Chhattisgarh Swami Vivekanand Technical University, Bhilai

Scheme of Teaching and Examination

M. Plan (Urban Planning)

Ist Semester

S. N.	Board of Study	Subject Code	Subject Name	Periods Per Week			Scheme of Examination Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1	Architecture	503111(16)	Introduction to Planning History and Theory	3	1	-	80	20	20	120	4
2	Architecture	503112(16)	Urban Economics and Sociology	3	1	-	80	20	20	120	4
3	Architecture	503113(16)	Planning Techniques	3	1	-	80	20	20	120	4
4	Architecture	503114(16)	Demography &Quantitative Methods	3	1	-	80	20	20	120	4
5	Architecture	503115(16)	Geo Informatics in Planning	2	1	-	80	20	20	120	3
6	**Refer Table - I Elective - I**			3	1	-	80	20	20	120	4
7	Architecture	503121(16)	Planning Studio-1	-	-	11	125	-	75	200	6
8	Architecture	503122(16)	Geo Informaticsin Planning Lab	-	-	2	50	-	30	80	1
Total				**17**	**06**	**13**	**655**	**120**	**225**	**1000**	**30**

L-Lecture, **T**- Tutorial, **P**- Practical, **ESE**- End Semester Examination, **CT**- Class Test, **TA**- Teacher'sAssessment

Table - I (Elective - I)			
S. N.	**Board of Study**	**Sub Code**	**Subject Name**
1	Architecture	503131(16)	Ecology and Resource Development
2	Architecture	503132(16)	Environmental Planning
3	Architecture	503133(16)	Landscape Planning
4	Architecture	503134(16)	Rural Planning and Development
5	Architecture	503135(16)	Urban Design
6	Architecture	503136(16)	Housing
7	Architecture	503137(16)	Sustainable planning

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M. Plan - 1
Subject: Introduction to Planning History and Theory
Total Theory Period: 40
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503111 (16)
Total Tutorial Period: 12

Course Objective:

The objective of this course is to initiate the student to the historic growth and development of settlements across civilizations and the evolution of civic planning as a discipline through theories and concepts of modern planning thought. The course shall be delivered through theoretical inputs and seminar presentations by students on selected topics.

Course Contents:

The course would include the following broad areas of planning knowledge

Unit – I

The City in History: Settlements in Different Civilizations. Overview of City Planning in Mesopotamian, Egyptian, Greek and Roman Civilizations. Renaissance and Its Impact on City Form and Structure. Town Planning Thought and Principles in Ancient and Medieval India. Industrial Revolution: Post Industrial Revolution Settlement Planning: Impact of Industrial Revolution on City Form, Population Density and Infrastructure Breakdown. Birth of Civic City Planning

Unit – II

Classical Concepts of City Form- Concepts of Garden City, City Beautiful, Linear City and others. Contribution to Modern City Planning by Lewis Mumford, Patrick Geddes, Peter Hall, Jane Jacobs, Chadwick and others. Theories of Urban Structure and Land Use- Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory, Land Use and Land Value Theory etc.Theories of Settlement Systems in Regional Context -Spatial Models of Location, Size and Spacing of Settlements; Rank Size Rule; Central Place Theory; Loschian Theory; Cumulative Causation Theory; Core Periphery Model; Growth Poles and Centres; Gravity Model; Classification of Settlements

Unit – III

Relevance of the Subject: Settlement Formation and Growth as a Response to Social, Economic, Religious, Political and Cultural Needs. Need for Civic Planning. City-Region Relationship: Structure of City Regions, Area of Influence, Dominance; Rural-Urban Fringes; Metropolitan Region; Socio-Economic Impacts of Growth of Urban Areas; Push and Pull Factors; Rural-Urban Migration; Location of New Regional Economic Activities; Impact of Technology on Urban Forms; Transportation and Urban Form; Other Emerging Issues in Planning

Unit – IV

Models of Planning: Pluralism in Planning; Systems. Approach to Planning: Rationalistic and Incremental Approaches, Mixed Scanning, Advocacy Planning and Action Planning, Equity Planning

Unit – V

Types of Plans: Master Plan, Development Plan, Structure Plan, Strategic Plan, Sectoral Plan, Zonal Plan, Local Area Plan, Action Area Plan Etc.

Reference Readings:

- Planning Theory, Healey P., Pergamon Press
- Planning Theory, Allmendinger Philip, Palgrave MacMillan
- Cities of the World: World Regional Urban development, Brunn S.D.et all.
- City Assembled: The Elements of Urban form through History, Kostof Spiro, Thames and Hudson
- Contemporary Urban Planning, Levy John M, Longman
- Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century, Hall Peter
- Urban and Regional Planning Since Independence : Retrospect and Prospect : Technical papers, National Town and Country Planners Congress, Mysore, Ministry of Urban Affairs and Employment
- Urban Planning: Theory and Practice, Rao M.P., CBS Publishers

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan - 1
Branch: Architecture
Subject: **Urban Economics and Sociology**
Code: 503112 (16)
Total Theory Period: 40
Total Tutorial Period: 12
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Course Objective:

The course consists of two parts of Economics and Urban sociology, as essential inputs to the Planning profession.

Urban Economics:

The objective of the course in Economics is to apprise students of the theoretical underpinnings in economics so as to enable them comprehend urban problems from the point of view of economic reasoning. The course is of an introductory level enabling students to acquire a fair amount of economic reasoning to analyse urban issues and would focus primarily on applications in the planning profession.

Sociology:

The primary objective of the course in Urban Sociology is to train the students in the sociological study of life and human interaction. The course is so designed as to enable the students follow the sociological interpretations of the structures, processes, changes and problems of an urban area and by doing so providing inputs for planning and policy making.
Thus the overarching objective of the course shall be to educate students about the nature and changing character of the city and the urban experience - including the larger social, political, and economic dynamics of urban change - so as to provide a more nuanced appreciation of the contemporary, comparative, and historical context in which urban planning skills and sensibilities have been developed and could be applied.

Course Contents:

Urban Economics:

The following contents included in the course would be delivered with focus on linking the theoretical aspects with applications in planning, and the problems and assignments would focus specifically on these.

Unit – I

Twin Themes of Economics – Scarcity and Efficiency; Market, Functions and Equilibrium; Micro v/s Macro Economics, Positive v/s Normative Economics. Laws of Demand and Supply; Market Demand and Supply; Equilibrium in the Market. Elasticity of Demand and Supply; Price, Income and Cross Elasticity. Average, Marginal and Total Costs and Revenue; Derivation of Revenue and Cost Curves; Producers Surplus and Consumer Surplus Market and Types of Market, Product Pricing (Average Cost and Marginal Costs Principle); Factor Pricing (Marginal Productivity Theory)

Unit – II

Resource Categories; Land and Returns to Land, Taxing Land and Rents; Environmental Externalities; Market Inefficiency with Externalities; Corrective Policies; Climate Change Measurement of Economic Activities, Basic Economic Growth Models (concept only), Human Development Index (Tools of economics, namely, input – output technique, game theory and linear programming shall be introduced to the students conceptually)

Sociology

Unit – III

Industrial Revolution and the Birth of Urban Sociology; Economic, Social and Cultural Processes of Urbanization and its Effects on Social Alienation, Class Formation and the Production or Destruction of Collective and Individual Identities; Theories of Karl Marx, Émile Durkheim, Max Weber and Georg Simmel. Human ecology, Urbanism and Urban Sociology; The Chicago School; Elitism and Power of Place; Indological (Ghurye); Structural-Functional (M. N. Sriniwas); Dialectical (D. P. Mukherji, A. R. Desai); Subaltern (R. Guha); Non Brahmin (Phule, Dr. Babasaheb Ambedkar); Feminist (Neera Desai, Leela Dube)

Unit – IV

Urban Enclaves and Ghettos; Fear and Disorder; Gentrification; Integration and Segregation; Race and Ethnicity; Sociology of Gender; Urban Crime; Poverty and Homelessness; Immigration and Migration; Sociological Impact of Globalisation**.** Inclusive Cities- Overview - Definition, Concepts, Elements of Inclusivity; Exclusion and Related Issues, Disparities, Social Fragmentation, Existing Divisiveness; Need for Inclusion of the Disadvantaged, Marginalized and other Week and Vulnerable Social Groups.

Unit – V

Disparities and Equal Opportunities: *Disparities* – Gender, Race, Religion, Social Disparities; *Gender* – Gender Discrimination; Feminist Planning Theory; *Caste and Religion* – Characteristics, Disadvantaged Castes and Ethnic Minorities; *Special Needs* – Lack of Supportive Assistance, Issues; Assessing Specific and Special Needs; Planning and Designing for the Differently Abled, Elderly, Children, and Pregnant Women; Planning Rights and Responsibilities; Provision of Equal Opportunities; Social Sustenance; Exploring Emerging Relevant Concepts and Monitoring Systems.

Reference Readings:

Urban Economics:

- Economics, Paul A. Samuelson et all, Tata Mc Graw Hill Publication
- Micro Economics, Dominick Salvatore, Schaum's Outline Series, Mc Graw Hill
- Micro Economics, N.C. Ray, Macmillan
- Micro Economics, Anindya Sen, Oxford University Press
- Economics, Alec Chrystal et all, Oxford University Press
- Economics – An Analytical Introduction, Amos Witztum, Oxford University press
- General Economics, Deepashree, Tata Mc Graw Hill Publication
- Economics – A Primer for India, G. Omkarnath, Orient Blackswan

Sociology:

- Sociology, Anthony Giddens, Wiley
- Sociology, John J. Macionis, Pearson
- Urban Sociology : Images and Structure, Flanagan, William G., Prentice Hall
- Urban Problems in Sociological Perspective, Shannon, Thomas R., Waveland Press Inc
- The Metropolis and Mental Life, Simmel, Georg, New York: Free Press
- Key Concepts in Urban Studies, M. Gottdiener, Sage London
- Sociological Thought, Abrahm M. F. and Morgan J. H., MacMillan India,Madras
- The Oxford Companion to Sociology and Social Anthropology, Das Veena, Vol. I and II, OUP, New Delhi
- Social Change in Modern India, Srinivas M. N., Oxford University Press, Delhi.
- A Subaltern Studies Reader, Guha R., Oxford University Press, New Delhi
- The Sage Handbook of Sociology, Bryn Turner et all, Sage
- Capability and Well-Being, Sen, Amartya and M. Nussbaum. Oxford Clarendon Press
- Inclusive Growth In India, R.U. Singh A.K. Thakur, Deep and Deep Publications
- Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities.
- Feminist Economics Robeyns, Ingrid
- Planning a Barrier Free Environment, Office of the Chief Commissioner for Persons with Disabilities, India

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: Planning Techniques
Total Theory Period: 40
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503113 (16)
Total Tutorial Period: 12

Course Objective:

The objective of the course Planning Techniques is to introduce techniques used for planning at various stages from preliminary to advanced. As this is a subject from integrated course the techniques broadly used by all courses of specialization have been considered while designing this course. At the end of the course student should be able to use the techniques in respective studio works. Appropriate Software applications in CAD and GIS would also be taught as part of this course.

Course Contents:

Unit – I

Basic Terminology; Classification of Cities; City Region; Spheres of Influence, Urban Rural Fringe; Internal Structure of Urban Areas; Density Patterns; Land Use Classification and Coding. Base map Preparation: Representation of Spatial Data; Choice of Appropriate Scales: Graphical, Linear and Areal Scales; Contents of Base Maps at Various Scales; Notations - Basic Disciplines of Maps

Unit – II

Techniques of Conducting Surveys for Land Use, Building Use, Density, Structural Condition of Buildings, Heights of Building, Land Utilization and Physical Features of Land; Techniques for Conducting Regional Surveys; Regional Delineation Techniques: Factor Analysis, Cluster Analysis; Row Analysis; Case Studies in Regional Delineation
Formulation of Spatial Standards for Residential, Industrial, Commercial and Recreational Areas; Space Standards for Facility Areas, Utilities and Networks; Population, Distance Criteria; Performance Standards; Case Studies: Residential and Non-Residential Density Patterns and Analysis

Unit – III

Computer Applications for Data Collection and Analysis: Tools of Analyzing Different Types of Data; Use of Excel Software for Analyzing Data; Applications of Features of Excel- Basic and Selected Advanced Features;CAD Applications for Base Map preparation: Recapitulation of CAD tools- drawing, editing, modifying, layer management etc.; Scaling Drawings and Images; Plotting and Printing

Unit – IV

Socio-Economic Surveys: Data Requirements for Urban and Regional Planning; Sources of Primary and Secondary Data; Questionnaire Design, Measurement Scale and their Application; Sampling Techniques; Types of Socio-Economic Surveys. Setting of Goals and Objectives; Methodologies for Preparation of Urban Regional Development Plans, Master Plans, Structure Plan and Strategy Plan Techniques; Plan Implementation Techniques; Public Participation and Plan Implementation; Techniques of Urban Renewal and Central Area Re-Development; Contents of a Master Plan, Regional Plan, Etc.

Unit – V

Introduction to Geo informatics

Raster Data Capture: Types of Platforms: Space Bourne - Resource Satellite, Swath, Sensing Capabilities; Air Bourne – Aerial Photography; Ground Bourne – Digital Survey; Multi-Return Concept - Spectral Signature. Raster Data Processing and Analysis: Image Interpretation – Qualitative and Quantitative Elements; Resolutions – Spatial, Temporal, Spectral, Radiometric; Geo-Rectification – Coordinate System, Datums, Geo-Referencing and Map Projections; Geometric Distortions, Image Enhancement, Transformation, Segmentation; Data Creation: Thematic Model, Vector Data Features, Map Preparation – Digitization; Non-Spatial Data – Database Creation; Integration of Spatial and Non-Spatial Data; Data Query. Data Analysis: Buffers, Overlay, Proximity, Network Analysis; 3D Terrain Modelling–Triangulated Irregular Network.Data Presentation: Layout Preparation – Grids, Legend, Symbology; Printing – Sheet Size, Scale.

Reference Readings:

- Urbanisation and Urban Systems in India, Ramchandran R. Oxford University Press
- Cities Urbanisation and Urban Systems, Sidddhartha K. and Mukherjee S., Kisalaya Publications
- Regional Planning, Glasson J., Open University Press
- Economic and Social Geography Made Simple, Knowles R. and Wareing J., Rupa and Company
- Concepts and Techniques of Geographic Information Systems, Lo C.P. and Yeung A.K.W., PHI Learning Private Limited
- Planning Techniques for AITP, Reader on Institute of Town Planners India
- UDPFI Guidelines Volume 1, Ministry of Urban Affairs and Employment Govt. of India, New Delhi
- Remote Sensing and Image Interpretation, Thomas M. Lillesand et all, John Wiley and Sons Ltd.
- Remote Sensing and GIS, Basdudeb Bhatta, Oxford University Press
- Spatial Analysis, Mark R. T. Dale, Marie-Josée Fortin, Cambridge University Press

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan - 1
Subject: Demography & Quantitative Methods
Total Theory Period: 40
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503114 (16)
Total Tutorial Period: 12

Course Objective:

The course consists of two parts of Demography and Statistics, dealing with each independently and as well as connecting the applications of statistics to demography.

Demography

The objective of the course on Demography is to provide the students with an understanding of basic concepts on demography. This course would make the students aware of the importance of population geography in economic development, the various theories that explain the growth of population in a country and demographic techniques applied. The course aims to help students identify appropriate sources of data, perform basic demographic analyses using various techniques and ensure their comparability across populations. The student will also be able to produce population projections and interpret the information gathered by the different demographic methods.

Quantitative Methods

The emphasis of the course on Statistics shall be on conceptual underpinnings of statistics with a focus on defining different statistical tools indispensable for urban planning. In view of the course according more emphasis on inferential statistics than descriptive statistics, the objective of the course will be to introduce the most useful and commonly employed statistical tools and discuss the conditions under which use of those tools is appropriate. The course has been so designed as to train the students interpret the results of an analysis to provide insight into the answer to the problem at hand. Use of appropriate statistical analysis software's is also included in the course.

Course Contents:

Demography

Unit – I

Distribution and Density of Population - Measures of Population Distribution and Concentration; Factors Affecting Population Distribution and Density; World Population Distribution; Density Distribution in India. Population Change - Fertility and Its Measures; Mortality and Its Measures; Mobility; Factors Affecting Population Change; Determinants of Fertility and Mortality; Demographic Transition Theory; Some Population Theories (Overview only)

Unit – II

Migration - Types of Migration; Determinants of Migration; Migration Models. Population Composition - Age and Sex Composition and Its Determinants; Age Pyramids; Working Force and Its Determinants; Composition of Work Force and Occupational Composition. Population Projections – Assumptions, Methods, Techniques.

Quantitative Methods

Unit – III

Measures of Central Tendency and Dispersion - Arithmetic Mean; Weighted Mean; Geometric and Harmonic Mean; Median and Mode; Variance and Standard Deviation

Time Series and Forecasting - Trend Analysis - Cyclical Variation, Seasonal Variation, Irregular Variation; Various Methods in Time Series Analysis – Moving Average, Ratio to Trend, Link Relative and Residual

Unit – IV

Factor Analysis - Principal Component Analysis
Probability Distribution and Sampling Distribution - Use of Expected Value in Decision Making; Binomial, Poisson and Normal Distribution (only application); Determination of Sample Size and Types of Sampling; Sampling Distribution (concept only); Design of Experiments (concept only). Correlation and Regression - Two Variable versus Multiple Linear Regression; Simple and Multiple Correlation; Estimation of Parameters – The Method of Ordinary Least Squares; Hypothesis Testing, Goodness of Fit

Unit –V

Use of Software for Analyzing Data; Applications of Features of Excel for statistical analysis; Introduction to other Statistical Analysis Software.

Reference Readings:

Demography

- Demography, Peter R. Cox, Cambridge University Press
- Studies in Demography, S.C. Srivastava et all, Anmol Publishers
- Introduction to Applied Demography: Data Sources and Estimation Technique, William J Seraw, Sage Publishers
- Patterns of Migration in the National Capital Region, National Institute of Urban Affairs (NIUA), New Delhi
- India's Population Problems, S.N. Agarwal, Tata McGraw Hill Co., Bombay
- Principles of Demography, D.J. Bogue, John Wiley, New York
- Population Policy in India, P.K. Choubey, Kanishka Publications, New Delhi
- An Econometric Study of a Metropolis, S.C. Gulati, Sage, New Delhi
- Fundamentals of Demography, P.K. Majumdar, Rawat Publishers
- Methods and Models in Demography, Colin Newell, Guilford Publications

Quantitative Methods

- Statistics for Management, Richard I. Levin et all, Pearson
- Econometrics Damodar Gujarati Tata Mc Graw Hill
- Quantitative Methods: Theory and Applications, J.K. Sharma, Macmillan
- Quantitative Methods for Business, Management and Finance, Swiff, Palgrave
- Statistics, Larry J. Stephens, Tata McGraw Hill
- Quantitative Techniques in Geography – An Introduction, Robert Hammond et all, Oxford University Press
- Applied Statistics, P.K. Majumdar, Rawat Publications
- The R Book, M.I. Crawley, John wiley and Sons
- Data Analysis and Statistics for Geography, Environmental Science, and Engineering, Acevedo M.F CRC Press

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: **Geoinformatics in Planning**.
Total Theory Period: 40
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503115 (16)
Total Tutorial Period: 12

Course Objective:

The objective of this course is to equip students with advanced concepts of Geoinformatics with special emphasis on applications in Urban and Regional Planning.

Course Contents:

Unit – I

Overview: Principles and Applications of Remote Sensing (RS); Geographic Information Systems (GIS) and Photogrammetry; Organisational Aspects for Planning; Systems, Nature, Hierarchy, Value and Type of Required Spatial Data; Raster and Vector Data Structures; Spatial Data Models; Geo-Database; Analysing Tools and Software; Global Navigation Satellite Systems; Electromagnetic Spectrum, Band Combination, Reflectance; Image Interpretation and Analysis

Unit – II

Information Systems - Information Needs, Scales and Levels; Pre-Conditions for Using Planning Information Systems; Representing, Modelling and Impact Analysis of the Data; Structure Models; Query Measurement and Transformations; Summary Statistics and Inference; Terrain Modelling

Unit – III

Data Creation and Checking - Base Maps and Thematic Maps; Mapping and Spatial Analysis; Linking of Attribute Data, Spatial Data Aggregation; Spatial Information, Database Creation; Geo-Coding and Data Accuracy, Topology Creation

Unit – IV

Topography and Landforms; Digital Change Detection; Suitability Analysis; Landuse / Land cover Analysis; Use of GIS Data Focusing on Urban and Regional Planning

Unit – V

In Selected Packages of Image Processing and GIS; Dynamic GIS; Integration of GIS and Digital Image Processing; Integration of GIS and GPS; Web Enabled GIS Applications

Reference Readings:

- Advanced Surveying: Total Station, GIS and Remote Sensing, Satheesh Gopi, Pearson
- Applied Remote Sensing in Urban Planning, Governance and Sustainability, Netzband,Springer, India
- Environmental Modelling with GIS and Remote Sensing, Andrew Skidmore et al, CRC Press
- Geographic Information Systems and Science, PA Longley et al, John Wiley and Sons Ltd. GIS, Spatial Analysis, and Modelling, David J Maguire et al, ESRI Press
- Landuse Change Detection using GIS, Remote Sensing and Spatial Matrices, Mesfin TBekalo et al, Lap Lambert Academic Publications
- Lans Sustainability Evaluation using GIS and Remote Sensing Technology, Mezenzia Mengist, Vdm Verlag
- Remote Sensing and GIS Integration: Theories, Methods and Applications, Qihao Weng, McGraw Hill Professional
- Remote Sensing and GIS, Basdudeb Bhatta, Oxford University Press
- Remote Sensing and Image Interpretation, Thomas M Lillesand et al, John Wiley and Sons Ltd.

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I Branch: Architecture
Subject: **Elective - 1** (Ecology and Resource Development) Code: 503131(16)
Total Theory Period: 40 Total Tutorial Period: 12
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Course Objective:

This course deals with the importance of ecological concepts and models that have been useful in the management and development of the recourses. Conservation of ecology, environment and its issues and human ecology are areas of research and studies that have been contributing with tools that are useful to defect the local use of natural resources impact of advance planning methods, urbanization and industrialization on nature. This course will create ecological awerness in contextof planning

Course Content:

Unit – I

Introduction to Ecology – Concepts and Theories, Major ecosystems of the Evolution of Ecology, Man and ecosphere. Components of nature and some basic concepts,process of ecology, flow of material, water, energy, invasion, succession, prediction, regulatory forces, adaptation, tropic levels, food chains, food web, ecological pyramids, Urban Ecology -Evolution and Significance, Environmental impact assessment –Methods and appraisal. **Ecosystem and their relevance to environment**, resource and human settlements. Modifications in natural environment, causes and consequences. Impact of advance agriculture–methods, urbanization and industrialization on nature.

Unit – II

Urban development and environment. Environmental Pollution, types, sources, remedies. Urban ecosystem approach, evolution and significance. Introduction to qualitative ecology. Ecological approach of planning at different levels-Principles and procedures. Identification of ecological parameters for planning at different levels, site planning, settlement planning, regional planning. Data needs, formats for data collection.

Unit – III

Types of analysis required to evolve ecological parameters. Limits to growth , Carrying capacity, suitability analysis Ecological awareness in India, traditional indigenous methods, contemporary trends. Endangerments and resources, definition and classification according to different criteria and use, renewable and non-renewable etc.

Unit – IV

Space bound and flow resources, preparation and analysis of resource inventories and resource matrices. Fitness of resources, examples of transfer from one resource to another in history in different parts of world. Development utilization and conservation of resources, resource planning, integrated resource planning approach.

Unit – V

Resource regions, their problems and potentials. Resource management, traditional and contemporary approaches. Resource development in India, some selected areas (energy, water, manpower. etc.).Resource management in view of Climate change.

Reference Readings

- Ecology and Resource Management by Kenneth E. F. Watt
- Urban Pattern by Arthur Gallion
- The city los angelsand urban theory by Allenj scot
- City shaped urban pattern meaning through history by Spirokostof

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I Branch: Architecture
Subject: **Elective - 1** (Environmental Planning) Code: 503132 (16)
Total Theory Period: 40 Total Tutorial Period: 12
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Objectives

The course is structured to introduce the student into the concepts of environmental planning and issues related to it. This will enhance the ability of the student to develop an environmental approach to planning.

Content

Unit – I

Introduction to Environmental planning, aims, objectives and Implementation.

Unit – II

Introduction to State and National policies. Environment planning theories and their applications, Iss0.ues related to Environment and ecology like, de - forestation, soil erosion, water logging and soil salinization. Scarcity of natural

Unit – III

resources and exploitation of them for development, Planning for optimizing the use of natural resources, methods used like water harvesting, waste land management and minimizing use of fossil fuel etc.

Unit – IV

Environmental aspects with respect to tribal and rural areas. Problems of air and water pollution, industrial pollution and solid waste management in urban areas. Frame work, statement prediction and assessment of impacts of air, water, noise, cultural and socio-economic environment.

Unit – V

Methods of impact analysis, public participation,Environmental impact assessment and statements.Environmental protection international and national agencies and legislation, Environmental policies for various geographical regions. Environment Impact Assessment. Climate change and settlement planning.

Reference Readings

- NEPA and Environmental Planning: tools, Techniques and approaches by Charles HEccleston

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: **Elective - 1** (Landscape Planning)
Total Theory Period: 40
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503133 (16)
Total Tutorial Period: 12

Unit – I

The practice of landscape planning, the landscape planner and the various agencies, landscape design and planning procedures, implementation and professional liabilities.

Unit – II

Data analysis and inferences: Topography, geology, hydrology, vegetation, ecology, neighbourhood and culture visual, aesthetics.

Unit – III

Development controls, government planning, zoning, legal constraints, environmental impact assessment and culture visual, aesthetics.

Unit – IV

Landform, land drainage and equipments, decisive factors, landform planning and procedures, slope protections.

Unit – V

Urban water bodies, coastal works, planting concepts, reclamation of wastes, advance planning for wastes, reclamation of derelict/ waste water conservation, harvesting, forestry, urban forestry, historical sites and monuments

Reference Readings

- Site planning by Kevin lynch
- Landscape planning by John O Simonds

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Branch: Architecture
Subject: **Elective - 1** (Rural Planning and Development)
Code: 503134 (16)
Total Theory Period: 40
Total Tutorial Period: 12
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Objectives

The focus of this course is to understand and appreciate the importance of rural development in the national perspective and development, to expose the validity of the various programmes and problems faced in rural India, Rural Development as a pre –requisire for regional and national development and Quality of human life.

Content

Unit – I

Mutual dependence between urban and rural areas, between industries and agriculture, characteristics of symbiotic, development in India in this context. Levels of living of rural people – trends and development, difference in level of development between various regions within India and different socio – economic groups.

Unit – II

National planning and rural development, concept of planning for rural settlements. Regional development and urban rural partnership, related input and infrastructure development, agriculture development, allied activities and pattern of rural linkage, communication and marketing facilities, community development, instructions and delivery of social services.

Unit – III

Rural settlement, typology, structure, spatial significance in metro regions and interior areas. Planning principles for village and community norms. Rural reconstruction, basic need and rural sanitation, water supply, hygine and drainage, technology transfer and options. Area, District and Block level development planning and implementation, public participation in rural development process, role of voluntary organizations.

Unit – IV

Rural energy issues, renewable and alternative resources of energy, ecological and environment considerations in rural development and village planning.

Unit – V

Models and theories of rural planning , policies and practices at global level, provisions in national and state five year plans and city master plans etc. Action programme initiated at national and global level. Housing agencies and co-operative feasibility and implementation of existing policies and action programme Projections and forecasting

Reference Readings

- Rural planning and development by Thomas Adams
- Micro level rural planning: principal, methods and case study by RP Mishra

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: **Elective - 1** (Urban Design)
Total Theory Period: 40
Total Marks in End Semester Exam: 75
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503135 (16)
Total Tutorial Period: 12

Objective

The objective of the course is to provide explanations of urban design terminologies. Definitions and methodologies for shaping and understanding of urban forms.

Content

Unit – I

Introduction to various philosophies, Concepts and Theories of Urban Design Contribution of different philosophers to the field of Urban Design Need for urban design. Meaning, scope and purpose of Urban design. The relationship between Urban Design and Urban Planning.

Unit – II

Methodological approaches to spatial analysis of the city with an opportunity to analyze, explore and innovate new methods and techniques for understanding our cities. Determinants and components of urban form. Morphological, Temporal, Social , Functional , Perceptual and Visual dimensions of urban design . Growth, scale and form of Indian cities

Unit – III

Principles of Urban design and criteria. Urban massing and Scale (intimate, urban and monumental, human scale and generic scale) and Spaces (hierarchy and nature, effect of light, sense of enclosure).

Unit – IV

Introduction to analytical techniques in urban design. Survey techniques in urban design (inventories and recording of findings, types of survey).Modern techniques and emerging approaches to urban design.

Unit – V

Road forms and townscape (serial and radial road forms, speed calming techniques, principles of streetscape, townscape and pedestrian design). Principles of Urban Conservation (legal, economic, organization and management issues). Principles of Urban Renewal (purpose, economic and planning issues). Urban design regulations and control, the comprehensive role of urban design in town planning process.

Reference Readings

- Urban Informal sector in Asia by ILO publications

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: **Elective - 1** (**Housing**)
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503136(16)
Total Tutorial Period: 12

Objectives

To Equip Learners to develop suitable context specific policies, programmes and legislation sensitive to socio economic condition of a region, state or a city in accordance internationally accepted UN resolutions

Content

Unit – I

Housing as a basic need, housing as an integral part of urban & rural development, housing problem and statistics, programme based policies.

Unit – II

Qualitative and quantitative demands of housing, housing estimates.

Unit – III

Housing survey techniques and standards, sources of data and information etc. Housing cooperative and financing agencies.

Unit – IV

Objectives and general principles of cooperatives, self-help housing, financing agencies and their functions etc.

Unit – V

Introduction to methods and approaches to housing design. Study analysis and design of housing schemes. Redevelopment of slums and squatters settlements

Reference Readings

- Housing and Urbanism Charles Correa.
- Shelter in India Revi, Aromar, (Har.Anand Publication with Vikas Publishing House Pvt. Ltd.)
- Housing & Habitat in Developing Countries Rao B. Bhaswkara (Newman Group of Publishers)
- Housing in India, Problems, Policies & Perspectives Jayaram N. & Sandhu R.S. (B.R. Publishing Corporation.)
- Public – Private Responsibilities in Urban Housing Umashankar P. & Misra K.Girish (Reliance Publishing House & Lipa).
- Housing Growth in India Bakshi & Sinha
- Housing Policy and Practice Peter Malpans and Alan Murie
- New Households, New Housing Karan Franck, Sherry Ahrentzen
- Re-humanizing Housing Needet Teymur, Thomas Markus
- New Communities for Urban Squatters Charles L. Choguill
- Housing in India, Cheru, Nilam Frances
- National Housing Policy 1992, Ministry of Urban Deve. Govt. of India
- Govt. of India Handbook of Housing Statistics, National Building Organization
- Urban Housing in Third World Countries Payne, Geoffrey K.
- How the other half builds. Rybarynski, W. (McGill University).

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Subject: **Elective - 1** (**Sustainable Planning**)
Total Marks in End Semester Exam: 80
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503137 (16)
Total Tutorial Period: 12

Course Objective:

The objective of this course is to familiarize students with the concept of sustainable development and develop skills to understand emerging aspects of sustainable planning practices. The course is aimed at making the students aware of different planning and management practices adopted worldwide for minimizing the adverse impacts of human actions on environment and society, as also understand strategies that seek to proactively manage these issues.

Course Contents:
The course shall include the following topics:

Unit – I

Overview of Sustainable Development Concept - Definitions, Concepts and Parameters in Sustainable Development with Particular Reference to Brundtland Commission and Agenda 21; Eco-City Approach; United Nations Framework Convention on Climate Change; Conference of Parties: Kyoto Protocol, Intergovernmental Panel on Climate Change, National Communication Process, Indian Network of Climate Change Assessment, Global Environment Facility, Clean Development Mechanism

Unit – II

Application of Ecological Principles in Sustainability; Carrying Capacity Based Planning: Concept, Parameters and Indicator Measures, Models and Case Studies in Urban and Regional Development. Settlement Planning: Urban Environmental Management and Planning; Human Activities and Energy in Cities; Contribution to GHGs; Sectoral Contributions; Urban Environmental Simulators. Land Capability and Suitability Analysis in Locating and Planning for Urban Land Uses

Unit – III

Basics of Climate Change: Greenhouse Gases, Anthropogenic Causes, Carbon Cycle, Global Warming; Inventory of GHGs; Urban Heat Islands; Climatic Change and Human History, Economy, Energy and Environment. Impacts of Climate Change: Climate as Forcing Variable, Locational Attributes Sensitivity and Vulnerability of Different Sectors, Extreme Events and their Effects

Unit – IV

Environmental Impact and Strategic Environmental Assessment for Urban Areas (through Case Studies); Ecological Footprint Analysis of Cities; Sustainable Lifestyle Assessment and Behavioral Modifications at Household Levels. Concept of 3-Rs: "Recycle-Reuse and Recovery"; Concepts of Industrial Symbiosis and Ecology; Case Study of Waste Recycling: Its Cost Effectiveness and Options; Examples of Best Practices

Unit – V

Compact City Concept - Implications of Urban Form, Density, Land Use Pattern and Transportation System in Land and Energy Conservation; Use of Non-Conventional Energy Sources in Urban Development. Urban Interference in Hydrological Cycle with Particular Reference to Water Pollution, Water Resources, Drainage and Natural Ecosystems; Urban Water Treatment, Recycling and Harvesting . Pollution Control Measures for Industrial Wastes, Hazardous Wastes, Biomedical Wastes, Domestic Waste Water, Air Pollutants and Noise. Cleaner Production Concepts and Practice through Case

Study of a Functional Industrial Estate

Reference Readings:

- Eco-City Planning: Policies, Practice and Design, Tai-Chee Wong and Belinda Yuen,Springer
- Green Cities, Growing Cities, Just Cities? Scott Campbell, Urban Planning and the Contradictions of Sustainable Development, Journal of The American Planning Association
- Cities and Climate Change, OECD Publishing OECD (2010)
- The Economics of Low Carbon Cities: A Mini-Stern Review for the Leeds City Region, Andy Gouldson et all., The Centre for Low Carbon Futures Partnership, University of Hull, University Of Leeds
- AITP Reader on Ecology & Resource Development, AITP
- AITP Reading Material on Environmental Planning and Design, Prof A. K. Maitra , SPA Delhi
- Best Practices Environment, The Economist, Intelligence University Press
- CPCB Guidelines for Bio-Technologies for Treatment of Wastes and Cleaner Technologies - Issue and Options
- Environmental Management, Kulkarni V. and Ramachandra T. V., TERI Press, New Delhi
- Evaluating Sustainable Development in the Built Environment, Brandon P.S., WILEY-BLACKWELL Pub., UK
- Exploring Possibilities of Achieving Sustainability in Solid Waste Management, Ramachandra T.V. and Saira Varghese K., Indian Journal of Environmental Health, 45 (4):255-264, 2003
- Global Green Standards: ISO 14000 and Sustainable Development, International Institute for Sustainable Development
- Introduction to Environmental Management, Mary K. Theodore and Louis Theodore
- Population Growth and Environmental Degradation in India, Dr. D.A. Nagdeve
- The Sustainable Urban Development Reader, Second Edition, edited by Stephen M Wheeler & Timothy Beatley, Routledge

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I | Branch: Architecture
Subject: **Elective - 1** (**Planning Studio – 1**) | Code: 503121 (16)
Total Marks in End Semester Exam: 125

Course Objective:

Planning Studio aims to introduce theoretical and applied understanding of various aspects of Urban Planning. Assignments / Exercises are for familiarization of practical applications of norms and bye-laws .Understanding city and land-use character. Application of various techniques and theories at settlement level and developmental perspective of city planning.

A student is expected to understand the intricacies and interface between various variables of the site such as soil conditions, topography, environmental dimensions, location, spatial standards , leading to its application for a site planning exercise. The area appreciation exercise is to enable the students to understand and contextualize of the location of the area in relation to the city, zone and area in which the particular place is situated. This is done in relation to the socio-economic, spatial and cultural characteristics of that city, zone, location, etc. The main purpose is to make the students appreciate the locational attributes of land parcels for future development in a city.

Appraisal and development of small and medium towns - to develop an approach/ framework for understanding the dynamics of various components of the city and how and what level interventions can be made .A group of students are expected to study a town in terms its present problems and issues and project a futuristic vision in terms of scenario building.

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- I
Branch: Architecture
Subject: **Geoinformatics in Planning lab**
Code: 503122 (16)
Total Theory Period: 40
Total Marks in End Semester Exam: 50

Objective:

To train the candidate in building GIS models for urban and regional planning applications with hands on experience of spatial data, attribute data input and experiment with GIS analysis

Course Content:

- Classification of spatial and non-spatial data application of spatial data in urban and regional plans objectives and functions of GIS models in urban and regional planning
- Defining the objectives of GIS planning problems – Identification of required spatial data layers – coding schemes – digitization of spatial data – editing spatial data usable for the given planning problem.
- Role of attribute data in defining geographic features – adding attribute data file – topology generation – Joining attribute data to its geographic features.
- Performing overlay functions – manipulating attribute data – GIS modeling – map and report generation – case problems on regional analysis, impact assessment study, project formulation and land suitability analysis.
- Need for model – Land suitability analysis – Urban land use modeling – Change demand modeling – Transition potential modeling and land allocationmodeling.