies and its impact of regional development process and the issues of decentralization, multi-level planing in the context of current debate on Centre State relation . The political economic perspective is also highlighted. Besides theories, and issues, the tools and techniques of regional analysis is also discussed. The Regional Planning machinery and plan implementation is discussed through case studies.

Definition, scope and content of Regional Planning. (Need for Regional Planning and basis for Regional Planning. Concepts of spatial organisation and region. Types of region.)

Methods and purpose of regionalisation.(Delineation of regions in India.)

Concept of regional growth processes : (Some approaches of Rostow, Hirschman, Myrdal, Concept of core and periphery.)

Concept of growth centres, growth pole, service centre and agropolitan district district concept and their approaches in India and other countries.

Spatial growth process.(Settlement structure and distribution. Theories - Christaller, Losch - Rank size rule, primacy spatial innovation diffusion, etc.)



Introduction to regional/economic industrial location theories.(Weber, Isard, Alonso., Changing trends in location analysis., Methods of analysing regional industrial structure - regional cycle and multiplier analysis and economic base analysis, co-efficient of localisation, shift share analysis.)  
Spatial theory and market areas inter-regional and regional accounting methods including preliminaries of input output analysis.

Regional imbalances and inequalities in India. (Policies - its impact on regional imbalances and planning imperatives, industrial location policies, agricultural development policies and structural adjustment policies., Urbanisation and urban systems in India. ,Spatial variation - reasons, factors and implications for planning., IDSMT and metro regional planning approaches.)

Population growth, distribution and regional development in India. (Population distribution and resource base. Migration in India, causes, flows and impacts.)

Backward area development. (Identification and development policies and approaches in India., Regional basis of decentralised and multi-level planning in India., Decentralised planning approaches, district planning, and block level planning., Sectoral basis of decentralised planning - a case of integrated rural energy planning in India., Decentralised resource management planning - a case of watershed management planning, with respect to concepts of common property resources, community based resource management systems, traditional knowledge and institutional systems.)

Institutional framework for regional planning - case of Maharashtra and North-east. (Centre, state, regional planning authorities and the issue of resource transfers in India., Case studies, Damodar Valley Corporation, National Capital Region, Narmada Command Area Development Plan, Regional Planning in Rihand, etc.)

## **URP 2.2 TRAFFIC AND TRANSPORTATION PLANNING**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3*

### **Objectives**

The course strives to give students the basic skills and knowledge base about transportation planning practice. After discussing basic terminologies and concepts, transportation problems etc., the course will focus on the transportation planning methodologies and techniques available to planners. In particular, the four step transportation planning models will be discussed in detail. This includes data collection, trip-generation, trip-distribution, Modal Choice and assignment. Students will be required to undertake four exercises designed for the purpose. Exposure to relevant policies and programmes will be given.

### **Evaluation of Urban Structure:**

Transportation systems Infrastructure and management . Transportation systems and their types, design and operating characteristics, urban road hierarchy planning, engineering and management; criteria for road and junction improvements arterial improvement techniques.

### **Transportation Survey and studies:**

Study area definitions surveys and their types, sampling methods, survey techniques; Designing O-D & other Traffic & Transportation surveys.programming and scheduling processing of travel data, analysis and interpretation of traffic studies.

### **Analytical Techniques:**

Techniques for urban structure analysis; urban travel characteristics, urban transport planning process, land use transport inter-relationship and models, Travel Demand Analysis (overview). Introduction to TRIPS., Trip Generation models, Trip distribution models, Study Models, Modal Split Models, Trip Assignment Models.

Assessment of Model Choices, aggregation and other issues, Application using TRIPS, Developing Transport Plans/Options, scenario building and their analysis. Network Based Models :-Concept of optimisation, system versus individual optimisation , Graph theoretic concepts, Shortest-path algorithm, Transportation Problem.

### **Management of Transport System:**

Existing organisational and legal framework, traffic and environmental management techniques. Management techniques review of existing traffic management schemes. Framework for Evaluation of System Options/Plan Preparation

### **Regional Transport System:**

Importance of accessibility in regional transport planning. Role of road, rail, air and water transport systems. Regional Transport Systems planning, road network planning for micro regions.

**Transport and Environment:**

Traffic noise, factors affecting noise, noise abatement measures, standards. Air pollution standards, traffic safety, accident reporting and recording systems, factors affecting road safety, transport planning for target groups; children, adults, handicapped and women. Norms and guidelines for highway landscape; street lighting types, standards and design considerations. Transport & Environment, EIA of Transport Project

**Economic Evaluation:**

Pricing and funding of transport service and systems, economic appraisal of highway and transport projects. Techniques for estimating direct and indirect road user costs and benefits value of time.

**Transport Policies:**

Review of national, state and local level transport policies and their relevance in spatial and economic planning, pricing and funding of transport systems, transport technology energy and environmental implication in transport planning in developing countries; planning for public transportation; planning for bicyclists and pedestrians.

Regional road network planning, Highway Project Planning & Financing

**Public transportation planning :**

Overviews of system technologies, Technological options, characteristics. Choice of technology, Corridor Analysis, Integrated System Plan Concept, System selection, Legal & Institutional Provisions, Pricing & Financing of Public Transport Service

**URP 2.3 INFORMATION TECHNOLOGY IN PLANNING**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 ( Practical exam and Viva-voce )*

**GIS ( Geographic Information Systems )****Objectives**

To teach Computer based Geographical Information System as a tool used as decision support system involving integration and co-ordination of natural resources management or urban development planning or disaster management programme which require accurate and timely spatial information on natural resources, urban form or current events..

**Introduction** – Definition, Components of GIS, Organizational Aspects of GIS

**Data Structure For Spatial Data** - Nature of Spatial Data, Spatial Data Models and Data Structure, Vector Data Model, Grid Data Model, Irregular Grid Models, Scan Line Models, Hybrid Vector/Grid Models

**Database Creation And Organization** - Techniques of Database Creation, Steps Involved in Database Creation, Database Organisation and Management, Conventional Techniques of Database Management, Spatial Database Management Requirements, Spatial Database Management in Current Day GIS

**Two Dimensional Data Analysis And Manipulation** - Techniques of Data Analysis and Manipulation, Generation of Planning Views

**Generation Of Map Outputs From Gis** - Elements of Cartographic Maps, Making Cartographic Map Layouts in GIS

**Making On-Screen Query From Gis Database** - Typical Queries in GIS, Modes of Making Queries

**Three Dimensional Data In Gis** - Inputs of Surface Modelling, Generation of 3-D Model in GIS, Outputs from 3-D Module

**Data Quality, Errors And Natural Variation** - Obvious Source of Error, Errors Resulting from Natural Variation or from Original Measurements, Errors Arising through Processing

**Network Analysis In GIS** - Elements and Attributes of Network, Analysis of Networks, Application of Networks in GIS

**Customizing GIS** - Guiding Factor for Customization, Essential Features of Customization

**GIS Application**

Various Applications, Applications in India, Issues related to applications, GIS Applications Design and Implementation

Five topics are selected to undertake group projects. These projects would then use different modules of GIS software. The groups are as follows:

1. Watershed Management
2. District Development Plan
3. Urban Sustenance – Decision Support System

4. Environmental Monitoring
5. Urbanisation Process – A case study of A.P. State.

Preparation of base map, Census information and other data collection, Literature review on GIS and district planning.

Finalisation of base map and copies made thereof, Compilation of statistical data and analysis, Write up on literature review.

Satellite data interpretation, Interpretation of Survey of India toposheets of the district, Evaluation of Government policies and programmes through interaction and discussions.

Theme-wise map preparation through satellite data, Theme-wise map preparation from toposheets, Write-up on above.

Identification of secondary data, Mapping of other developed/undeveloped villages in district., Identification of resource utilisation and future scenario.

Preparation of GRID map, Matrix preparation and assignment of weightages, Principle component analysis.

Report

### **URP 2.4 ECOLOGY AND ENVIRONMENTAL PLANNING**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam Hours : 3*

Evolution of ecology. Man and Ecosphere, Components of nature and some basic concepts, process of ecology; flow of material, water, energy, invasion, succession, perdition, regulatory forces, adoption, tropic levels, food chain, food web, ecological pyramids.

Eco-system and their relevance to environment, causes and consequences. Impact of advance agricultural methods, urbanisation and industrialisation on nature.

Pollution: Types, sources, remedies.

Urban eco-system approach, evolution and significance.

#### **Introduction to quantitative ecology:**

Identification of ecological parameters for planning at different levels; Site planning, Settlement planning, regional planning.

Data needs, formats for data collection. Types of analyses required to evolve ecological parameters.

Environmental Impact Assessment: Methods and their appraisal.

Environmentally compatible regional development: An approach.

Ecological awareness in India: traditional, indigenous methods, contemporary trends.

Endowments and resources, definition and classification according to different criteria ends, renewable, non-renewable etc.

Human Welfare and development as functions of resources in terms of physical environment , way of living and technology. Space bound and flow resources. Preparation and analysis of inventories and resource matrices. Finiteness of resources, examples of transfer from one resources to another in history at different parts of the world development, utilisation and conservation of resources planning, integrated resources planning approach resources management, traditional and contemporary approaches, Resource development in India some selected Case studies.

### **Environmental Planning**

**Planning and Environment** - Planning, Planning Contexts, Types of Planning, Planning Process and Tools, Definition of Environment, Types of Environment, Population, Resources, Environmental Degradation and Pollution, Pollutants and their effects and control, Environmental Planning – Type

**Ecosystem-** Types and Components of Ecosystem, Bio-diversity, Energy Flow in Ecosystems, Matter Recycling, Interactions in Ecosystem

### **Physical Environment**

**Air Environment** - Air Resources, Atmospheric systems, Climate, Emission standards, Global warning, Ozone depletion, Nuclear Wars, Problems

**Water Environment** - Water Resources – Types, Water Resources – Renewal, Use, Drinking Water Standards, Health Aspects, Water Pollution, Sanitation, Disposal Standards of Treated Wastewater

**Soil Environment** - Soil Types, Soil Yield, Soil Pollution

**Energy** - Evaluation of Energy Resources , Types of Energy Sources – Renewable, Non-Renewable, Conventional and Non-conventional

**Environmental Policies, Protocols and Regulatory Mechanisms** - Fundamentals of Environmental Acts, Rio Earth Summit, Stockholm Conference, Kyoto Protocol

## **Environmental Technology**

Technology options for mitigation of environmental pollution Environment by “End of Pipe Treatment Systems”, like Effluent Treatment Plants, Use of Scrubbers to minimise air pollution load. Versus combating environmental pollution, through “Waste Minimisation”, “Re-use” and “Recycle”.

Different aspects of “End of Pipe Treatment Options, their environmental and financial implications, need for waste reductions and the concept of Waste Minimisation at Source through case studies, Energy Planning and Management and Conservation issues.

End of Pipe Treatment System/Pollution Control Measures for: (Air Pollutants (SPM/Sox/Nox), Domestic Waste Water, Industrial Waste Water, Solid and Hazardous Wastes., Environmental, Economic and Financial Implications of “End-of-Pipe Treatment Systems”)

Need of “In-Process Waste Reduction/ Minimisation (Concept of Cleaner Production and Cleaner Technologies, Environmental benefits of “Environmentally Sound Technologies”, Case Study )

Concept of End of Pipe 3-Rs: “Recycle-Reuse and Recovery”. (Towards Sustainable Development - Concepts of Industrial Symbiosis and Ecology, Case Study of Waste Recycling, it’s cost effectiveness and options.)

Environment Management Systems (ISO-14001 and its Planning Implications, Why do we need ISO ?, Case Study of a ISO certified industry, Environmental and Financial Benefits of ISO.)

Principles of Energy, (Energy-Environment-Pollution Linkages., Energy Demand and Supply Planning Management, Energy Conservation Issues and Need of Energy Audit., )

## **Sustainable development**

The basic objective of the course is to get through the issues of sustainable development and bio-diversity management. The course aims to give holistic approach for bio-diversity management and also gives broad view of various national and international policies and instruments of bio-diversity. Systems Diversity. Species Concept & Inventory. Habitats & Systems Change. Use Of Bioresources. Valuing Biodiversity. Conservation. National & International Policies & Instruments. Assistance & Aid. Biodiversity Convention., Associated Inputs, Biodiversity Planning, Costing Targets, Agro & Forestry Systems/Forests Interface, Monitoring Systems, Biosphere World Views.

### **EIA**

Introduction to Environmental Impact Assessment: Defining the role of impact assessment --- Rational for EIA --- Phases of impact assessment.

Impact Identification Techniques: Various methods used in impact identification --- detailed techniques of using these techniques --- strengths and weaknesses of the various techniques used as impact identification process.

Impact Evaluation Techniques: Techniques used in impact evaluation --- Weighting-Scaling techniques, ecological rating systems --- Goals-achievement matrix, priority-trade-off-scanning matrix.

Predicting Impact on the Physical Environment: Land --- indicators for land suitability and vulnerability - -- Landscape characteristics and indicators of landscape process --- Mapping landscape characteristics --- Techniques for evaluating alternative land use plans.

Air --- calculating pollutant emission --- predicting ambient concentration --- predicting ecological response to air pollutant --- predicting human health risks.

Water --- categorisation of pollutants --- pollution dispersion --- water quality.

Predicting Impact on Biota: Ecosystem process and impact assessment --- energy fixation and flow.

## **URP 2.5 PLANNING FOR RURAL DEVELOPMENT**

*Periods per week : 4 Internal Marks: 50 End Exam Marks: 50 End Exam duration : 3 Hours*

### **Objectives**

To help students to understand rural society within the context of rural development and change In the post-independence period and be able to contribute positively in planning for overall development of the social institutions, human behaviour and economy of the rural population.

Rural Situation in India, Indian Village from the Pre-British Period to 1947, Social Stratification Changes and Modernisation

National Planning and rural development. Concepts of planning for rural settlements.

Regional Development and urban rural partnerships, related inputs and infrastructure development.

Agricultural development allied activities, Agriculture Under Five Year Plans, Marketable Surplus and Cropping Pattern. Patterns of rural linkages, communication and marketing facilities, community development, institutions and delivery of social services.  
 Rural settlements, typology, structure, Spatial significance in metro regions and interior areas. Planning principles of village planning and community norms.  
 Area, district and block level development planning and implementations, public participation in rural development process, role of voluntary organisations.  
 Rural energy issues, renewable and alternative sources of energy.  
 Ecological and environmental considerations in rural development and village planning.  
 Land Reforms in India: Need and Scope of Reforms, Tenancy Reforms., Rural Credit.  
 Community Development and Panchayati Raj, Area Development and Target Group Based Development.  
 Green Revolution, Rural Poverty and Poverty Studies., Anti-poverty Programmes and Their Performances.  
 Non-government Experimentation of Rural Development, Milk Co-operative in India.

## **URP 2.6 PLANNING LAB –II**

*Periods per week : 15 Internal Marks : 250 End –Exam (Viva-Voce) Marks : 250*

### **Development Plan for a town / city ( ten to twelve weeks )**

Elaboration of principles and techniques adopted in planning projects. Application of theories and techniques of urban regional planning in the preparation of development plans for new towns, metropolitan areas and various types of development, settlement structure , environmental protection and institutional development . Evaluation techniques in the choice of strategies.

#### **Background**

The rate of urbanisation has been rapid. Basic problems such as poverty, inequality, unemployment, migration, industrialization and associated effects, rapid rate of urbanization, unregulated development, widening infrastructure gaps, inadequate and inelastic resource base of the local governments, environmental deterioration, etc., continue to predominate the action agenda of planners.

Due to rapid change, these problems have grown in intensity and complexity. In the past, growth and its impacts were not as severe as observed in the present day context. If, planners, as 'Managers of change' have to succeed, they need to keep pace with this rapid change. Four relevant manifestations of recent changes have significantly altered the ground rules of the profession. They are Liberalisation/ Macro Economic Reforms, Information Technology Revolution, the Democratisation and Decentralisation, initiatives and the emergence of Environment as major area of concern.

Incorporating these dimensions within the planning framework made available by the urban development legislation is the challenge, present day urban planers are faced with.

#### **Objective**

The proposed laboratory exercise attempts to enable the planners to understand the complex nature of urban development, legislative tools available for achieving sustainable development, methods and models of planning through hands on experience.

#### **Framework**

The plan process used should be a strategic planning framework - the process adopted "*general goals / specific objectives / actions*" approach

The plan process may be evolved in terms of following stages.

Understanding Legal Framework - Review of legal framework (Urban Development Acts), Review of Development Plans

Identification of Urban Developmental Planning Issues - Review of literature

Methodology for data collection is to be evolved.

Town assessment:- A ten day visit to the town to prepare existing land use (Broad), collect necessary secondary information, discuss/survey public about the problems, vision etc.,

### Setting Goals, Objectives

1. Broad, long-term goals, meant to be very general, that speak to the basic human and environmental needs that are to be addressed.
2. Long-term objectives to achieve a sustainable development
3. Objectives for the year 2011, describing the proposed state of the City within 10 years. These objectives are quantified and meant to be feasible within two five-year time-frame.
4. Specific actions to be taken to achieve the objectives.
5. Converting actions into physical plan

Studies to cover topics that span many issues such as *Economy and Economic Development, Population trends, land use, infrastructure status, Municipal Expenditure, regional factors, etc.,*

### **Regional Plan ( four to six weeks )**

Formulation of a Regional Plan for a region within the state – may be as small as a mandal or as large as an entire district or a resource region.

Efforts should be taken to look into the region holistically. For example, people engaged in agriculture, horticulture, industries, construction activities are not concerned about water availability and environmental quality. What will be the impact of such activities on existing water resources, environment and human resources? What is the nature and extent of effect on the local economy and livelihood of the people? How to democratize the development process? What are the constraints and the opportunities to address long-standing development issues of the region ? The impact of resources ( or lack of ) or some predominant activity on all the different sectors of the district should be viewed as a whole in order to bring about a holistic development to the region. The plan should be based on a study of the ecological and environmental features of the region, in order to assist in the development activities. - a study of the demographic and economic characteristics of the population and plan for the economic revival of the region, both short term and long term. - an analysis of the existing settlement patterns and identification of locations for siting various activities in the wake of the potentials and the constraints and threats.

### **URP 2.7 PLANNING ORGANIZATION - APPRAISAL/ TRAINING REPORT**

*Periods per week : Nil ( to be done during the six week vacation )      Internal Marks : Nil      End Exam Marks : Nil ( Only pass / satisfactory result )      End Exam : Viva*

Each student has to select a planning organization and has to undergo training in that organization during the 6 week summer vacation. The students will have to submit a report of the work done during their training and also which should include an appraisal of the planning organization, based on discussion with the development authorities, town planning officers, municipal officers, and other planning and development agencies. The actual format and content of the report has to comply with the guidelines formulated by the faculty in charge

## **THIRD SEMESTER**

### **URP 3.1 URBAN DEVELOPMENT MANAGEMENT**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam duration : 3 Hours*

#### **Objectives**

To understand the administration, planning and implementation process of urban local government; the basic concepts of, and actual practises of public finance, issues related to sustainability of urban local bodies and also equip the students with key management techniques.

**Introduction to Urban Management** - concepts, planning and management of urban government.

Issues in Urban Management, Need for urban local government.

Evolution of ULBs., organisational structure, functions and management practices of urban local bodies in India.

An overview of Municipal Act- its Structure, Functions and Delegation of Powers to administrators and executives.

Decentralisation of Work System: Departmental procedures, Authority and Responsibilities, Departmental Communications and co-ordinations. Need for decentralisation strategy. Case study on Town Development Department, Health and Education Department.

Metropolitan government system in India: A review of major development authorities and a few small development authorities in terms of institutional and legal framework (Functions, Responsibilities, Funding and Planning).

Financial Planning and techniques. Public finance and resource mobilization: Some basic principles.

Review of State Local Financial relationship, policies and procedures, functions and financial relationships in urban local government, Issues in financing urban government, local finances, management and scheme sectioning: A case in Experiences of Ahmedabad Municipal Corporation.

Review of accounting practises, budgetary procedures for capital works and maintenance methods of funds allocation for services: Existing practices prevailing in urban local government.

Budgeting Techniques: A tool for better financial planning for urban government

Municipal tax structure for resource mobilization, main sources of revenue for local authorities: Property tax, issues and imperatives.

Emergence of New Financial System: A review of Calcutta Revised Grant Structure and cases of other local governments.

Policies and procedure for raising financial resources and commercial accounting system, capital financing debt management.

Organizational management techniques.

Application of management techniques used in urban local bodies for improvement of organizational capabilities.

Management by objectives, MIS, PPBS, Zero Base Budgeting.

#### **Development Management**

Development management aspects. Nation goals and political economic system effecting development management and development process. Planning administration: Systems of local Government in India, Development administration at National, State, District and local level, and the process of decision making in development and management. Functions, powers, structure and resources of local government, possibilities of qualitative improvement in plan administration Public relations and citizen participation in development, personnel management, man power

planning, performance appraisal, motivation and morale.. Organisational behaviour- organisation theory, authority and conflict, administration communication, leadership in administration, organisational changes. Organisational structure and plan implementing agencies.

#### **Development Financing:**

Local financial system in India- local taxation and fees, state and local fiscal relations, financing local services, local expenditure, capital budgeting and performance budgeting. Financial resource mobilisation. Policies and programmes of related institutions, administrative aspects of investment. Land management practices and policies.

Strategies: Tools and Techniques for development management, classical persuasive and non-persuasive strategies and techniques. New techniques of management by objectives (MBO). Integrated reporting system, flow diagrams, bar, charts, milestone charts, CPM and PERT, LOB.. Techniques of monitoring of development works-standard oriented costs control, turnkey system, vertical production method, inventory cost control techniques, and unified status, index techniques..

#### **Seminar Topics**

Urban Governance – Evolutionary Study  
 Urban Administration – Cross country and across States Comparison  
 Urban Finance – Budget  
 Urban Infrastructure – An Evolutionary Study  
 Urban Sustainability: Issues against urban Governance  
 ‘High rate of Urbanisation is a problem for Urban Government to govern’ discuss.  
 Constitutional Changes in Urban Governance  
 Impact of Liberalisation on Urban Governance  
 Participatory Government – Evaluation  
 Professional Ethics in Urban Administration is a key for the success for Urban Government  
 Privatisation is a tool to achieve administrative Efficiency  
 A debate on Private Public and People’s Participation  
 Evaluation of BOO, BOT etc.  
 Crisil Rating for Local Government – Reality or Illusion? Is there a need to change the approach?  
 Municipal Bond – a tool for Resource Mobilisation  
 Alternate Mechanism for Financial Resource Mobilisation.  
 Narrate Difference between Public Enterprises and Urban Government  
 Best Practices for Urban Governance – a feasible solution  
 Urban Poverty- a detailed and quantitative analysis  
 Multi agency and multiple window approach with respect to urban government programmes and policy  
 Role of Urban Development Authority in Urban Governance  
 Public Finance Approach for evaluation of criteria for financial allocation under urban development programmes

### **URP 3.2 PLANNING LEGISLATION**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam duration : 3 Hours*

#### **Objectives**

The main objectives of this course are to familiarize the students with both the use of legislation as a planning tool in general as well as the details of important planning, housing and environment related legislation.

#### **Legislation**

Introduction to laws, concepts - sources of law (i.e. custom, legislation and precedent), meaning of terms of law, legislation, ordinance bill, act, regulations and bye-laws.

Doctrine of separation of powers. Judiciary, legislature and executive – rule of law - significance of law and its relationship to urban planning. Provisions regarding property rights. Legislative competence of state and central governments to enact town planning legislation.

History, Indian constitution and its main features articles 14,21,31.– legislative process – division of subjects between center and states. Legislation, sub-ordinate legislation, precedents. Power to legislate and issues ordained judicial systems in India. History of legislation in U.K. and India.

Legislation related to use and control of land. Concept of eminent domain LAND ACQUISITION ACT of 1894. Its use in planning, implementation and limitations. Betterment charges and compensation provisions in various planning laws; and judicial precedents.

Valuation of real estate - approach to value, concept of ownership - bundle of rights - possession, rent premium, depreciation and easement rights.

Legislation controlling use of land parcels like non-agricultural permissions, NOC, building permission, building bye-laws and use of permissions, etc.

Significance of land development control – objectives and legal tools , critical evaluation of zoning, subdivision regulations, building regulations and bye-laws. Development code. Zoning law relating to slum clearance, housing, landscape and traffic. Approach for formulating rules and bye-laws

Policies, laws, acts pertaining to urban land, ceiling on urban land and property, Urban land (ceiling and regulations) act, 1976: objectives, contents and planning implications, etc.

Rent control legislation - variations over the states and important provision, problems.

Housing co-operatives related legislation and other forms like non-trading corporations.

Slums related legislation - variations over the states, important sections, their implications, etc., problems with actual use.

Legislation on related to property transactions (Transfer of Property Act, Income Tax related, etc.).

Model bills on town and country planning, urban development corporations, etc., status of the Institute of Town Planners, India and overview of framework of rules and provisions made in the ITPI chapter.



Evolution of planning legislation. An overview of legal tools connected with urban planning and development, Town and country planning act. Improvement Trusts Act, Urban Planning and Development Authorities Acts – objectives, contents, procedures for preparation and implementation of regional plans. Master plans and town planning schemes. Concepts of arbitration, betterment levy, development charges and public participation in Statutory planning process. Concept of structure plan, local plan under the English law. Review of selected town and country planning Acts in India and abroad including recent trends in planning legislation and tracing the common roots inherent therein - town planning legislation in India - problems and prospects.

Planning law and the poor.

State-Central and local institutions in relation to planning laws.

Legislation relating to urban conservation and restoration, historical movements, archaeological sites and remains of National importance.

### **Environmental Law**

Introduction to Law (Indian Constitution., Evolution of Environmental Laws in India.)

Law of Torts, the first Environmental Law.

National Environmental Policy Act – Pollution Control Acts - Air, Water and EP Acts. (A critical appraisal.)

Seminar on Forest and Wildlife Act.

PILs and Writs as a tool of pollution control.

Some important international environmental laws.

From Stockholm to Rio - History of environmental policy in world and in India.

Environment versus Development (Different approaches and analysis.)

Alternative development paradigms for environment friendly and sustainable growth.

### **URP 3.3 URBAN DESIGN CONSERVATION AND LANDSCAPE**

*Periods per week : 4 Internal Marks : 50 End Exam Marks : 50 End Exam : 3 Hours*

#### **Urban Design:**

Role of urban design in the planning process. Principles of structuring urban spaces, locational parameters of activities and urban uses.

Study of evolution of the concepts in Urban Design through history

Imageability of the city.

Determinants of urban patterns and forms: land use density and networks. Energy and urban form; Impact of Technology and construction techniques; Standards and implications of regulatory control on urban form and design; Design in relation to renewal and re-development of central areas.

Issues related to changing practices of planning human settlements as applied to spatial design. Urban design projects; Identification of scope and relationship with development plan-planning and design parameters for new towns.

#### **Urban Conservation:**

Problems of conservation in developing countries. The need for resolving conflicts between development and preservation and to evolve methods which will reduce the costs of preservation by sensitive utilisation.

- a) Conservation and urban renewal: Conflicts and compatibility, changing values, obsolescence, land blight.
- b) Physical restoration, causes of physical deterioration, selection of construction methods, Materials specification.
- c) Role of community in Conservation: Regulation, legislative and revenue aspects. How to minimise costs of preservation and community participation.

Concepts of urban decay social, economic and physical factors affecting urban maintenance.

Concept of nature cities-determinants, approaches and strategies for urban regeneration, urban redevelopment and requirements and costs. Potentials and limitations in the Indian context. Urban regeneration as a process for environmental planning and management. Feed back for policy frame work relevant to urban and metropolitan growth.

#### **Urban Landscape:**

Man and his surrounding , Co-ordination between Architecture, Town planning and Landscape planning.

Study of Landscape design in history with particular emphasis to India and its contribution.

Elements of Landscape design.

Plants in relation to urban ecology and planning design and their types-tropical related conditions.

Theories and principles of landscape planning.

Organisation of open spaces, recreational areas and water front development.  
Introduction to Environmental Impact Assessment. of urban projects  
Case studies of selected examples.

### **URP 3.4 PLANNING COLLOQUIUM AND SEMINAR**

*Periods per week : 4 Internal Marks : 100 End Exam : Nil*

Essentially aims to introduce the students to the issues in / of planning or related to planning as seen colloquially by the stake holders, decision makers, urban managers and advocates – all of whom may not necessarily be professionally trained in planning.

The students will be exposed to colloquial arguments and issues raised by politicians, bureaucrats, NGO's, citizens, user groups, advocates, other technocrats, urbanists, etc.. Each student has to compile a report on his perception of the arguments and issues, not only reporting the arguments offered by the participants in the colloquium, but also extending the same or relating them to form an overall, comprehensive picture drawing from all the sessions through the semester.

The colloquium will be organized on a fortnightly basis with the intervening week to be used for a debate / seminar by the students to clarify and extend the arguments and stances raised in the previous colloquium and also by making use of related press reports / articles.

The students shall participate in organizing the colloquiums, organizing background material, identifying potential participants and recording the minutes. Evaluation will be wholly based on internal marks given on the basis of the participation of the students in the colloquiums and in the internal seminars / debates and the reports submitted by the students on the colloquiums.

### **URP 3.5 PROJECT PLANNING, APPRAISAL AND MANAGEMENT**

*Periods per week : 4 Internal Marks : 50 End Exam Marks :50 End Exam : 3 hours*

#### **Objectives**

To introduce various principles, methods and techniques of undertaking project appraisal, and project management principles going through financial and economic analysis of the project, from the stage of inception to implementing the project.

**Project Objectives And Components** - Project Life Cycle, 4 Stages In Project Development – Identification, Approval, Implementation, Operation, Evaluation

**Project Appraisal Techniques** - Technical/Financial/Organisational criteria, Appraisal Criteria (NPV/B/C. Ratio/I.R.R. - Financial Analysis - Capital Costs, Financing plans, Operation costs, Projections of costs and revenues, Financial viability, Debt servicing, Tariff and revenues, Income and expenditure statements, Project balance sheets, Rate of returns

Social Cost Benefits Analysis - Rationale for SCBA, UNIDO Approach

**Project Management** - Planning and control, Human aspects, Development of project network, Critical path, PERT & CPM, Project organisation, Contracting, Procurement And Recruitment budget and fund flow statement, Stabilisation and finish

Project Monitoring -Management information systems, Environmental care, Safety

### **URP 3.6 PLANNING LABORATORY - III**

*Periods per week : 15 Internal Marks : 250 End Exam (Viva-voce ) marks : 250*

Each student has to choose / formulate and work on a planning project independently. The project may be related to any sector and be of any scale , but it is desirable that the approach be multidisciplinary and preferably relate to 'live' and current contexts.

The main thrust of the project should be to identify a planning project addressing a current or immediately future context, review related theoretical approaches, collect, document and analyze relevant data and formulate proposals to address the problems identified.

The key word is 'project' in terms of definable program of actions, budgets. Implementation strategy and mechanism, beneficiaries, etc. Research may be limited to literature review and analysis of readily available data with limited primary data focused on the immediate demands of the 'project'

## **FOURTH SEMESTER**

#### **URP 4.1 PLANNING THESIS**

No coursework *Internal Marks : 500 End Exam (Viva-voce ) 500 marks*

Each student is required to prepare a thesis on a subject approved by the department.

The general format and guidelines shall be as laid down by the department .

The topics should be on current research and professional planning interests and the work contained shall be the students, original work.

#### **Objectives Of The Dissertation Programme**

To enable the students to select and handle relevant research topic on an individual basis from the conception of the idea through conduct of the research to the preparation of a final report and presentation;

To enable the student to develop abilities in different techniques of communication inclusive of both written reports and visual-oral presentations.

#### **Structure Of The Dissertation Programme**

The dissertation programme includes the following three major stages in view of the objectives listed above. These stages may be overlapping to a certain extent as the entire exercise is to be viewed as a process.

**Stage-1 Development of a Research Proposal**

**Stage-2 The process of conducting the Research**

**Stage-3 The documentation and presentation of the research, its findings and their implementation.**

#### **Criteria For Evaluation**

The criteria for evaluation of the Dissertation need to be evolved matching with the individual stages identified above and the objectives of the programme stated earlier.

#### **Development for Evaluation**

- Level of understanding and awareness of the conceptual development and the literature in the broad area of study chosen;
- Coverage and synthesis of available and accessible research in the area;
- Clarity and precision in the statement of the problem;
- Ability to focus the research and a proper definition of the objectives, scope of study and the conceptual framework of the research;
- Appropriate development of the research design and the analytical framework;
- Level of originality of ideas and approaches.

#### **Process of Conducting the Research**

- Appropriateness and efficiency of the methodology ion the process of data collection and analysis;
- Judgement in data use – relevance and reliability;
- Ability to modify and adapt the research objectives and the scope in situations of practical limitations in data;
- Degree of analytical consistency including appropriate use of techniques;
- Ability to modify and adapt the research objectives, scope and analytical frame in response to feedbacks received through review;
- Overall consistency in the understanding and applications of the concepts, methodology and analysis;
- Extent of efforts put to accomplish good quality research.

#### **Documentation and Presentation of the Research, its Findings and Implications**

- Organization of the report in terms of logical continuity and consistency;
- Ability to present the findings and implications with both precision and punch;
- Quality of the report in terms of language, style, editing, referencing;
- Articulation in visual-oral presentation including precision in presenting findings – implications and the defence of the work.

### **Selection Of Guide**

Students are suggested to consult internal faculty members based on their own areas of interest. It is also possible for students to consult external faculty actively participating in academic programme. To know the research interests of internal faculty students can meet them individually. Taking up academicians of other Institute/Research Organizations, as External Guide is permitted. However, in that case, a a Core Faculty should be chosen as Internal Guide.