Chhattisgarh Swami Vivekanand Technical University, Bhilai

Scheme of Teaching and Examination

M. Plan (Urban Planning)

II[nd] Semester

S. N.	Board of Study	Subject Code	Subject Name	Period Per Week			Scheme of Examination Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1	Architecture	503211(16)	City and Metropolitan Planning	3	1	-	80	20	20	120	4
2	Architecture	503212(16)	Planning Practices and Legislation	3	1	-	80	20	20	120	4
3	Architecture	503213(16)	Infrastructure Planning	3	1	-	80	20	20	120	4
4	Architecture	503214(16)	Urban Management and Governance	3	1	-	80	20	20	120	4
5	Architecture	503215(16)	Project Formulation and Management	2	1	-	80	20	20	120	3
6	**Elective-II**			3	1	-	80	20	20	120	4
7	Architecture	503221(16)	Planning Project-II	-	-	13	200	-	80	280	7
Total				**17**	**06**	**13**	**680**	**120**	**200**	**1000**	**30**

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

Table- I (Elective -II)			
S. N.	**Board of Study**	**Sub Code**	**Subject Name**
1	Architecture	503231(16)	Planning for Disaster Prone Areas
2	Architecture	503232(16)	Land Economics and Real Estate
3	Architecture	503233(16)	Public Policy Analysis
4	Architecture	503234(16)	Planning & Development of Special Areas
5	Architecture	503235(16)	Quantitative Methods and Systems Analysis

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II | Branch: Architecture
Subject: City and Metropolitan Planning | Code: 503211(16)
Total Theory Period: 40 | Total Tutorial Period: 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective

This course gives the opportunity to understand the socio – cultural process that drive the city. The student is focused to the issues of urban planning

Course Content

Unit - I

Growth of cities and System of Cities, scale, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities. Inner city –issues and problems, approach to development.

Unit - II

Theories, concepts, approaches, strategies and tools, Policies and programmes at various levels, impact on metro and mega city development City – Region Linkages City, fringe and the periphery - physical and functional linkages, peri-urban development.

Unit – III

Theories of city and metropolitan planning Metro and Mega Cities: Problems and Issues Growth trends and processes, characteristics, problems, concepts and concerns of urban sustainability, issues related to diversity and unintended growth, economic, social and environmental sustainability, quality of life, inclusivity and equity

Unit – IV

Climate change, transit oriented development, participatory planning. Inner city – issues and problems, approach to development.

Unit – V

Urban Development Policies and Programmes Concepts, approaches, strategies and tools; Policies and programmes at various levels, impact on metro and mega city development.

REFERENCE BOOKS ,

- Regional planning for urban spaces by AD Walk
- Urban and Regional planning by Birch E, Glasson
- ITPI reader

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Planning Practices and legislation**
Code: 503212(16)
Total Theory Period: 40
Total Tutorial Period: 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective

To make the students aware and understand the relevance of constitution and legislation in relation to spatial planning. The course also facilitates students to experience implications of the existing legislations relating to planning and its importance and shortcomings. The student is exposed to problems and proposals of town planning in terms of professional practice.

Course Content

Unit - I

Concepts of law, Sources of law (i.e. custom, legislation and precedent) meaning of terms of law, legislation, ordinance, bill, act, regulations and bye laws. benefits of statutory backing for schemes Indian constitution, concept and contents.

Unit - II

Concepts of arbitration, Betterment Levy, Development Charges and Public participation in statuary planning process, Provisions regarding property right, Legislative competence of State and Central Government to enact town-planning legislation.

Unit – III

Significance of land development control – objectives and legal tools, building regulations and byelaws. Development Code, Professional fees as per ITPI , CPWD and other agencies

Unit – IV

Evolution of planning legislation, An overview of legal tools connected with urban development, Town and Country Planning Act, Urban Planning and Development Authorities, Act --objectives, contents, procedures for preparation, approvals and implementation of different plans. Introduction to law relating to slum clearance, housing, landscape and traffic. Legislation relating to urban conservation and restoration, historical monuments, archaeological sites etc.

Unit – V

National Rehabilitation and Resettlement Policy (2007) - Social Impact mitigation; National Environmental Policy (2006) – Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP)**.** Land Acquisition Act 1994 – Basic concepts, procedures for compulsory acquisition of property and determination of compensation. Urban Land (Ceiling and Regulation) Act 1976 – objectives, contents and planning implications. Real Estate Bill 2016 etc.

Reference Books:

- Town and Country Planning Act (any State Act)
- Model Municipal Act, Ministry of Urban Development, Government of India
- Nagar Raj Act (any State Act)
- Environment Protection Act (Central Act)
- Mining and Forestry Act (Central Act)
- Building Byelaws (any State Act)
- Apartment Ownership Act (any State Act)
- Development Authority Act (any State Act)
- Water Bodies Conservation Act (any State Act)

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Infrastructure Planning**
Code: 503213(16)
Total Theory Period: 40
Total Tutorial Period: 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective:

The course would include one part on the design principles of transport planning and another on services and utility networks and facilities.

Utility Networks Planning

The focus of the Utilities Planning course is on principles of design of utilities and services in urban and regional context and familiarising with Indian standards of design. Thecourse will focus on acquainting students to latest technological innovations in utility services.

Transportation Planning

The objective of Transportation Planning is to provide basic information on transportation issues. Students will be familiarized with (i) geometric design of road networks and (ii) traffic characteristics. Techniques of data collection and analysis would be taught as part of this course.

Course Contents:

Utility Networks Planning

Unit – I

Role of Physical Planner in Planning of Utilities and Services Networks; Objectives of Utilities and Services Planning and Its Implications for Public Health and Environmental Protection; Familiarizing to CPHEEO Manual and Guidance

Unit – II

Water Supply Systems and networks- Surface and Ground Water Sources, Quality and Quantity Requirements, Collection and Conveyance of Water; Water Requirement for Various Land Uses; Factors Affecting Water Demand; Calculation of Per Capita Requirement; Water Distribution Systems; Case Study Discussion on Innovative Methods and Successful Urban Water Supply System; Significance and Methods and Advantages of Water Harvesting System . Storm Water Drainage Networks- Layout and Design of Storm Water System; General Considerations, Inlets, Self-Cleansing Velocity, Non-Scouring Velocity, Physical Layout, Design Principles, Data Requirement; Principles of Design of Storm Water Drainage System

Unit – III

Sanitation and Sewer System - Sewage Disposal Methods and their Advantages and Disadvantages; calculations of Quantity of Sewage; Principles of design of Sanitary Sewer System Network; Case Study of Innovative Approaches of Sewage Disposal in Urban Area; Low Cost Appropriate Technologies for Sanitation; Characteristics of Waste Water, Industrial Pollutants and their Effects. Solid Waste Management - Elements of Solid Waste Management, Classification and Characteristics of Solid Wastes; On Site Collection, Storage, Transportation and Disposal of Solid Wastes; Processing and Treatment of Solid Wastes; Land Filling and Cost Aspects of Different Methods of Solid Waste Management; Solid Waste Management Issues in Indian Cities

Unit – IV

Power Supply – Sources of Electricity; Transmission, Distribution and Supply; Sustainable Energy Planning; Telecommunications – Introduction to Planning and Programming Approaches for Telecommunication Infrastructure and Network Systems; Environmental, Social and Economic Impacts of Telecommunication Infrastructure Fire Fighting Services - Planning for Fire Protection Services and Space Standards; Locational Criteria, Implications on Land Use and Density

Unit – V

Transportation Planning

- Overview of Transportation Systems, Modes, Design and Operating Characteristics
- Classification of Roads, Road Networks and Hierarchy; Road Geometries and Road Components; Design and Preparation of Layout for Road Intersections, Rotaries and Signalized Intersections
- Traffic Volume, Origin Destination, Spot Speed, Speed and Delay
- Traffic and Transportation Surveys- Study Area Definitions, Surveys and their Types, Sampling of Travel Methods, Survey Techniques
- Parking and Pedestrian Issues
- Basis of Regional Network of Roads; Characteristics of National, State and District Highways; By-Pass Design Factors of Highways through Towns
- Introduction to basics concepts of Trip Generation, Distribution and Assignment
- Traffic Management- Existing Organizational and Legal Framework; Traffic and Environmental Management Techniques; Review of the Existing Traffic Management Schemes in Case Cities

Reference Books:

Utility Networks Planning

1. Environmental Engineering, Howard S. Peavy, Tata Mc Grawhill
2. Regulation and the Management of Public Utilities, C. S. Morgan, Gale
3. Water Supply Engineering, S. K. Garg, Khanna Publishers
4. Manual on Sewerage and Sewage Treatment, CPHEEO
5. Urban Planning Manual, AIILGS Reader
6. Solid Waste Management, Krishana Gopi Sanoop P, Sasikumar K, Phi Learning
7. Solid Waste Management, Dewan, Sudarshan, Discovery Publishing House
8. Telecommunication Management Networks (TMN) Implementation, Amani Omer, Lambert Academic Publishers 6.
9. Firefighting: Management and Techniques, Overton Frank, Inkata
10. Water Supply Engineering: Environmental Engineering – I, Arun Kumar Jain, Ashok Kumar Jain, B. C. Punmia, Laxmi Publications

Transportation Planning

1. Traffic Engineering and Transport Planning, L.R. Kadiyali, Khanna Publications
2. Transportation Engineering and Planning, Author: C. S Papacostas, P. D Prevedouros,Publisher: PHI Learning
3. Principles of Urban Transport Systems Planning, B.G. Hutchinson, McGraw Hill
4. Urban Transport: Planning and Management, A K Jain, APH Publishing

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Urban Management And Governance**
Code: 503214(16)
Total Theory Period: 40
Total Tutorial Period:12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objectives:

The primary purpose of this course is to apprise the students of the local governance framework at sub provincial level and resource mapping of local governments with special emphasis on municipal governments in our country. The course intends to acquaint the students with the governance structure and fiscal and financial background of the local governments and tools and techniques to strengthen them. The course would include Constitutional Provision for Local Finance, Municipal Finance, Innovations in Local Resource mobilization and Local Government fiscal regime.

Course Content:

Unit I

Democracy and Decentralization: Evolution of Local Self government: Democracy in governance: Shift from Representative Democracy to Participatory Democracy; Decentralisation of Governance; Evolution of local self Government – Principles of Subsidiarity, Complementarity and Equity; Local Governance Framework

Unit II

Local Governance: Institutional Framework: Reinstatement of Panchayati Raj Institutions and Urban Governance Institutions: Constitutional Sanction; Salient Features of 73rd and 74th Constitutional Amendment Act, 1992; Constitution, Powers and Functions of Municipal Governments and PRIs (Village Panchayat and Zila Parishad) .Innovations in Local Governance: Indicators of Good Governance: Formulation of Governance Index; Citizens' Charter; Citizens' Participation in Urban Governance: Institutional and Legal Framework; Ward/Wards Committee; Nagar Raj Act: Constitution, Powers and Functions of Area Sabhas; e municipal Governance; Performance Evaluation of Local Governments: Introduction of Report Card System; Service Level Benchmarking; Globalisation and Its Impact on Urban Settlements; Corporatization and Regulatory Regime for Urban Services. Local Governance Reforms: Administrative Reforms in Local Governance: Better Human Resource Management; Expenditure Planning, Rightsizing and Outsourcing; Introduction of VRS; Performance Auditing of Municipal Staff structural Reform in Local Governance: Organisational Restructuring of Local Governments.

Unit III

Task Based Municipal Cadre; Capacity Building of Local Government Institutions; Inter municipality and Municipality – CBO/NGO Partnership; Simplification of Procedures Parastatal Agencies: Role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles in Urban Management; Interagency Cooperation Behavioural Orientation for Governance: Team Building and Leadership; Conflict Management; Change Management, Stress Management

Unit IV

Constitutional Provision for Local Finance: Principle of Fiscal Federalism – Inter Governmental Fiscal Transfer; Constitution, Powers and Functions of Central Finance Commission (CFC) and State Finance Commission (SFC); Analysis of Current CFC and SFC (any one State) Report; Consolidated Fund (Central and State); Centrally Sponsored Schemes

related to Urban/Rural Physical Planning and related sectors. municipal Finance: Plan and Non Plan Financing (Planning Commission and Finance Commission); Categorisation of Municipal Sources of Revenue: Internal Vs. External Revenue, Capital Vs. Revenue Receipt; Municipal Finance Assessment Framework; Municipal Finance: Paradigm Shift; Reforms in Municipal Finance: Unit Area Method in Property Tax Calculation, Rationalisation of User Charges; Ring fencing; Streamlining Municipal Tax Administration

Unit V

Innovations in Local Resource Mobilisation:Monetary Exaction (Betterment Levy, Impact Fee, External Development Charges, Vacant Land Development Tax); Land Exactions (TDR, Town Planning Scheme, Accommodation Reservation, Monetisation of Underutilised Public Assets); Special Assessment Districts; Valorisation Charges; External Finance: Debt Financing, PPP, Role of Financial Intermediaries, Municipal Bond, Pooled Finance Local Government Fiscal Regime: Local Government Budget: Normal Budget, Performance Budget, Gender Budget (concept only); Salient Features of Fiscal Responsibility and Budget Management Act, 2003; Fiscal Devolution vis a vis Fiscal Dependency of Local Bodies; Fiscal Indicators – Revenue Dependency Ratio (RDR), Fiscal Autonomy Ratio (FAR), Expenditure Decentralisation Ration (EDR); Municipal Accounting and Auditing (overview only)

Reference Readings:

- Constitution of India, D.D. Basu, S. Chand and Sons, New Delhi
- Democracy, Development and Decentralisation – Continuing Debates, Taylor and Francis India

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Subject: **Project formulation and Management**
Total Theory Period: 40
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503215(16)
Total Tutorial Period: 12

Objective

Guide students through the process of formulation and evolution of public and private sectors programs in urban planning

Course Content

Unit -I

The concept of projects with focus on physical urban projects, Importance of project formulation, appraisal and management; life cycle of project.

Unit -II

Planning techniques; Bar charts, Networks; CPM and PERT, resource leveling and allocation, time-cost trade off aspects.

Unit III

Project formulation: definition, objectives; Stages of project formulation and their significance; Methodology for project identification and formulation.

Unit IV

Estimation, Costing, Project Cash-flow forecasting and analysis. Feasibility studies and DPRs. Risk and Uncertainty. Project Appraisal: Financial, economic, social, environmental, technological appraisal criteria. Funding and appraising agencies;

Unit V

Project execution and implementation: Contracts and other methods of execution, Stages of implementation, Project monitoring. Project evaluation: meaning, objectives, scope, stages, approach and steps.

Reference Readings

- Project formulation by Prasnna Chandra

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Elective – II (Planning for Disaster prone areas)**
Code: 503231(16)
Total Theory Period: 40
Total Tutorial Period 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Objectives

To generate interest in student to understand the courses and consequences of disasters and its importance in planning and managing cities and towns towards mitigation and rehabilitation.

Course Content

Unit - I

Natural Disasters, Meaning, factors and significance. Characteristic, causes and effects of natural hazards viz. Drought, earthquake, flood and other hazards, ,Disaster profile of India- regional and seasonal

Unit – II

Disaster Preparedness and Response, Scope and objectives of disaster mitigation Preparedness and response, Prerequisite for preparedness planning, action plans and procedure, models and checklists.

Unit – III

Disaster response planning, roles and responsibilities of various agencies Emergency operation support and management Planning for Disaster Prone Areas, Planning requisites for disaster prone areas and preventive measures, Vulnerability analysis

Unit – IV

Land use planning and regulations: Temporary settlements and communications Development planning tasks at the pre-disaster and post- disaster stages .Disaster and housing, Shelter typology for different hazardous situations. Housing design and planning for pre and post disaster. Traditional methods of planning and construction Modification of unsafe housing and disaster resistant structures Emergency Camps and Shelter, Emergency camps, Vulnerability and low cost dwellings.

Unit – V

Temporary and emergency shelter design at post disaster stage, Shelter components, materials, structures and erection Infrastructure and Management: Food, health care and infrastructure requirements Movement, transport and communication, Emergency networks, communications and management, Settlement management policy for disaster prone areas, Training and education requirement.

Reference Readings

- Planning for Disaster by Willium G. Ramroth

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II Branch: Architecture
Subject: **Elective – II (Land Economics and Real Estate)** Code: 503232(16)
Total Theory Period: 40 Total Tutorial Period 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective:

One of the prime concerns of urban development is the issue of land availability. In addition to government policies on land, market forces guide and force development on different patterns based solely on the equilibrium of demand, supply and pricing. In India, since the liberalisation of the economy and housing being provided by the private sector, the dynamics of the housing industry have changed significantly.This course introduces students to the concept of land markets and development of cities with private developers with the interests of profit, as key players in the development process.

Course Contents:

Unit – I

Economic Concepts of Land; Objectives and Scope of Land Economics; Land Use and Land Values: Market Dynamics and Impact on Land Use Pattern; Land Use Restrictions Affecting Land Availability. Development of Land and Real Property Process - Cost of Development, Source of Finance. Economic Aspects of Land Policies at Various Levels of Decision Making; Private Ownership and Social Control of Land

Unit – II

Definition of Real Estate - Physical, Financial and Social Perspectives; Comparison of Real Estate to Other Investment Avenues; Real, Local, National and Global Factors Affecting Real Estate; Real Estate as Facilitator of Development. Concepts of Real Estate Analysis - Mapping Supply to Understand Markets; Demand Factors Affecting Real Estate Development, Demand-Supply Gap Analysis

Unit – III

Methods of Technical and Financial Feasibility Analysis for Different Product and Project Types, Valuation of Land and Property; Methods of Valuation: Comparison Method, Residual Method, Discounted Cash Flow Method

Unit – IV

Transaction and Renting of Real Estate: Lease Deeds/ Sale Deeds, Sale Documents, Registration; Mortgage and Pledging. Real Estate Dynamics in India: Profiling of Metropolitan Cities, Tier I, Tier II And Tier III Cities; Changing Cycles of Real Estate Development

Unit – V

Emerging Areas of Real Estate Development: Diversification to Logistic Hubs, Industrial Parks, Hospitality Sector, Health and Education Sector by Private Players; Introduction to Financial Models**.** Divided cities- the concept of affordability and housing as against shelter as a basic requirement; towards inclusive cities

Reference Readings:

- Urban Economics, Arthur O'Sullivan, Mcgraw-Hill
- Urban Economics and Real Estate Markets, Denise DiPasquale and William C. Wheaton, Prentice hall
- Urban Land Market and Land Price Change: A Study in the Third World Context, Amitabh Kundu, Ashgate Publishing Company.
- Economics, Real Estate and the Supply of Land, Alan Evans, Wiley and Blackwell Analyzing Land Readjustment: Economics, Law and Collective Action, Hong, Yu-Hung and Barrie Needham, Lincoln Institute of Land Policy
- Urban Land Economics, Jack Harvey, Palgrave MacMillan

- Urban Land Economics and Public Policy, Paul N. Balchin, Gregory H. Bull and Jeffrey L. Kieve, Palgrave MacMillan
- Real Estate Finance: Theory & Practice, Terrence M. Clauretie and G. Stacy Sirmans, Cangage Learning
- Urban Land Policy and Public-Private Partnership for Real Estate and Infrastructure Projects, A. K. Jain, Readworthy
- The Modern Economics of Housing : A Guide to Theory and Policy for Finance and Real Estate .

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Elective – II (Public Policy Analysis)**
Code: 503233(16)
Total Theory Period: 40
Total Tutorial Period 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective

This course intends to provide an in-depth study of the various approaches for policy formulation, implementation and evaluation. It addresses issues in policy analysis, and explains the forces that influence the functioning of executive, legislature, judiciary, civil society, NGOs and administration. It will also cover a critical analysis of policies that are directly connected with inclusive sustainable urban development.

Course Contents

Unit – I

Policy Analysis: Nature, Scope, Significance and Contextual Perspectives; Policy Making Approaches and Models: Power Approaches to Policy-Making, Institutional Approaches to Policy Analysis, Strategic Planning Approach for Improving Public Policy, Rational Approach and Simon's Rationality Model; Decision-Making Process and Techniques

Unit – II

Policy Monitoring: Approaches and Techniques; Policy Evaluation: Techniques and Approaches; Policy Evaluation: Role, Process and Criteria; Policy Performance: Evaluating Impact

Unit – III

Policy-Making Techniques: Structure of Power and Public Policy-Making Process; Power and Role of Non-Officials in Policy-Making; Policy-Making Power within the Executive; Intergovernmental Relations and Public Policy Issues

Unit – IV

Public Policy Implementation: Approaches and Models; Inter-Organizational Relations and Public Policy Implementation; Public Policy Delivery Agencies and Implementers; Public Policy Implementation: Gaps and Problems

Unit – IV

International Agencies and Globalization of Policy Agendas, Critical Analysis of Making, Implementation and Monitoring of following Policies:- National Urban Sanitation Policy, National Urban Housing & Habitat Policy 2007 National Policy for Urban Street Vendors-2009, National Environmental Policy 2006 National Urban Transport Policy 2006, National Water Policy 2002 and 2012 (draft) Policy on Energy

Reference Readings:

- Urban Policy in Practice, Tim Blackman, Publisher: Routledge
- Public Policy: Art and Craft of Policy Analysis, R. K. Sapru, PHI Learning Pvt. Ltd- New Delhi
- Public Policy Analysis, William N. Dunn, Pearson Education
- Public Policy, Analysis and Design, VK Agnihothri, Concept Publishing
- Approaching Public Policy Analysis: An Introduction to Policy and Programme Research, Kent E. Portney, Prentice Hall- Gale
- http://urbanindia.nic.in/policies/TransportPolicy.pdf
- http://envfor.nic.in/nep/nep2006.html
- http://urbanindia.nic.in/programme/uwss/NUSP.pdf
- http://mhupa.gov.in/w_new/sug_npusv.pdf

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II | Branch: Architecture
Subject: **Elective – II (Planning & development of Special Areas)** | Code: 503234(16)
Total Theory Period: 40 | Total Tutorial Period: 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objectives:

Introduce the students to various Special Areas with their specific planning needs and priorities and the implication on development in these areas.

Course Contents:

Unit – I

Need for Special area planning, types of special areas and their defining characteristics.

Unit – II

Evolution of special planning areas under distinct geo-physical structure, location, extreme backwardness etc. Planning commission approaches for identification of special areas.

Unit – III

Legislations and norms for Special Area Development in the Indian context. Planning for Special Areas under consideration would include Formal and Functional Regions (Hill Areas, Coastal Areas, Desert Areas, Extremist Affected Area, Special Economic Zones, Port City, Aerotropolis, Medi-City, Knowledge City etc.).

Unit – IV

Capital investment and funding methods, public private partnerships in development process.

Unit – V

Governance and Management aspects.Case Studies of various typologies of Special Area Development Plans in Indian and international context.

Reference Readings:

- Development of Hill Areas, Dobha G.L, Concept Publishing
- Environmental Problems of Coastal Areas in India, Sharma Vinod, Bookwell
- Integrated Development of Hill Districts in India : Issues and Approaches, Gupta, R.C., SPACE
- Special Economic Zones In India, P. K. Manoj, Serials Publications
- Aerotropolis:The Way We?ll Live Next, John Kasarda, Allen Lane
- Environmental act in india, Ruma Chatterjee, Oxford University Press
- CRZ Regulations, 2011, MoEF

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Branch: Architecture
Subject: **Quantitative Methods and Systems Analysis**
Code: 503235(16)
Total Theory Period: 40
Total Tutorial Period: 12
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Course Objective:

The purpose of this course is to study the basic tools for quantitative methods for decision making at an introductory level. The emphasis of the course shall be on solution methods and strategies. The students will be exposed to a wide variety of applications and problems that can be addressed using quantitative methods and techniques. Analytic techniques and computer packages will be used to solve problems.

Course Content:

Unit – I

Overview of Analytical Methods; Introduction to methods and appropriate applications

Unit – II

Cluster Analysis; Principal Component and K- means; Analytical Hierarchy Process; Decision Trees; Multi criteria Analysis; Introduction to Operations Research (OR); Basic Mathematical and Statistical Concepts

Unit – III

Linear Programming (LP): LP Definition, Applications, Solution Methods, Simplex Method, Duality and Post Optimality Analysis; LP and Allocation of Resources. Maximization and Minimization Problems: Graphical LP Minimization Solution; Introduction to Simplex Method: Definition, Formulating the Simplex Model; Sensitivity Analysis: Changes in Objective Function, Changes in RHS

Unit – IV

Network Analyses: Minimum Path Algorithms, Vogel's Approximation Method, Link Flows and Inter-Zonal Flows. Queuing Models: Deterministic Queuing Model, Probabilistic Queuing Model, Single Server FIFO Systems, Multi Server FIFO Systems

Unit – V

Simulation Systems Concepts: Types of Systems, System Modeling, Nature and Process of Simulation, Monte Carlo Simulation, Computer Applications for Simulation Models, Use of Softwares for Simulation Processes

Reference Readings:

- Principles of Operations Research, Harvey M Wagner, Prentice-Hall
- Operations Research – Principles and Application, G Srivastava, PHI Prentice-Hall
- Operations Research, Hamdy A Taha, MacMillan

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Semester: M.Plan- II
Subject: **Planning Project-II**
Total Theory Period: 40
Total Marks in End Semester Exam: 100
Minimum of class test to be conducted: 02

Branch: Architecture
Code: 503221(16)
Total Tutorial Period: 12

Objective

The exercise pertains to medium towns / large cities / New towns for preparation of development plan. Initial study involves understanding of the exercise through theories, case studies, awareness of relevant norms and standards through extensive literature search.
Students are required to prepare a comprehensive list of required data and identify probable sources before making a field visit to the case study town/city.
Students are encouraged to translate learning from the core and elective subjects using knowledge of legal framework and practices for plan preparation and implementation. They are expected to analyze the data collected and give proposals and recommendations for planned development of the city. The submission of the exercise has to be submitted in the form of maps, illustrations and report.
Additionally, scope of the work may include sustainable development plans for sector specific themes such as tourism, conservation, re-densification, industrial corridor, SEZs etc.