MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Master of URBAN PLANNING – I SEMESTER

670112-PLANNING PRINCIPLES AND THEORY

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	Total marks
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670112	PLANNING PRINCIPLES AND THEORY	70	20	10	-	-	2	1	-	3	100

Evolution of City Building

Relevance of the study of evolution of settlements; Hunter, gatherer, farmer and formation of organized society; Cosmological and other influences, origins and growth of cities, effects of cultural influence on physical form; Human settlements as an expression of civilizations; Basic elements of the city; Concepts of space, time, scale of cities.

Planning History

Town Planning practices worldwide, Town planning in ancient India; Medieval, renaissance, industrial and post industrial cities; City as a living spatial entity; Concepts of landmark, axis, orientation; City form as a living space; City as a political statement: New Delhi, Chandigarh, Washington D.C. Brasilia etc.; Contribution of individuals to city planning: Lewis Mumford, Patrick Geddes, Peter Hall, etc; Dynamics of the growing city, impact of industrialization and urbanization, metropolis and megalopolis.

Definitions and Objectives of Planning

Definitions of town and country planning; Orthodoxies of planning; Goal formulation, objective, scope, limitations; Sustainability and rationality in planning; Components of sustainable urban and regional development.

Theories of City Development and Planning Theories

Theories of city development including Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other latest theories; Land use and land value theory of William Alonso; Ebenezer Howard's Garden City Concept; and Green Belt Concept; City as an organism: a physical, social, economic and political entity; Emerging Concepts: global city, inclusive city, safe city, etc.; City of the future and future of the city; Shadow cities, divided cities; Models of planning:

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Advocacy and Pluralism in Planning; Systems approach to planning: rationalistic and incremental approaches, mixed scanning and middle range planning; Equity planning; Political Economy Model; Types of development plans, plan making process.

COURSE OUTCOME:

The course Planning Principles and Theory will enable the student to:	
CO1	**Elaborate** how man and environment have contributed to the evolution of settlements.
CO2	**Compare** the evolution of human settlements from ancient times to modern age.
CO3	**Appraise** the role and contribution of different Town Planners and their theories to city planning.
CO4	**Discuss** aspects of the cycle of planning, including plan formulation, development, implementation and monitoring.
CO5	**Evaluate** why and how urban and regional planning theories are important and relevant to practice.

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670113- SOCIO-ECONOMIC BASIS FOR PLANNING

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	Total marks
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670113	SOCIO-ECONOMIC BASIS FOR PLANNING	70	20	10	-	-	2	1	-	3	100

Nature and Scope of Sociology
Sociological concepts and methods, man and environment relationships; Socio-cultural profile of Indian society and urban transformation; Tradition and modernity in the context of urban and rural settlements; Issues related to caste, age, sex, gender, health safety, and marginalized groups; Displacement, resettlement and rehabilitation due to compulsory land acquisition.

Elements of Micro and Macro Economics
Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing; Determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty, and long-term investment planning.

Development Economics and Lessons from Indian Experiences
Economic growth and development, quality of life; Human development index, poverty and income distribution, employment and livelihood; Economic principles in land use planning; Policies and strategies in economic planning, balanced versus unbalanced growth, public sector dominance; changing economic policies, implications on land.

COURSE OUTCOME:

The course Socio-economic basis for Planning will enable the student to:

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CO1	**Discuss** socio-cultural profile of Indian society and urban transformation
CO2	**Elaborate** the role of socio-cultural aspects on growth patterns of urban and rural settlements
CO3	**Discuss** the elements of micro and macro economics and its significance in Planning
CO4	**Justify** urban problems from the point of view of economic reasoning.

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670114-PLANNING TECHNIQUES

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	Total marks
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670114	**PLANNING TECHNIQUES**	70	20	10	-	-	2	1	-	3	100

Survey Techniques and Mapping

Data base for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Survey techniques; Land use classification or coding and expected outputs; Techniques of preparing base maps including understanding the concepts of scales, components and detailing for various levels of plans like regional plan, city plan, zoning plan, and local area plan.

Analytical Methods

Classification of regions, delineation techniques of various types of regions, analysis of structure of nodes, hierarchy, nesting and rank size; Scalogram, sociogram, etc.; Planning balance sheet; Threshold analysis; Input output analysis, SWOT analysis;

Demographic Methods

Methods of population forecasts and projections; Lorenz Curve, Ginni Ratio, Theil's index, rations: urban – rural, urban concentration, metropolitan concentration; Location dimensions of population groups – social area and strategic choice approach – inter connected decision area analysis.

Planning Standards

Spatial standards, performance standards and benchmarks, and variable standards; UDPFI guidelines, Zoning regulations and development control rules and regulations.

COURSE OUTCOME:

The course Planning Techniques will enable the student to:	
CO1	**Choose** appropriate survey techniques that are used for planning at various stages from preliminary to advanced.
CO2	**Determine** appropriate Region delineation techniques for different types of Region.
CO3	**Prepare** demographic projections and interpret the information obtained by different models.
CO4	**Develop** analytical skills in quantitative research to aid the planning practice.
CO5	**Evaluate** the Planning standards and development control regulations

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670116-INFRASTRUCTURE AND TRANSPORT PLANNING

S.No	Subject Code	Subject Name	Maximum Marks Allotted					Teaching Hours per Week			Total credits	Total marks
			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670116	INFRASTRUCTURE ANDTRANSPORT PLANNING	70	20	10	-	-	2	1	-	3	100

Role of Infrastructure in Development

Elements of Infrastructure (physical, social, utilities and services); Basic definitions, concepts, significance and importance; Data required for provision and planning of urban networks and services; Resource analysis, provision of infrastructure, and land requirements; Principles of resource distribution in space; Types, hierarchical distribution of facilities, Access to facilities, provision and location criteria, Norms and standards, etc.

Planning and Management of Water, Sanitation and StormWater

Water – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, institutional arrangements, planning provisions and management issues; Sanitation – points of generation, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, institutional arrangements, planning provisions and management issues. Stormwater – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, groundwater replenishment, storm water collection and disposal, norms and standards, institutional arrangements, planning provisions and management issues;

Planning and Management of Municipal Wastes, Power and Fire

Municipal and other wastes – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, institutional arrangements, planning provisions and management issues.
Power – Sources of power procurement, distribution networks, demand assessment, norms and standards, planning provisions and management issues. Fire – History of fire hazards, vulnerable locations, methods of firefighting, norms and standards, planning provisions and management issues.

City Development and Transport Infrastructure Planning, Management and Design

Role of transport, types of transport systems, evolution of transport modes, transport problems and mobility issues; Urban form and Transport patterns, land use – transport cycle, concept of accessibility; Hierarchy, capacity and geometric design elements of roads and intersections; Basic principles of Transport infrastructure design; Traffic and transportation surveys and studies, traffic and travel characteristics; Urban transport planning process – stages,

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study area, zoning, data base, concept of trip generation Transport, environment and safety issues; principles and approaches of traffic management, transport system management.

COURSE OUTCOME:

The course Infrastructure and Transport Planning will enable the student to:	
CO1	**Discuss** quantitative and qualitative assessment of infrastructure provisions and selected methodologies for suitable provisions and implementation.
CO2	**Discuss** the principles of design of utilities and services in urban and regional context.
CO3	**Experiment with** some of the tools and techniques for transportation network with special reference to urban areas.
CO4	**Prepare** comprehensive mobility plan

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670117- HOUSING

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			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670117	HOUSING	70	20	10	-	-	2	1	-	3	100

Concepts and Definitions

Shelter as a basic requirement, determinants of housing form, Census of India definitions, Introduction to policies, housing need, demand and supply, dilapidation, structural conditions, materials of constructions, housing age, occupancy rate, crowding, housing shortage, income and affordability, poverty and slums, houseless population

Various housing typologies viz. traditional houses, plotted development, group housing, multi- storied housing, villas, chawls, etc., slums and squatters, night shelters, public health issues related to housing, various theories of housing, concept of green housing, green rating of housing projects.

Social and Economic Dimensions

Housing as social security, role of housing in development of family and community well-being, status and prestige related to housing, safety, crime and insecurity, deprivation and social vulnerability, ghettoism, gender issues, housing for the elderly.

Contribution of housing to micro and macro economy, contribution to national wealth and GDP, housing taxation, national budgets, fiscal concessions, forward and backward linkages.

Housing and the City

Understanding housing as an important land use component of city plan / master plan, considerations for carrying out city level housing studies, projections, land use provisions; Suitability of land for housing, housing stress identification, projecting housing requirements, calculating housing shortages, housing allocation.

Planning for Neighborhoods

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Approaches to neighborhood living in traditional and contemporary societies, elements of neighborhood structure, Planning and design criteria for modern neighborhoods, norms and criteria for area distribution, housing and area planning standards, net residential density and gross residential density, development controls and building byelaws, UDPFI guidelines, NBC 2005 provisions and Case studies of neighborhood planning.

COURSE OUTCOME:

The course Housing will enable the student to:	
CO1	**Discuss a wide** spectrum of aspects related to housing viz., housing scenario, housing needs, building legislations and relevant methods for formulating housing strategies.
CO2	**Discuss** the significance and impact of socio-cultural aspects on housing
CO3	**Elaborate** the concept of land markets and development of cities
CO4	**Discuss** issues of urban development relevant to housing planning in India
CO5	**Discuss** different approaches to neighborhood planning in traditional and contemporary societies.

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670118- GIS Lab

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			Theory			Practical		Lectures (L)	Tutorials (T)	Practical/ Studios (P/S)		
			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	**670118**	**GIS Lab**	-	-	-	60	40	-	-	3	3	100

Geo-Informatics Laboratory Training

i) The laboratory training will be conducted in accordance with the studio exercise. Introduction to Geo-informatics, introduction to Remote Sensing – Aerial and Satellite; introduction to GIS, Spatial data and Attribute data; Satellite images as input to GIS; Collection and presentation of baseline information.

ii) The second exercise is a short and intensive exercise of one-month duration. It pertains to topical issues i.e. property tax reforms, informal sector, development of railway land, etc. The study is based on primary surveys and students are expected to analyze the information and arrive at recommendations.

COURSE OUTCOME:

This course will enable the student to:	
CO1	**Understand** advanced concepts of Geoinformatics with special emphasis on applications in Urban and Regional Planning.
CO2	**Classify** different data structures of Remote sensing, GIS & GPS.
CO3	**Analyse** urban situations and develop logical decision-making processes to address the complex overlays of conceptualisation, implementation and finance
CO4	**Apply** spatial and non-spatial data analysis techniques for the study area.

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670119- STUDIO II

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			End Sem	Mid Sem Test	Assignment / Quiz	End Sem	Studio Work/ Sessional					
1.	670119	STUDIO - LOCAL LEVEL/SUB-CITY LEVEL PLANNING	-	-	-	120	80	-	-	9	9	200

Planning of an area based on site analysis, application of development controls, and preparation of a site plan. For the preparation of a site plan, the existing site will be examined based on a stipulated set of factors before a preliminary layout is prepared after the application of development controls. The final submission should include a concept plan, land use plan, subdivision plan, circulation plan, basic infrastructure plan

COURSE OUTCOME:

This course will enable the student to:	
CO1	**Prepare** a Base Map of the area through primary surveys and updating secondary data
CO2	**Prepare** socio-economic profile of the area through surveys
CO3	**Prepare** physical and social infrastructure mapping and mapping of regional networks and linkages.
CO4	**Analyse** the Gap in infrastructure and policies for the identified issues.
CO5	**Formulation** of broad outlines of Intervention Strategies and Development Plan