



# **HINDUSTAN**

**INSTITUTE OF TECHNOLOGY & SCIENCE  
(DEEMED TO BE UNIVERSITY)**

**SCHOOL OF PLANNING ARCHITECTURE AND DESIGN EXCELLENCE  
(SPADE)**

## **CURRICULUM AND SYLLABUS**

**(Applicable for Students admitted from  
Academic Year 2018-19)**

**Master of Planning (M. Plan)**

## **HINDUSTAN INSTITUTE OF TECHNOLOGY & SCIENCE**

### **VISION AND MISSION**

#### **MOTTO**

To make every man a success and no man a failure.

#### **VISION**

To be an International Institute of Excellence, providing a conducive environment for education with a strong emphasis on innovation, quality, research and strategic partnership blended with values and commitment to society.

#### **MISSION**

The Mission of the Institute is

- To create an ecosystem that promotes learning and world class research, to nurture creativity and innovation.
- To instill highest ethical standards and values.
- To pursue activities for the development of Society.
- To develop national and International collaborations with institutes and industries of eminence.
- To enable graduates to become future leaders and innovators

## **SCHOOL OF PLANNING ARCHITECTURE AND DESIGN EXCELLENCE (SPADE)**

### **VISION AND MISSION**

#### **VISION**

To facilitate the creation of built environment by adopting holistic approaches to promote sustainable development in Architecture & Planning.

#### **MISSION**

- To qualify students to address concerns of the 21st century and making them globally competent.
- To empower students by imparting Architecture and Planning knowledge in diverse areas with social commitment.
- To enable them to handle the complexities of modern requirements and encouraging exploration, innovation and creative experimentation in shaping the living environment.

**M.PLAN**  
**PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

The program is expected to enable the students to

- PEO - 1**                      Graduands will be future planners equipped with adequate skills required to comprehend urban and regional issues and to analyze physical, socio-economic, cultural, political and ecological dimensions of the human settlements.
- PEO - 2**                      Graduands will be professionals who are sensitized about the various facets of planning for human settlements and who have the required analytical skills needed for performing the assigned task related to planning and implementation.
- PEO - 3**                      Graduands will be able to prepare sustainable development plans by understanding the characteristics of the city.

**PROGRAM OUTCOMES (ALIGNED WITH GRADUATE ATTRIBUTES) (PO)**

At the end of this program, graduates will be able to

- PO 1**                      Develop communication skills through drawn, visual, verbal and written representations of planning propositions by understand their cultural, professional, and technical implications.
- PO 2**                      To involve them in group work so that the team building becomes the nature of their work for the comfortable outcomes in the field they choose.
- PO 3**                      Create awareness of traditional values and historic significances of planning systems in the past and apply them.
- PO 4**                      Practical skills for spatial planning through studio and lab exercises.
- PO 5**                      Integrating theory and studio contents and application of theoretical inputs in the studio.
- PO 6**                      To study history and theory of urban and regional planning.
- PO 7**                      To learn mapping and survey techniques and spatial standards.
- PO 8**                      To study the demographic data and apply GIS in urban and regional planning.
- PO 9**                      To equip with study of advanced planning techniques.

**CURRICULUM AND SYLLABUS M.PLAN**

<b>M.PLAN</b>								
<b>(75 CREDIT STRUCTURE)</b>								
<b>SEMESTER - I</b>								
<b>SL. NO</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>TCH</b>
<b>THEORY</b>								
1	PC	ARC3701	Urban and Rural Housing	3	0	0	3	3
2	PC	ARC3702	Energy, Climate Change and Urban Development	3	0	0	3	3
3	PC	ARC3703	Planning Theory and Techniques	3	0	0	3	3
4	PC	ARC3704	Socio-Economic and Spatial Aspects of Planning	3	0	0	3	3
5	PC	ARC3705	Land Development and Management	3	0	0	3	3
6	MLC	ZZZ3715	Research Methodology and IPR	2	0	0	2	2
<b>STUDIO</b>								
7	PC	ARC3791	Planning Studio – I (Area Planning)	0	0	10	5	10
<b>TOTAL</b>							<b>22</b>	<b>27</b>
<b>SEMESTER - II</b>								
<b>SL. NO</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>TCH</b>
<b>THEORY</b>								
1	PC	ARC3706	Urban Design	3	0	0	3	3
2	PC	ARC3707	City Planning	3	0	0	3	3
3	PC	ARC3708	Infrastructure Planning	3	0	0	3	3
4	PE	E1	Elective – I	2	0	0	2	2
5	PC	ARC3709	MOOC	-	-	-	3	-
6	OE	OE1	Open Elective	3	0	0	3	3
<b>STUDIO</b>								
7	PC	ARC3792	Planning Studio – II (Urban Planning)	0	0	10	5	10
			Summer Internship	Minimum of 2 Months				
<b>TOTAL</b>							<b>22</b>	<b>24</b>

**CURRICULUM AND SYLLABUS M.PLAN**

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<b>M.PLAN</b>								
<b>(75 CREDIT STRUCTURE)</b>								
<b>SEMESTER - III</b>								
<b>SL. NO</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>TCH</b>
<b>THEORY</b>								
1	PC	ARC3710	Planning Legislation and Professional Practice	3	0	0	3	3
2	PC	ARC3711	Transport Planning	3	0	0	3	3
3	PC	E2	Elective – II	2	0	0	2	2
<b>STUDIO</b>								
4	PC	ARC3793	Planning Studio – III (Regional Planning)	0	0	12	6	12
5	THESIS	ARC3898	Planning Thesis – Phase I	0	0	10	5	10
6		ARC3897	Evaluation of Summer Internship	-	-	-	2	-
<b>TOTAL</b>							<b>21</b>	<b>30</b>
<b>SEMESTER - IV</b>								
<b>SL. NO</b>	<b>COURSE CATEGORY</b>	<b>COURSE CODE</b>	<b>NAME OF THE COURSE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>TCH</b>
<b>THEORY</b>								
1	THESIS	ARC3899	Planning Thesis - Phase II	0	0	20	10	20
<b>TOTAL</b>							<b>10</b>	<b>20</b>

**TOTAL NUMBER OF CREDITS: 75**

**Note:**

- 2 hours of Studio (P) = 1 Credit
- 1 hour of Lecture (L) = 1 Credit
- TCH = Total contact hours.

## CURRICULUM AND SYLLABUS M.PLAN

LIST OF DEPARTMENTAL ELECTIVES WITH GROUPING - SEMESTER WISE								
SEM (Elec tive No.)	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	TCH
II (E1)	PE	ARC3721	Environmental Impact Assessment	2	0	0	2	2
	PE	ARC3722	Urban Finance and Governance	2	0	0	2	2
	PE	ARC3723	Land and Real Estate Management	2	0	0	2	2
V (E2)	PE	ARC3724	Application of GIS in Planning	1	0	2	2	3
	PE	ARC3725	Planning for Special Areas	2	0	0	2	2
	PE	ARC3726	Planning and Preparedness for Disaster	2	0	0	2	2

### Credits under Each Category

Sl. No	Category Courses		No. of Courses	Credits	Percentage	Total
1	Professional Core Courses (PC)	Professional Core	11	33	44.00	65.33
		Professional Core (Studio)	3	16	21.33	
2	Elective Courses (Ele)	Programme Electives and Open Electives	3	7	9.33	9.33
3	Mandatory Learning Courses (MLC)	Research methodology & IPR	1	2	2.67	5.34
		Summer Internship	1	2	2.67	
4	Planning Thesis	Planning Thesis	2	15	20.00	20.00
		<b>Total</b>	<b>20</b>	<b>75</b>	<b>100.00</b>	<b>100.00</b>

**CURRICULUM AND SYLLABUS M.PLAN**

**SEMESTER – I**

COURSE TITLE		URBAN AND RURAL HOUSING			CREDITS	3
COURSE CODE		ARC3701	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-4				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the role of central and state governments in developing the housing industry through their housing programmes and policies.					1,2,3,5,6,9
2	To understand the current situation and condition of housing sector in rural India.					1,2,3,5,6
3	To understand the current situation of condition of housing sector in urban India.					1,2,3,5,6
4	To analyse the various housing programmes undertaken in India from time to time through case studies and their differences.					1,2,3,6,9
5	To understand the Institutional Framework through which public housing schemes are executed.					1,2,3,6
MODULE 1:Introduction						(9)
Urban and Rural Housing Policies and its role in national development, objectives of policy in relation to settlement planning, basic components of housing policy and programmes formulation in urban and rural areas, housing policies in India and abroad, its impact and consequences on housing development, housing policy and their focus in different developing and developed countries, their significance in provision of housing programmes for low-income groups, their formulation implementation and evaluation role of international and national funding agencies in housing programmes special housing programmes in different countries.						
MODULE 2:Housing in Rural India						(12)
Socio-economic profile of rural India and rural housing conditions- house types, rural housing norms, standards and design, access to infrastructure, improvement in quality of life in rural areas, rural health and sanitation, environmental improvement in villages, concept of integrated rural housing development, rural housing schemes, impact of large development projects and community development in rural areas, special needs for housing for tribal.						
MODULE 3: Housing Scenario in Urban India						(9)
Housing Stock and its Adequacy in Urban Settlements – Housing Quality and its Determinants – Housing Supply and Demand Assessments – External and Internal factors of influence on Housing Development – Trends in Housing Market – Five Year Plans of GOI.						
MODULE 4: Case Study of Housing Programmes in India						(9)
Nature and Type of housing development Programmes - Sites and Services, LIG, MIG, HIG Schemes, - Slum Housing Programmes - Cooperative and Private Sector Housing. Various programmes like PMAY, IAY, BMAY, etc.						
MODULE 5: Institutional Framework						(6)
Housing agencies for Policymaking, Programme Formulation, and Implementation, - Objectives and Functioning of agencies like CPWD, HUDCO, TNHB, TNSCB, CMDA, Cooperatives and other Department						

## CURRICULUM AND SYLLABUS M.PLAN

Agencies – Support of the National and State Governments - Housing Programmes announced from time to time.

### REFERENCE BOOKS

1	Government of India National Urban Housing and Habitat Policy 2007 Ministry of Housing and Urban Poverty Alleviation, New Delhi
2	Glaesar, Bernhard Housing, Sustainable Development and Rural Poor 1995 Sage, New Delhi
3	Friedrichs, J Affordable Housing and the Homeless 1998 Walter de Gruyten& Co, Berlin
4	Rao, P.S.N. Urban Governance and Management 2005 Kanishka Pub. and IIPA, New Delhi
5	KavitaDatta and G.A. Jones (1999), 'Housing and Finance in Developing Countries', Routledge, London.



**CURRICULUM AND SYLLABUS M.PLAN**

COURSE TITLE	ENERGY, CLIMATE CHANGE AND URBAN DEVELOPMENT			CREDITS	3
COURSE CODE	ARC3702	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-2				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the importance of climate change and the resources available in the earth.				1,2,5
2	To understand the various facets of energy generation and consumption and future needs of energy.				1,2,5
3	To understand the various methods adopted to manage energy through urban planning techniques.				1,2,5
4	To understand and analyse the effects the climate change and urban areas.				1,2,5,9
5	To understand the various means through which energy is managed.				1,2,5,9
MODULE 1:Introduction					(12)
Land and resources - Sustainable policies and programs – Conservation of water and other resources - Optimal utilization of energy through mixed land uses and clustered developments – Protection of coastal resources and reduction of ecological footprint. Understanding Climate Change: Greenhouse gases, Anthropogenic causes, Carbon Cycle, Global Warming, ozone depletion –Inventory of GHGs, Urban Heat Islands International and National Efforts: United Nations Framework Convention on Climate Change.					
MODULE 2:Energy Generation and Consumption					(9)
Energy Supply and Demand, Energy Consumption in cities, determinants of energy demand. Renewable and alternate source of energy. Energy issues. An Assessment of Population Development and its Implications on Settlements, Buildings and Resource Consumption with Particular Focus on Energy Consumption					
MODULE 3: Energy Planning & Management, and Mitigation & Adaptation to Climate Change					(9)
Energy efficient development, Compact city form, Transit oriented development. Mechanisms and measures for mitigating and adapting to climate change at various levels. Energy Management, traditional and contemporary approaches with respect to energy, water, manpower, etc.					
MODULE 4: Urban Climatology and Climate Change					(9)
Urban climatology, effects of thermal pollution, factors causing heat sink effects, direct radiation, climatic effects on Urban areas, control techniques. Climate Change and City Planning, application of Energy code. Inherent uncertainties that accompany climate change which affects urban planning.					
MODULE 5: Resource Management					(6)
Resource depletion -impacts on air, water, land, human health, quality of life. Resource regions, their problems and potentials. Resource management, traditional and contemporary approaches.Resource management in view of Climate change.					
REFERENCE BOOKS					
1	S.K Dash Climate change: an Indian perspective, New Delhi 2007 Cambridge University Press				

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<b>2</b>	Jenks, Mike; Burgess, Rod Compact cities: Sustainable urban forms for developing countries 2000 Spon Press, London
<b>3</b>	Bicknell, Jane Adapting cities to climate change: understanding and addressing the development Change 2009 Earthscan, London
<b>4</b>	Andres Duany, Jeff Speck and The Smart Growth Manual 2009 McGraw-Hill Mike Lydon
<b>5</b>	David Owen Green Metropolis: Why Living Smaller, Living Closer, and Driving Less are the Keys to Sustainability 2009

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COURSE TITLE		PLANNING THEORY AND TECHNIQUES		CREDITS	3
COURSE CODE	ARC3703	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-4				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the evolution of Cities and the city building process in India and abroad.				1,2,3,6,9
2	To understand and analyse the various theories associated with the growth of the cities.				1,2,3,6,9
3	To understand and analyse the various emerging concepts associated with the growth of the cities.				1,2,6,9
4	To understand the source and importance of demography in the plan preparation process.				1,2,8
5	To analyse the various types of plans developed in our country and its objectives from time to time.				1,4,5,9
MODULE 1:Evolution and Planning History (12)					
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, Human settlements as an expression of civilizations;Town planning in ancient India; Medieval, renaissance, industrial and postindustrial 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;					
MODULE 2:Theories of City Development (9)					
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;Theories of city development including Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other latest theories;					
MODULE 3: Emerging concepts in Planning Theories (6)					
Models of planning: Advocacy and Pluralismin Planning; Systems approach to planning: rationalistic and incrementalapproaches, mixed scanning and middle range planning; Equity planning; Political Economy Model.					
MODULE 4: Demography (9)					
Sources of demographic data in India, Settlement type, growth pattern andstructure: urban settlement analysis, Concentration: spatial, vertical and size, periurbansprawl, economic base; Rural Settlements – Size, occurrence and character,transformation, Policies towards various size class settlements.Population structure and composition – Age, sex, gender, marital status, caste,religion, literacy level, etc.; Age - sex ratio, structure, pyramid; dependency ratio;occupational structure; Fertility; mortality, migration analysis, natural growth ofpopulation, migration and its implications in spatial planning;					
MODULE 5: Types of plans (9)					

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Master plan, Development Plan, Detailed Development Plan, Regional Plan,, structure Plan and Plan making process, Deficiency, Delineation of Planning area, Assessment of developmental issues, Plan period and phasing, Projection of requirements, Formulation of aim and objectives, Development proposals and landuse planning, Delineation of zones, Resource mobilization, Implementation mechanism, Monitoring and review, Role of Public Participation.

### REFERENCE BOOKS

1	Government of India National Urban Housing and Habitat Policy 2007 Ministry of Housing and Urban Poverty Alleviation, New Delhi
2	Glaesar, Bernhard Housing, Sustainable Development and Rural Poor 1995 Sage, New Delhi
3	Friedrichs, J Affordable Housing and the Homeless 1988 Walter de Gruyten& Co, Berlin
4	Rao, P.S.N. Urban Governance and Management 2005 Kanishka Pub. and IIPA, New Delhi
5	KavitaDatta and G.A. Jones (1999), 'Housing and Finance in Developing Countries', Routledge, London.

**CURRICULUM AND SYLLABUS M.PLAN**

COURSE TITLE	SOCIO-ECONOMIC AND SPATIAL ASPECTS OF PLANNING			CREDITS	3
COURSE CODE	ARC3704	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-3				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the Socio-cultural Profile of Indian Society in the context of Urban and Rural Settlements.				1,2,3,5,8
2	To understand the role of community and its influence in the development of cities.				1,2,3,5,8
3	To understand the role of macro and micro economics in the development of rural and urban areas.				1,2,3,5
4	To understand the influence of economic development in the growth of the settlements.				1,2,3,5,8
5	To apply the various urban geographical theories in urban settlements.				1,2,3,5,6,8
MODULE 1:Nature and Scope of Sociology (9)					
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.					
MODULE 2: Community and Settlements (9)					
Social problems of slums and squatters communities, urban and rural social transformation and their impact on social life, safety, security; Crimes in urban areas and their spatial planning implications, social structure and spatial planning; Role of socio-cultural aspects on growth patterns of city and neighborhood communities; Social planning and policy, and community participation; Marginalization and concepts of inclusive planning, and gender concerns in planning.					
MODULE 3: Elements of Micro and Macro Economics (9)					
Concepts of demand, supply, elasticity and consumer markets; cost-benefit analysis, public sector pricing; Agglomeration economics - Economics of scale - Multiplier effect-concepts and scope - Economic base of cities and region - Understanding economic base and changing spatial structure of urban areas.					
MODULE 4: Development Economics and Lessons from Indian Experiences (9)					
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.					
MODULE 5: Urban Structure (9)					

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Human and urban geography, Human interaction and spatial form of cities, City-region, urban sprawl, and urban fringe, Land use determinants - Location dynamics of urban Land use - Spatial organization of urban settlement - Social and economic Impacts of urban growth and expansion.

### REFERENCE BOOKS

1	N. Jayapalan Urban Sociology 2002 Atlantic Publishers & Distributors, New Delhi
2	William G. Flanagan Urban Sociology-images and Structures 2010 Rowman & Littlefield Publishers Inc
3	Mani Monto, L.S. Ganesh & K. Verghese Sustainability and Human Settlements: Fundamental Issues, Modeling and Simulation 2005 SAGE Publications Pvt. Ltd, New Delhi
4	Dr. D N Dwivedi Principles of Economics 2006 Vikas Publishing House
5	Karl E. Case Principles of Economics 2009 Pearson Education
6	Jhingan, M The Economics of Development and Planning 1998 Vrinda Publications, Delhi

## CURRICULUM AND SYLLABUS M.PLAN

COURSE TITLE	LAND DEVELOPMENT AND MANAGEMENT			CREDITS	3
COURSE CODE	ARC3705	COURSE CATEGORY	PE	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-2				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the structure of urbanization and their overall impact				1,2,3,5,7
2	To understand the various reasons for land values and the types of land tenure.				1,2,3,5,7
3	To understand the peculiarities of Indian land and its market.				1,2,3,5,6
4	To understand the various land policies brought out by the government of India.				1,2,3,5,6
5	To understand the various types of land management techniques and acts in India.				1,2,3,5,6,7,9
MODULE 1:Introduction (9)					
Globalization and urbanization, Emergence of large cities; Impact of urbanization, land as a resource and urban land problems. Urbanization and its impacts in developing and developed countries – case studies.					
MODULE 2: Urban Land Values and Land Tenure (9)					
Market determined values and social needs. Price mechanism and the inequalities of wealth Urban Land Tenure: Special characteristics of land and its tenure. Policy objectives and types of land tenure. Advantage and disadvantage of main form of tenure.					
MODULE3:Peculiarities of Land in India (9)					
The status of land in the Constitution of India, peculiar nature of land markets; Factors affecting supply and demand of land for housing; Role of Fiscal policies and development regulations of land market. Economic and social dimensions of urban land policy					
MODULE4: Land Policies (9)					
Land policy objectives and policy options for public intervention; Techniques of land assembly and expropriation, development components and financing land development; Institutional and political concerns in land management. Urban land policy in India, instruments of urban land policies of government. Different acts related to land - Right to fair compensation & transparency in Land Acquisition Resettlement and Rehabilitation.					
MODULE5: Types of Land Management (9)					
Various approaches viz. land pooling/land readjustment, TP Schemes, Public Private Partnerships for land assembly, role of the private sector in land assembly, land management thru’ Township Policies of various state governments, international and domestic case studies. TDR / OSR incentives. Change in land use.					
REFERENCE BOOKS					

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1	P.S.N. Rao Urban Governance and Management 2006 IIPA and Kanishka Publications, Delhi
2	Sivaramakrishnan, K.C., et.al Handbook of Urbanization in India 2005 India Oxford University Press
3	Habibullah Wajahat Land Reforms in India 2005 Sage Publications

COURSE TITLE		RESEARCH METHODOLOGY AND IPR			CREDITS	2
COURSE CODE		ZZZ3715	COURSE CATEGORY	MLC	L-T-P-S	2- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	Identify research problems and formulate the methodology.					2,4,7,10
2	Prepare effective research report based on literature.					2,4,7,10
3	Adopt suitable sampling techniques to analyse data and interpretation of results.					2,4,7,10
4	Utilize the knowledge gained on IPR and apply for innovative ideas and products					2,4,7,10
5	Utilize the knowledge gained on patent rights for licencing and transfer of technology with new developments in IPR					2,4,7,10
MODULE 1 – Research Problem Formulation						(9)
Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations						
MODULE 2 –Research Proposal and Ethics						(9)
Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.						
MODULE 3 - Data Analysis and interpretation						(9)
Classification of Data, Methods of Data Collection, Sampling, Sampling techniques procedure and methods, Ethical considerations in research Data analysis, Statistical techniques and choosing an appropriate statistical technique, Hypothesis, Hypothesis testing, Data processing software (e.g. SPSS etc.), statistical inference, Interpretation of results.						
MODULE 4 - Nature of Intellectual Property						(9)
Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.						
MODULE 5 – Patent Rights and New Developments in IPR						(9)
Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications. Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.						
REFERENCE BOOKS						
1	Stuart Melville and Wayne Goddard, “Research methodology: an introduction for science & engineering students’,					



## CURRICULUM AND SYLLABUS M.PLAN

2	Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"
3	Ranjit Kumar, 2 nd Edition, "Research Methodology: A Step by Step Guide for beginners"
4	Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007.
5	Mayall , "Industrial Design", McGraw Hill, 1992.
6	Niebel , "Product Design", McGraw Hill, 1974.
7	Asimov, "Introduction to Design", Prentice Hall, 1962.
8	Robert P. Merges, Peter S. Menell, Mark A. Lemley, "Intellectual Property in New Technological Age", 2016.
9	T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008
10	C.R. Kothari, GauravGarg, Research Methodology Methods and Techniques , New Age
11	International Publishers, Third Edition, Ranjith Kumar, Research Methodology: A Step by step Guide for Beginners, 2nd Edition, SAGE, 2005
12	Business Research Methods – Donald Cooper & Pamela Schindler, TMGH, 9th edition
13	Creswell, John W. Research design: Qualitative, quantitative, and mixed methods, approaches. Sage publications, 2013.

**CURRICULUM AND SYLLABUS M.PLAN**

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COURSE TITLE	PLANNING STUDIO – I (AREA PLANNING)			CREDITS	5
COURSE CODE	ARC3791	COURSE CATEGORY	PC	L-T-P-S	0- 0- 10
CIA	60%			ESE	40%
LEARNING LEVEL	BTL-6				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To appreciate a film which is related to socio-economic issues and understand the various development issues and absorb them into planning practice.				1,2,4,5,7,8,9
2	To appreciate a planning literature and understanding its problem, approach, methodology and analysis				1,2,4,5,6,9
3	To appreciate contextual development of an area in relation to the city.				1,2,3,4,5,7,8,9
4	To equip the students in developing a layout plan within the framework of the regulations applicable to the specified site.				1,2,4,5,7,8,9
MODULE 1:Film Appreciation (Individual Assignment)					(10)
Films related to city development and socio-economic issues will be screened for students. The purpose of these films is to educate the students’ understanding of various development issues and to absorb them in the planning practice. At the end of the film, a discourse around the film will also be held. After viewing the films, each student is expected to write about its main focus, city / region context, its applicability to Indian environment by answering the given questions in not more than half a page.					
MODULE 2:Literature Review (Individual Assignment)					(20)
Each student is expected to read the article given from a journal / book and write a summary of not more than a page (250 words only) highlighting the problem, approach, methodology, analysis, how the author arrived at the conclusion and its relevance to Indian context.					
MODULE 3: Area Appreciation					(60)
Student should be thought about various survey techniques and mapping like 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.					
The aim of the area appreciation exercise is to enable the students to understand and contextualize 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.					
Due to the size of the area, this exercise is done in groups of students being assigned to a particular area.					
The following planning issues at area level should be identified:					
• Review of the Master Plan / Zonal / Area plan in relation to the selected areas.					

- Appreciation / Analysis of ward level data.
- Perception of areas in terms of legal / illegal / authorized / unauthorized, Slums, Urban Aesthetics.
- Social Categorizations of people - Type of population living, people's perception about area and its planning problems.
- Land use including Agriculture land and land use conflicts, extent (%) of broad land use such as commercial, industrial, residential, institutional and recreational.
- Extent of formal / informal activities present in the area including their location and conflicts.
- General land tenure of the area and land value for different uses.
- Major types of transport, type of roads, hierarchy of roads, type of transport modes used.
- Amenities: Location of Social and Physical infrastructure and their problems as perceived by local population. Look for specific infrastructure such as Water supply, drainage (water logging areas), waste collection and disposal system, sanitation, etc.
- Environmental Issues: Open Spaces – Availability and extent of open space to built-up area, garbage disposal, encroachment (through photographic evidences and sketches).
- Locating the study area in the zone, city and regional context with respect to all the above aspects.

**MODULE 4: Site Planning (Individual Assignment – Layout Development)**

**(60)**

Site planning is a process whereby the optimum utilization of potential of site is considered recognizing the constraints the site has. It uses 3 dimensional spaces of the site and the associated locational advantages, human activities and the regulations that are assigned to a particular site. The site is developed using a set of standards / norms in a given context which varies from location to location. A student is expected to understand the intricacies and interface between various variable such as soil conditions, topography, environmental dimensions, location, spatial standards applicable to the site, etc.

This specialized studio introduces design thinking and problem solving through intensive research and the development of design proposals design in peri-urban and urban areas with a range of functions and social amenities. Studio project applies Digital Architecture theories and techniques that involve digital mediation to create engaging architectural designs that stimulate all human senses in their relationship with the built environment. The studio addresses various issues related to design theories, digital media, digital design techniques, rule-based design processes, computational concepts and other factors influencing the development of architectural production using digital tools. The studio will prompt students to develop critical reflections and positions on design conventions and explore those positions through the architectural design process.

The studio includes many case studies of contemporary structures, understanding the urban function of the building, climate, technologies, detailing and social conditions is the emphasis of the studio. Students would have to evolve structural systems with a thorough understanding of regulations and safety. Issues would involve functional organization, socio-economic conditions, services, and other infrastructure, study of urban guidelines, Imageability of the building, climatic responses, structure and typology, and multi-functional design. Projects shall be of urban scale with multiple functions and a need for imagery and identity of public building (aesthetics, symbolic character, and meaning) will be one of the architectural goals. Museums, art galleries, theme-based hotels, shopping, Industrial structures areas can be chosen.

It is recommended that site sizes should not be larger than 10 acres to allow for intensive study. However, the Design studio faculty shall determine the extent of the site size. Design emphasis shall

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be on the use of innovations in materials and techniques of construction. Design emphasis shall be on the skins and support of structural systems and resulting architectural form, space and experience.

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REFERENCE BOOKS	
1	Lynch, Kevin Site Planning, Cambridge, Massachusetts: The M.I.T. Press, Reprint 1984.
2	Smith, Carl, et. al., Residential Landscape Sustainability – A Checklist Tool 2008 Blackwell Pub., Oxford
3	Ministry of Urban Development Revised Tool Kit for Preparation of CDP 2009 Government of India, New Delhi

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**SEMESTER – II**

COURSE TITLE		URBAN DESIGN		CREDITS	3
COURSE CODE	ARC3706	COURSE CATEGORY	PC	L-T-P-S	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-4				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To enable student understand the meaning, definition and relationship between Architecture, urban design and town planning and the urban environment.				1,2,3,5,7,9
2	To understand the urban design process through its available theories and literatures.				1,2,5,6,9
3	To understand and appreciate heritage conservation through historic heritage characteristics.				1,2,3,5,9
4	To understand various legislation pertaining to urban heritage conservation.				1,2,3,5
5	To analyse the various urban renewal programmes in India and its effects from time to time.				1,2,3,5,9
MODULE 1: Introduction					(9)
Study of the relationship between architecture, urban design and town planning – Definition of urban design (broadly) – Scope and content of urban design in India and in the West.					
MODULE 2:Theory And Literature					(9)
Study of literature – Townscape: Gordon Cullen; Image of the city: Kevin Lynch; Death and Life of great American Cities: Jane Jacobs; and other authors - Christopher Alexander, Aldo Rossi, Camillo Sitte – Three theories of urban spatial design: Roger Transick.					
MODULE 3: Urban Heritage Conservation					(9)
Built heritage conservation - determinants of built form on heritage; Historic urban infrastructure and traditional water harvesting systems. Integration of historic monuments / areas / cores / urban systems in the developmental process and land use, regulatory measures and community involvement; Intangible cultural heritage and development: issues, conservation strategies. Preparation of conservation and heritage management plans.					
MODULE 4: Heritage, Tourism, Policies,Programmes& Legislation					(9)
Cultural and heritage based tourism - nature, potential and prospects, marketing aspects; Acts and laws recognizing conservation / regeneration; Heritage toolkit; Implications of 74th Constitution Amendment Act 12th schedule for heritage conservation, interface with district planning & metropolitan area planning;.					
MODULE 5: Urban Renewal and rehabilitation					(9)
Urban Regeneration, renewal, rehabilitation, revitalization, reconstruction and redevelopment - concepts, interventions, processes, approaches and methods, tools. Heritage management and conservation under the JNNURM& AMRUTprogrammes.					
REFERENCE BOOKS					
1	“Time Saver Standards for Urban Design”, Donald Watson, Alan Plattus, Robert Shibley 2003.				
2	Luigi Fusco Girard and Peter Nijkamp (editors), “Cultural Tourism and Sustainable Local Development”, 2009 Ashgate, Burlington				

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3	Nirmala Rao Khadpekar Urban revitalization : perspectives and initiatives / 2008 ICFAI University Press
4	Richard Longstreth (editor) Cultural Landscapes: Balancing Nature and Heritage in Preservation Practice 2008 University of Minnesota Press
5	Cohen, Naoum Urban Planning Conservation and Preservation 2001 McGraw-Hill
6	Ismail b Serageldin, Ephim Shluger, Joan Martin-Brown (editors) Historic Cities and Sacred Sites: Cultural Roots for Urban Futures 2001 The World Bank
7	"Urban Design Reader", Mathew Carmonia (ed.) and Steve Tiesdell (ed.) 2007
8	Gordon Cullen , "The concise TOWNSCAPE", The Architectural Press – 1995.
9	Kevin Lynch - Image of the City, Joint centre of Urban Studies, 1992.
10	"A Concise Townscape", Gordon Cullen, 2004.
11	Gallion& Eisner - The Urban Pattern, D.Vau, Nostrand, Reprint 1986.
12	Jonnathan Barnett - Introduction to Urban Design, Harper &Row, Publishers, 1982.
13	Jane Jacobs, "Death & Life of Great American Cities", Random House, 2002.
14	"Time Saver Standards for Urban Design", Donald Watson, Alan Plattus, Robert Shibley 2003.

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COURSE TITLE		CITY PLANNING			CREDITS	3
COURSE CODE		ARC3707	COURSE CATEGORY	PC	L-T-P-S	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the growth of urbanization and its effects.					1,2,3,5,7
2	To understand the importance of regional linkages in the development of the region.					1,2,3,5,6,9
3	To understand the problems and issues in metro and mega cities.					1,2,3,6,9
4	To understand urban development policies, programmes and problems of human settlement planning.					1,2,3,5,6
5	To understand the concept behind the formulation of smart cities mission of Government of India.					1,2,3,5,7,9
MODULE 1:Urban Growth and System of Cities						(12)
Urbanization, metropolitanization, urban primacy, pattern and process; impacts and responses; urban development in Five Year Plans; environmental problems associated with large cities and metropolises. Growth of cities scale, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities.						
MODULE 2:City – Region Linkages and metropolitan complexes						(6)
City, fringe and the periphery - physical and functional linkages, peri-urban development. Urban housing, its structure, role, stock; urban basic services; present deficiencies and efforts to fill the gaps.						
MODULE 3: Metro and Mega Cities: Problems and Issues						(12)
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, climate change, transit oriented development, participatory planning. Inner city – issues and problems, approach to development.						
MODULE 4: Human Settlement Planning, Urban Development Policies and Programmes						(9)
Introduction to human settlements - elements of human settlement - context and examples - major aspects in spatial planning. Classification of human settlements - Growth and decay of human settlements: Factors influencing the growth and decay, growth pattern of urban settlements during the last one-century in our country. Structure and form of human settlements - physical and functional. Policies and programmes at various levels, impact on metro and mega city development.						
MODULE 5: Smart Cities						(6)
Theory and concepts of smart cities, energy as a catalyst of sustainable development, smart city infrastructure, sustainable transportation, flow of information and communications, smart grids, digital infrastructure and the role of data and information technology. Smart cities mission programme of Government of India.						
REFERENCE BOOKS						
1	ITPI “City and Metropolitan Planning and Design” ITPI, New Delhi					
2	Ramachandran, R Urbanization and Urban Systems in India 1998 Oxford University Press, New Delhi					



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3	Bawa, V. K. Indian Metropolis: Urbanization, Planning and Management 1997 Inter-India Publications, New Delhi
4	MMRDA Madras 2011: A New Perspective for Metropolitan Management 1991 MMRDA, Chennai
5	NCRPB Regional Plan 2021 2005 NCRPB, New Delhi
6	DDA Master Plan for Delhi 2021 2010 DDA, New Delhi
7	Misra, R.P. & Misra, K. Million Cities of India Vol. 1&2 1998 Sustainable Development
8	Giffinger, Rudolf; Christian Fertner; Hans Kramar; Robert Kalasek; Nataša Pichler-Milanovic; Evert Meijers (2007). "Smart cities – Ranking of European medium-sized cities". Smart Cities. Vienna: Centre of Regional Science
9	"Draft Concept Note on Smart City Scheme". Government of India - Ministry of Urban Development ( <a href="http://indiansmartcities.in/downloads/CONCEPT_NOTE_3.12.2014__REVISED_AND_LATEST_.pdf">http://indiansmartcities.in/downloads/CONCEPT_NOTE_3.12.2014__REVISED_AND_LATEST_.pdf</a> )

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COURSE TITLE	INFRASTRUCTURE PLANNING			CREDITS	3
COURSE CODE	ARC3708	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-4				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the role and significance of Infrastructure in Habitat Planning and development.				1,2,5,7,9
2	To analyse various standards and norms related to water supply and sanitation facilities and their mutual interdependence.				1,2,5,7,9
3	To analyse various standards and norms related to storm water supply and solid waste management				1,2,5,7,9
4	To analyse various standards and norms related to power supply and fire safety features of the urban space.				1,2,5,7,9
5	To understand the role of transport planning systems and their management techniques.				1,2,5,7,8,9
MODULE 1:Role of Infrastructure in Development (9)					
Elements of Infrastructure (physical, social, utilities and services); Basic definitions,concepts, significance and importance; Data required for provision and planning ofurban networks and services; Resource analysis, provision of infrastructure, andland requirements; Principles of resource distribution in space; Types, hierarchicaldistribution of facilities, Access to facilities, provision and location criteria, Normsand standards, etc.					
MODULE 2:Planning and Management of Water and Sanitation (9)					
Water – sources of water, treatment and storage, transportation and distribution,quality, networks, distribution losses, water harvesting, recycling and reuse, normsand standards of provision, institutional arrangements, planning provisions andmanagement issues; Sanitation – points of generation, collection, treatment,disposal, norms and standards, grey water disposal, DEWATS, institutionalarrangements, planning provisions and management issues.					
MODULE 3: Planning and Management of Storm water and Municipal Wastes (9)					
Storm water – rainfall data interpretation, points of water stagnation, system ofnatural drains, surface topography and soil characteristics, ground waterreplenishment, storm water collection and disposal, norms and standards,institutional arrangements, planning provisions and management issues; Municipal and other wastes – generation, typology, quantity, collection, storage,transportation, treatment, disposal, recycling and reuse, wealth from waste, normsand standards, institutional arrangements, planning provisions and management issues.					
MODULE 4: Planning and Management of Power and Fire (9)					
Power – Sources of power procurement, distribution networks, demandassessment, norms and standards, planning provisions and management issues. Fire – History of fire hazards, vulnerable locations, methods of firefighting, normsand standards, planning provisions and management issues.					
MODULE 5: Emerging Trends in Infrastructure (9)					

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Overview of Public-Private Sector Participation in infrastructure projects, Understanding stakeholders concerns, regulatory framework, risk management in infrastructure projects, public policy for infrastructure	
<b>REFERENCE BOOKS</b>	
<b>1</b>	Sai Sujatha, "Water, Sanitation and Health in urban areas", Discovery Publishing House Pvt Ltd, New Delhi, 2012
<b>2</b>	Padmanabhan Nair, "Urban Public Services – A Development Perspective", ICFAI Books, the ICFAI University press, Hyderabad, 2010
<b>3</b>	Murthy, "Infrastructure Financing – Trends, Challenges and Experiences", ICFAI Books, the ICFAI University press, Hyderabad, 2010.
<b>4</b>	India Infrastructure Report, 2009 – Land a Critical Resource for Infrastructure", 3i Network, Infrastructure Development Finance Company, Oxford University Press, New York.
<b>5</b>	Varsha Joshi, "Institutions and Social Change", Rawat Publications, New Delhi, 2003.
<b>6</b>	BidyutChakrabarty and Prakash Chand, "Public Administration in a Globalizing World – Theories and Practices", Sage Publications, Los Angeles, 2012.
<b>7</b>	Ramachandraiah (et al), "High Tech Urban Spaces – Asian and European Perspectives", IDPAD, Manohar Publishers and Distributors, New Delhi, 2008.
<b>8</b>	L. R. Kadiyali Traffic engineering and transportation planning 2007 Khanna Publishers, New Delhi
<b>9</b>	Mohinder Singh and L.R. Kadiyali Crisis in road transport 1989 Konark Publishers Pvt. Ltd. , New Delhi

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COURSE TITLE		PLANNING STUDIO – II (URBAN PLANNING)		CREDITS	5
COURSE CODE	ARC3792	COURSE CATEGORY	PC	L-T-P	0- 0- 10
CIA	60%			ESE	40%
LEARNING LEVEL	BTL-6				
Prerequisites :					
CO	COURSE OUTCOMES				PO
1	To train the students in Geo-Informatics software towards the preparation of Development Plan				1,2,5,7,9
2	To Assess, Collect and Analyze the Information Requirements for the Study and understanding the Characteristics of the City for Preparation of Sustainable Development Plan.				1,2,5,7,9
MODULE 1:Geo-Informatics Laboratory Training					(30)
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.					
MODULE 2:Development Plan					(120)
The studio exercise focuses on the planning, development and design aspect (in line with the other core and elective courses offered in the semester). The exercise pertains to large cities and emerging metropolitan cities and ranges from preparation of sustainable development plans to sector specific themes pertaining to tourism, SEZs, etc. The studio exercise enables students to develop an approach/ framework for the task; it is field based as a database is generated that is analyzed and the plan and strategies are formulated. Initial study involves understanding of the exercise through theories, study of similar 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 to the studio exercise. The introduction of GIS in the studio enables them to apply it in the studio exercise. Students are expected to analyze the data collected and come out with proposals and recommendations for planned development of the city. The entire exercise is also documented in the form of a technical report.					
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.					
REFERENCE BOOKS					
1	Dellinger, A. Validity and the Review of Literature, Review in the Schools 2005				
2	Hart, C. Doing a Literature Review, Releasing the Social Science Research Imagination 1988 London: Sage and Open University.				
3	Taylor, G. A Student’s Writing Guide: How to Plan and Write Successful Essays 2009 Cambridge University Press				
4	Colin Neville, Neville, C. The Complete Guide to Referencing and Avoiding Plagiarism 2007 McGraw-Hill International				

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<b>5</b>	Punch, Keith An Introduction to Social Research: Quantitative and Qualitative Approaches 2005 Sage
<b>6</b>	Neuman, William Basics of Social Research: Qualitative and Quantitative Approaches 2007 Pearson, Allen and Bacon
<b>7</b>	Bryman, Alan Social Research Methods 2008 Oxford University Press
<b>8</b>	Finlay, B. Statistical Methods for the Social Sciences 2009 Pearson Publisher University of Florida, US

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**SEMESTER – III**

COURSE TITLE	PLANNING LEGISLATION AND PROFESSIONAL PRACTICE			CREDITS	3
COURSE CODE	ARC3710	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-2				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the fundamentals of law and its relevance with planning				1,2,3,5
2	To understand the various planning acts and policies legislated by the government from time to time and their need.				1,2,3,5
3	To understand the various planning legislations and their relevance in current urban development				1,2,3,5
4	To understand the various legal tools available for the structured development of a space.				1,2,3,5
5	To understand the various professional obligations as a urban planner for a successful practice.				1,2,3,5
MODULE 1:Fundamentals of Law and its relevance with planning (9)					
Concepts of law, Sources of law, legislation and precedent, meaning of terms of law, legislation, ordinance, bill, act, regulations and byelaws, Significance of law and its relationship to urban planning, Benefits of statutory backing for schemes- eminent domain and police powers					
MODULE 2:Planning Policies and Acts (9)					
Indian Constitution, Concept and contents, Provisions regarding property rights, Legislative competence of State and Central Governments to enact town planning legislation, National Environmental Policy; Environmental Protection Act, Land Acquisition Act, 1894 and Amendments – Basic concept, procedure for compulsory acquisition of property and determination of compensation. Evolution of planning legislation.					
MODULE 3: Planning Legislation and Policy Formulation and Appraisal (9)					
Model Town Planning Legislation, Regional Planning Legislation including National Capital Region Planning Board Act, 1985, Town and Country Planning Act, Urban Planning and Development Authorities Act, objectives, contents, procedures for preparation and implementation of regional plans, master plans and town planning schemes and 73rd, 74th Constitutional Amendment Act, 1992, Panchayati Raj and Local Self Government Legislation.					
MODULE 4: Legal tools for planning and development (9)					
An overview of legal tools connected with urban planning and development. Concept of arbitration, betterment levy, development charges and public participation in statutory planning process, English Law, Concept of structure plan, local plan and action plan.					
MODULE 5: Professional Practice (9)					
Aims and objectives of professional Institutes, sister bodies, professional role andresponsibility of planning consultants, professional ethics, code of conduct andscale of professional charges; Formulation of project proposal and outlines,consultancy agreements and contracts, managerial aspects; Role in inter disciplinary					

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groups: Appreciation of the decision-making processes and the process in relation to varied consultancy assignments of planning..

REFERENCE BOOKS	
1	ITPI Planning Legislation and professional Practice ITPI, New Delhi
2	Bijlani, H.U. & Balachandran Law and Urban Land 1978 IIPA, New Delhi
3	GoI URDPFI Guidelines Vol. 1 & 2 2014, New Delhi
4	GoI Indian Contract Act 1872; Indian Contract Act 1872; The Arbitration and Conciliation Act 1996. Constitution of India; Constitution (73rd & 74 <sup>th</sup> Amendment) Acts 1992; Model Rent control Legislation; Slum(Improvement and Clearance) Act 1956; Land Acquisition Act 1894 and amendments thereof; NCR Planning Board Act, Environment (Protection) Act 1986; Model Town Planning and Regional Planning Development Law; and other acts
5	Government of Maharashtra Maharashtra Regional and Town Planning Act 1966
6	Government of various States State Acts related town planning, slum clearance, municipalities, development authorities, etc.
7	Kulshrestha, S. K. Urban and Regional Planning in India: Handbook for Professional Practice 2012 Sage Publications, New Delhi
8	ITPI Conditions of Engagement of Professional Services and Scale of Professional Fee and Charges 2011 ITPI, New Delhi
9	CPWD CPWD Manual 2012 2012 CPWD, New Delhi

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COURSE TITLE	TRANSPORT PLANNING			CREDITS	3
COURSE CODE	ARC3711	COURSE CATEGORY	PC	L-T-P	3- 0- 0
CIA	50%			ESE	50%
LEARNING LEVEL	BTL-3				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To understand the various aspects of transport infrastructure planning.				1,2,5,7,9
2	To understand the interrelationship between land use and transport planning				1,2,5,7,9
3	To understand the various transportation surveys taken and their needs.				1,2,5,7,9
4	To study the Urban Transport Demand Modeling through various techniques				1,2,5,7,9
5	To understand the role of public transport in urban areas.				1,2,5,7,9
MODULE 1:Transport Infrastructure Planning					(9)
Role of transport, types of transport systems, evolution of transport modes, transport problems and mobility issues; Urbanization trends, urban transport systems in various cities, impact of urbanization on urban transportation; mobility trends and issues; Urban transport policies and issues related to sustainability; strategies for urban transport improvement; international best practices.					
MODULE 2:Urban Transport and Land Use					(9)
Urban forms and structure and its impact on travel pattern, land use – transport cycle, concept of accessibility and its impact on land use, Principles of Land use transport model					
MODULE 3: Transport Planning Surveys and Studies					(9)
Hierarchy, capacity and geometric design elements of roads and intersections; Urban transport planning process; study area delineation, zoning; data needs; surveys and studies; analytical outputs and their use. Origin and Destination – Parking Survey					
MODULE 4: Transport Demand Modeling					(9)
Aggregate demand modeling approach- trip generation models, trip distribution models and its calibration, modal split models and its calibration, traffic assignment techniques; calibration and validation checks; alternate scenario development, model testing and evaluation; freight generation models.					
MODULE 5: Introduction to Public Transport Systems					(9)
Urban passenger transport system characteristics, public transport modes, genesis of public transport system, mass transit system, Para transit system, technological features, Demand for public transport, public transport demand and supply indicators, determinants of public transport supply and demand, public transport supply and demand characteristics in cities of various sizes and socio economic setting.					
REFERENCE BOOKS					
1	Black John Urban Transportation Planning				
2	Hutchinson, B.G. Principles of Urban Transportation System Planning McGraw Hill Book				
3	Bruton, M.J. Introduction to Transport Planning				
4	Catanese, A.J. New Perspective in Urban Transportation Research 1972 Lexington Books				
5	White, P. Public Transport Planning,Management and Operation1988 London, Hutchinson				
6	L. R. Kadiyali Traffic engineering and transportation planning 2007 Khanna Publishers, New Delhi				



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COURSE TITLE		PLANNING STUDIO – III (REGIONAL PLANNING)		CREDITS	6
COURSE CODE		ARC3793	COURSE CATEGORY	PC	L-T-P
CIA		60%			ESE
LEARNING LEVEL		BTL-6			
Prerequisites :					
CO	COURSE OUTCOMES				PO
1	To train the students in Geo-Informatics software towards the preparation of Regional Plans				1,2,4,8
2	To assess the status of the Case Study City, to prepare Management Plans, to identify and formulate Projects, to prepare DPR covering Physical, Environmental aspects, sequence of tasks, Cost Estimates, Project Benefits, and Institutional Framework for Project Implementation.				1,2,3,4,7,8,9
MODULE 1:Geo-Informatics Laboratory Training					(60)
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.					
MODULE 2:Management and Governance Plans (Regional scale)					(120)
The focus of the studio is on management and governance aspects (in line with the other core and elective courses offered in the semester) on the regional scale. The exercise pertains to metropolitan cities, mega cities and blocks in a district, ranges from preparing management plans and projects related to various sectors pertaining to infrastructure, disaster risk, riverfront development etc.					
Students are also required to identify and formulate projects, work out the appraisals and do the feasibility, viability and implementation mechanisms of the projects. Students work on a case study town/city and have to visit the field for collection of data and interaction with city officials and stake holders. Although planning continues to be an important aspect of the exercise, students are also exposed to project identification, formulation, and appraisal, financing mechanisms and institutional framework. Students draw from the theoretical knowledge provided in the core and elective subjects related to management, finance and governance offered in the semester and translate them in their studio exercise. The culmination of the exercise is in the form of group presentations and studio report.					
REFERENCE BOOKS					
1	Goodman, L.T.; Love; Ralph N. Project Planning and Management: an Integrated Approach 1980 Pergamon Press, NY				
2	Little, IMD, Mirrlees, J.A. Project Appraisal and Planning for Development Countries 1994 London, Heinemann Educational Books				
3	Rougvie, Alexander Project Evaluation and Development 1997 London, Mitchell Publishing				
4	Choudhury, S. Project Management 1988 New Delhi, Tata McGraw-Hill				

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COURSE TITLE	PLANNING THESIS- I			CREDITS	6
COURSE CODE	ARC3898	COURSE CATEGORY	THESIS	L-T-P	0- 0- 12
CIA	40%			ESE	60%
LEARNING LEVEL	BTL-5				
Prerequisites : Nil					
CO	COURSE OUTCOMES				PO
1	To train the students in doing a research topic pertaining to his interest in the field of planning and in the preparation of systematic report, which may be useful when he undertakes the same area of research for his Thesis				1,2,4,5,6,8,9
MODULE 1: Literature study					(150)
It is a formal report written systematically on a particular topic as related to town and country planning. This exercise is taken up as to widen and enrich the literature pertaining to a topic of research. It may focus upon cross section of literature of a topic with or without research hypothesis. The material written systematically may be useful in fourth semester when the same topic with literature reviewed systematically be confined as a part of Planning thesis - II. There will be three reviews conducted internally and at the end of the semester there will be a viva voce conducted by the Institute comprising of a panel with one external member.					
REFERENCE BOOKS					
1	Brubaker, D.L. and Thomas, R.M. Thesis and Dissertations: A Guide to Planning, Research and Writing, 2007				
2	Bracken, I. Urban Planning Methods, Research and Policy Analysis 2008 Routldge				
3	Wang, X., Von Hofpe, R. Research Methods in Urban and Regional Planning 2007 Springer				

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COURSE TITLE		SUMMER INTERNSHIP			CREDITS	2
COURSE CODE		ARC3897	COURSE CATEGORY	MLC	L-T-P	0- 0- 0
CIA					ESE	100%
LEARNING LEVEL		BTL-5				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the working of an office and the execution in the site practically.					1,2,4,7,8,9
MODULE 1: Internship						(2 Months)
The choice of the place of training shall be a Planning Firms, Government Organizations, Development Authorities, etc. which are headed by Urban Planners.						
The final evaluation of the summer internship will be based on the following features.						
i. Office training						
ii. Field visit and data collection techniques and training						
iii. Critical analysis of the project						
iv. Report Preparation						
Students should send their joining report, monthly progress reports (in the prescribed format) and completion report during the period of summer internship. Students should prepare the portfolio of the work done during this period.						

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### SEMESTER – IV

COURSE TITLE		PLANNING THESIS PHASE - II		CREDITS	10	
COURSE CODE		ARC3899	COURSE CATEGORY	THESIS	L-T-P	0- 0- 20
CIA		70%			ESE	30%
LEARNING LEVEL		BTL-6				
Prerequisites :						
CO	COURSE OUTCOMES					PO
1	To develop a basic understanding of the area chosen for study (by carrying out a detailed Literature review).					1,3,5,7,8,9
2	To undertake detailed exploration of the topic (by way of surveys and studies).					1,7,8,9
3	To identify issues and concerns those emerge out of the study and suggest recommendations.					1,7,8,9
MODULE 1: Thesis						(300)
The students are required to carry out independent research and prepare a thesis on a topic on urban planning selected by them and approved the faculty under the supervision of a research guide allocated by the department.						
The main objective of the Thesis is to provide an opportunity to the students to conduct an original study and develop a subject of their choice, which adds significantly to the knowledge of urban planning. This attempt would also give a chance to the students to demonstrate their abilities to use and apply planning theories and techniques they have learnt in theory subjects and to arrive at independent conclusions. Depending upon the theme of the Thesis, investigations may involve original field work (collection of primary data), compilation and analysis of data already available and critical analysis before its synthesis in the form of conclusions and policy recommendations.						
The broad areas of study in the thesis would include						
1. Planning for region, urban development and renewal						
2. Planning for infrastructure development						
3. Urban governance, Management and Finance						
4. Environmental and Sustainable development						
5. Heritage and Conservation in Historical environment.						
6. Mass Housing in special cases (Disaster and Geographical conditions)						
7. Any other emerging areas in the field of urban and regional planning						
The thesis shall be submitted in the form of report, drawing sheet, charts, CDs and Slides if any						
REFERENCE BOOKS						
1	Brubaker, D.L. and Thomas, R.M. Thesis and Dissertations: A Guide to Planning, Research and Writing, 2007.					
2	Rowena Murray How to Write a Thesis (3 <sup>rd</sup> Edition) - Open University Press					
3	F. Abdul Rahim Thesis Writing 2005 New Age International (P) Limited Publishers, New Delhi.					
4	Kastens, K. Pfirman, S., Stute, M., Abbott, D. and Scholz, C. How to Write Your Thesis - Colombian University, 2010					
5	Bracken, I. Urban Planning Methods, Research and Policy Analysis 2008 Routldge					
6	Wang, X., Von Hofpe, R. Research Methods in Urban and Regional Planning 2007 Springer					

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### ELECTIVE COURSES

COURSE TITLE		ENVIRONMENTAL IMPACT ASSESSMENT			CREDITS	3
COURSE CODE		ARC3721	COURSE CATEGORY	PE	L-T-P	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the relationship between the environment and development.					1,2,4,7
2	To understand the role of environmental impact assessment and its methods.					1,2,4,7,8,9
3	To understand the importance of public participation and assessment methods in the overall framework of EIA					1,2,4
4	To understand the need for environmental management and its techniques					1,2,4
5	To understand the emerging concepts in the field of environmental management					1,2,4,7,9
MODULE 1:Environment and Development (9)						
Environment and Development interface: Resource Use, exploitation and conservation: Land, water, air and green spaces including forest cover. Impact of various human activities on environment including recreation, tourism, urban waste, and impact on environment.						
MODULE 2:EIA and its methods (6)						
Role of EIA in the Planning and decision making process. Definition and need, evolution and objectives, tasks and scope. Methods of EIA; advantages and limitations.						
MODULE 3: Assessment of Impacts and Public Participation (6)						
Assessment of impacts on resources (Including air, water, flora and fauna); assessment of impacts on Land use. Assessment of social and health impacts.Public Participation in EIA; definition and concepts, objectives, techniques, advantages and limitation, PRA techniques.						
MODULE 4: Environmental Management (9)						
Environmental Impact Assessment, thresholds, indicators, audits, environmental certification, lifecycle analysis, environment and poverty links, environmental policy, Acts and regulations; Environmental education, participatory approaches, emerging concepts. Disaster classification, concepts, hazards, vulnerability, risks, human response to disaster, impacts						
MODULE 5: Emerging Concepts (12)						
Emerging Concepts: smart growth, clustered cities, ecological foot prints, green development, sustainable cities and inclusive cities for sustainable livelihood; Environment and poverty links; Environment and Economy interaction: Kuznets curve, Green GDP, Carbon Trading, carbon sequencing, environmental accounting, and Green Budgeting.						
REFERENCE BOOKS						
1	Asian Development Bank Environmental Impact Assessment for developing Countries in Asia Vol. I and II. 1997 ADB Publication					
2	L.W. Canter Environmental ImpactAssessment2 <sup>nd</sup> Edition1996 McGraw Hill, New York					
3	R.R. Barthwal Environmental ImpactAssessment1998 New Age International Publishers					
4	R. Dale Evaluating Development Programme and Project2 <sup>nd</sup> Edition2004 Sage Publication					
5	A.K. Srivastava Environment ImpactAssessment2003 A.P.H. Publishing Corporation, New Delhi					

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<b>6</b>	Modak, P. and Biswas, A.K. Conducting Environmental Assessment in Developing Countries 1999 United Nations University Press.
<b>7</b>	Robinson, H., Kanilo, P., Anumba, C.J. and Patel, M. Governance and Knowledge for Public Private Partnership 2010 Wiley – Blackwell, Oxford

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COURSE TITLE		URBAN FINANCE AND GOVERNANCE			CREDITS	3
COURSE CODE		ARC3722	COURSE CATEGORY	PE	L-T-P	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the role of urban governance in today’s context.					1,2,4,9
2	To understand the various efforts taken towards the digitalization of various governance services for the welfare of the people.					1,2,4,9
3	To understand the structure of municipal finance and its working mechanism.					1,2,4
4	To understand the importance of finance and the various funds available to carry out urban reforms.					1,2,4
5	To understand the various methods available to enhance the municipal finance and its management					1,2,4
MODULE 1:Overview of Urban Governance						(9)
Basic concepts and components of government and governance - Governance and urban governance - Definitions, principles and practice regarding urban governance. -Evolution and processes - governance and change – hierarchy and structure, process of inclusion and exclusion, new forms of governance						
MODULE 2:Governance to E-Governance						(9)
e-Governance-concepts, theories and practices - e-Governance indices-technology, legal, organizational and community related aspects of e-governance - Description to Institution and Institutional development - e-Governance efforts in India and abroad - e-Readiness indices and e-Governance						
MODULE 3: Municipal Finance						(9)
Nature and composition of income and expenditure - Limitations and need for revenue enhancements - Expenditure control methods and mechanisms - Budgetary allocation from central and state governments for urban development - Assistance from foreign donors and multilateral agencies - Nontraditional sources of funding – Market access – Pool finance-prerequisite- Conditions for accessing non-traditional funds.						
MODULE 4: Resources Based on Achievement of urban Reforms						(9)
Role of State Government and Urban Local Bodies, City’s Challenge Fund, urban Reforms – Implications on Resources, Incentive Fund, State Level Pooled Finance Development Fund.						
MODULE 5: Institutional Capacity Enhancement						(9)
Better finance management and management process – Accounting and budgeting, Asset management and receivables management - Cost centre approach – Financial operating plan -City corporate plan - Development of urban indicators – Computerization and management information system.						
REFERENCE BOOKS						
1	Rhodes, R.A.W. Understanding Governance: policy networks, governance, reflexivity and accountability. 1997 Open University Press, Maidenhead, GB, Philadelphia					
2	Jayal, N.G., Prakash, A. and Sharma, P.K. Local Governance in India: decentralization and beyond. 2006 Oxford University Press, New Delhi					
3	Baud, I.S.A. and Wit, J. de New Forms of Urban Governance in India: shifts, models, networks and contestations 2008 Sage New Delhi.					

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4	Maria Pinto, 'Metropolitan City Governance in India', Sage Publications, New Delhi. 1999.
5	Mathur Om Prakash 'India: The Challenge of Urban Governance' Centre for Urban and Community Studies, University of Toronto, 1999.
6	Martin Boddy. 'Urban transformation and urban governance: shaping the competitive city of the future' The Policy Press, 2003.
7	Richard O'Doherty, 'Planning, People and Preferences', Arebury, USA 1999.
8	John Abbott, 'Sharing the City: Community Participation in Urban Development', Earthscan, London. 1996.
9	Ian Blore, Nick Devas, R. P. Slater 'Municipalities And Finance: A Sourcebook For Capacity Building' Earthscan, 2004



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COURSE TITLE		LAND AND REAL ESTATE MANAGEMENT			CREDITS	3
COURSE CODE		ARC3723	COURSE CATEGORY	PE	L-T-P	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the various facets of real estate industry.					1,2,4,9
2	To understand the various laws regulating real estate development.					1,2,4,9
3	To understand the principles of land economics and land policy in real estate market.					1,2,4,9
4	To understand the available land information system and its problems.					1,2,4,9
5	To understand the various land pricing techniques which is used in the real estate industry.					1,2,4,9
MODULE 1: Introduction (6)						
Introduction to real estate - Definition, principles of real estate - Introduction to real property ownership - Leasing property and succession – Methods of sale/purchase and title search						
MODULE 2: Investment and Laws (9)						
Real estate investment analysis and portfolio management - Foreign direct investment (FDI) -Role of NRIs and PIOs in the investment market - Marketing and brokerage - Real estate regulatory bill and its likely impact.						
MODULE 3: Land Economics, Land Policy and Land Markets (12)						
Economic Principles of Land use, Concept of Rent and its application. Demand forecasting for land, factors affecting land supply and demand; Market Conditions – formal and informal, legal and illegal; Instruments of land policy and impact on markets: Planning instruments, market development instruments, financial development instruments, fiscal instruments, and other supportive instruments: Market by Government and Government by Markets: Regulation, monopoly power and its use, private development, rent-seeking and its impact on land supply, access to land by various segments of population, and PPP in land.						
MODULE 4: Land Information System (6)						
Land Information System (LIS): Land records in rural areas, transparency in land transaction, methods of publicizing land prices and land price monitoring.						
MODULE 5: Land Pricing and Real Estate Markets (12)						
Land valuation techniques, land pricing, subsidies, auctions; type of development: plotted, flat system, and their effect on land pricing. Hedonistic pricing, land price behavior in urban centers; constructing the land price index; Market Conditions – real estate cycles, market efficiency, market forecasting, Cartels, collusion, and rent seekers in real estate market, agents in real estate markets, risks;						
REFERENCE BOOKS						
1	Harvey, Jack and Jowsey Erine Urban Land Economics 2004, 6 <sup>th</sup> Edition Macmillan Publications, London					
2	David J. Lynn, 'Emerging Market Real Estate Investment: Investing in China, India, and Brazil' ; John Wiley & Sons Inc, New Jersey, U.S.A. 2010					
3	Fillmore W Galaty, 'Modern Real Estate Practice' Dearborn Trade Publishing, New York, U.S.A. 2002.					

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<b>4</b>	Gerald R Cortesi, 'Mastering Real Estate Principles'; Dearborn Trade Publishing, New York, U.S.A. 2001.
<b>5</b>	John Ratcliffe, 'Urban Planning and Real Estate Development" Routledge, Taylor & Francis Group, London, 2009.
<b>6</b>	Narayan Laxman Rao, 'Real Estate Deals'; Asia Law House, India. 2010
<b>7</b>	Rajkumar S Adukia, 'Real Estate: Law Practice & Procedures' Snow White Publications Pvt.Ltd, Mumbai, India. 2009
<b>8</b>	World Bank Sustainable Land Management Sourcebook. 2008 World Bank Publications, Washington

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COURSE TITLE		GIS MODELING IN PLANNING			CREDITS	3
COURSE CODE		ARC3724	COURSE CATEGORY	PE	L-T-P-S	1- 0- 4- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-5				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the current utilization of GIS software and its reach.					1,2,4,7,8,9
2	To learn the functions of GIS models in Urban and regional planning					1,2,4,7,8,9
3	To learn the Spatial data input using GIS software.					1,2,4,7,8,9
4	To understand the various attribute data input used in the GIS software.					1,2,4,7,8,9
5	To analyse the spatial aspects using GIS.					1,2,4,7,8,9
MODULE 1:Introduction						(9)
Definition, map and map analysis, automated cartography, history and development of GIS, Hardware requirement, system concepts, co-ordinate systems, standard GIS Packages.						
MODULE 2:Data Entry, Storage and Maintenance – In Urban and Regional Planning						(9)
Sources of data, Types of data, spatial and non-spatial data, data structure, points, lines, polygon, vector and raster, files and file organization, database, data entry, digitizer, scanner, Dbase, files and data formats, data compression. Classification of spatial and non-spatial date – application of spatial date in urban and regional planning – objectives and functions of GIS models in urban and regional planning.						
MODULE 3:Spatial Data Input						(9)
Defining the objectives of a GIS planning problems – Identification of required spatial data layers – coding schemes – digitisation of spatial date – editing spatial date usable for the given planning problem.						
MODULE 4:Attribute Date Input						(9)
Role of attribute data in defining geographic features – adding attribute data file – topology generation – joining attribute data to its geographic features.						
MODULE 5: Spatial Analysis using GIS						(9)
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.						
TEXT BOOKS						
1	Brail. K. R. (1990), “Integrating GIS into Urban and Regional Planning – Alternative approaches for developing countries”, Regional development Dialogue, Vol. 11, No.3, UNCRD, Japan 1990.					
2	Cartwright T.J. (1991), “Information Systems for Urban and Management in Developing countries. The concept and reality, computers, environment and urban systems”, Vol: 15, 1991.					
3	Jeffrey Star and John Estes, “Geographical Information System – An Introduction”, Prentice Hall Inc., Engelwood cliffs, New Jersey, 1990.					
4	Klosterman RE. (1990), “Micro Computer packages for planning analysis”, Americal Planning Association Journal, Autrenn, 1990.					
5	B. Bhatta, “Remote Sensing and GIS”, Oxford University Press, New Delhi, 2009					
6	Ian Heywood, Sarah Cornelius and Steve Carvee, “An Introduction to Geographical Information System, Longman, England, 2000.					

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<b>7</b>	Earl Gose, Richard Johnson Baugh and Steve Jost, "Pattern Recognition and Image Analysis", Prentice Hall of Indian Private Limited, New Delhi, 1999.
<b>8</b>	Itzhak Benenson and Paul. M. Torrens, "Geo-simulation – Automate based Modeling of urban Phenomena", John Wiley and Sons Ltd, England, 2004.
<b>9</b>	Paul. A. Longey (et al), "Geographic Information System and Science", John Wiley and Sons Ltd, New York, 2001.

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COURSE TITLE		PLANNING FOR SPECIAL AREAS		CREDITS	3	
COURSE CODE		ARC3725	COURSE CATEGORY	PE	L-T-P-S	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the concept of special areas and their difference with respect to other places.					1,2,5
2	To understand the need for planning special areas and their character.					1,2,5
3	To understand the needs of refugees and their needs while planning a settlement.					1,2,5
4	To understand the importance of tourism sector in the overall economy.					1,2,5
5	To understand the need for tourism planning and management.					1,2,5
MODULE 1:Introduction						(9)
Inner City Housing: Evolution and Historical Background, community, spatial Characteristics, housing transformation of core city, impact of transformation Problems of inner cities, policies and programmes. Fringes / Peri-urban / Sub-urban Housing: Rural urban linkages, characteristics offringe areas, development process, various modes of land Supply in fringe area.						
MODULE 2:Special Areas						(6)
Arid / Coastal / Hilly Region Housing: Settlement and shelter characteristics, Materials and technology, design standards, climatic factors, danger of hazards, Settlement planning, development policies and programmes.						
MODULE 3: Planning for Refugees						(6)
Concept of refuges, types of refuges, norms for treatment of refugees, refugees law, refugees and housing, problems of refugees, planning considerations for the refugees, Case studies.						
MODULE 4: Tourism Sector – Introduction and impacts						(12)
Definitions, scope, nature, classification and dimension, tourism as an industry, tourism in developed and developing world. Relationship between Tourism and Urban Development, Tourism multiplier and forecasting methods: capacity building and carrying capacity planning for tourism projects, tourism and cultural and social change: Socio-cultural problems, environmental degradation.						
MODULE 5: Planning for Tourism						(12)
Nature and scope of a tourism plan- key issues and stages, data requirements, surveys, role of key players / stake holders in tourism policy and planning, sustainable tourism development planning; community planning and tourism; implementation and management, role of travel and tourism promoting agencies, monitoring the tourism development; Tourism marketing - concept, techniques and strategies.						
REFERENCE BOOKS						
1	Davis Ian (ed.) Disasters and the SmallDwelling1981 Pergamon Press, NY					
2	Charles R.Goeldner , J. R.Brent RitchieTourism: Principles, Practices,Philosophies2009 John Wiley & Sons					
3	Gilroy Rose andWoods Toberta(Ed.)Housing Women 1984 Routledge, Lond.					
4	Chant Sylvia Gender, Urban Developmentand Housing1996 UNDP, NY					

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<b>5</b>	Airea Single Family Dwellings 1957 AIREA Chicago, USA
<b>6</b>	Musson N Building for the Elderly 1963 Reinhold Pub., NY
<b>7</b>	A. SatishBabu Tourism Development in India 2008 APH Publishing Corporation ,New Delhi
<b>8</b>	Christopher MLawUrban Tourism:The Visitor Economy and theGrowth of Large Cities2009 Continuum
<b>9</b>	K.K. Sharma Planning for Tourism 2003 Sarup& Sons, New Delhi
<b>10</b>	PlanningCommissionWorking Group Report onTourism (2012-2017)2012 Planning Commission, Government of India
<b>11</b>	Ministry ofTourismStrategic Action Plan forTourism in India2011 Ministry of Tourism,Government of India

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COURSE TITLE		PLANNING AND PREPAREDNESS FOR DISASTER		CREDITS	3	
COURSE CODE		ARC3726	COURSE CATEGORY	PE	L-T-P	3- 0- 0
CIA		50%			ESE	50%
LEARNING LEVEL		BTL-2				
Prerequisites : Nil						
CO	COURSE OUTCOMES					PO
1	To understand the difference between manmade disaster and natural disaster and its impacts.					1,2,4,9
2	To understand the planning measures which are involved in the disaster prevention process.					1,2,4,9
3	To understand the importance of disaster management and disaster education.					1,2,4,9
4	To understand the importance of disaster preparedness and recovery from disaster.					1,2,4,9
5	To understand the various disaster prevention and mitigation techniques that can be adopted.					1,2,4,9
MODULE 1:Introduction to Disasters						(6)
Disaster and natural environment - Disaster and man-made environment - Industrial pollution and health Hazards - Industrial pollution and natural resource damage - Social vulnerability and damage to people and property - Case studies related to natural disaster and man-madedisasters at the national and international levels.						
MODULE 2:Disaster: Physical Planning and Resource Management						(9)
Physical planning imperatives on the development of villages, towns and cities and regions -Urban and regional land use planning and settlement growth - Planning standards, building byelaws,legal, administrative and institutional support systems -National DisasterManagement Act 2005.						
MODULE 3: Disaster Management						(9)
Relevance of disaster management in development and environment, Role and responsibilities of government and non-government organizations, Disaster Education – awareness of individuals, communities and participation at various levels; Integrating disaster mitigation in the spatial planning process, provision of infrastructure for disaster mitigation.						
MODULE 4: Disaster Preparedness						(9)
Disaster preparedness, concepts, processes and perceptions of Disasters – causes and consequences. Disaster and natural environment: flooding and drainage, landslides, soil erosion, earth quakes, tremor, tsunami, cloud bursts, etc. Damage to people and property due to disaster; Case studies from across the world; Disaster Recovery.						
MODULE 5:Disaster Prevention and Mitigation						(12)
Disaster Mitigation Planning and resource management: Disaster prevention, displacement and development. Government structure and disaster mitigation, disaster mitigation measures at individual, group and community level. Human response to disaster – short term and long term effects. Integrating disaster mitigation in spatial planning process: micro zoning, building bye-laws, norms and standards, density variations, provisions of infrastructure for disaster mitigation. Disaster insurance at various levels: village,district, and town / city level; Relevance of disaster management with relevant to development and environment; Use of technology and media for spreading disaster awareness.						

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REFERENCE BOOKS	
1	UNHS Programme Mitigating the impacts of Disasters: Policy Directions Abridged Edition 2007 UN-Habitat Earthscan Publishing, London
2	Rajib Shaw Community, Environment and Disaster Risk Management 2010 Emerald Group Publishing Limited
3	Rajib Shaw Hari Srinivas, Anshu Sharma Urban Risk Reduction An Asian Perspective 2009 Emerald Group Publishing Limited
4	P C Sinha Introduction to Disaster Management 2007 Anmol Publications, New Delhi
5	PardeepSahni, AlkaDhameja, Uma Medury Disaster Mitigation: Experiences and Reflections 2008 PHI Learning Pvt. Limited, New Delhi
6	Jegadish Gandhi P Disaster Mitigation & Management Post Tsunami Perspectives 2007 Deep & Deep Publications Pvt Ltd, New Delhi
7	NDMA Disaster Management Guidelines 2007-11 NDMA
8	Ministry of Home Affairs Model Amendment in Town and Country Planning Legislations, Regulation for Land Use Zoning and Building Byelaws for Structural Safety 2004 MHA
9	Ministry of Home Affairs National Policy on Disaster Management(NPDM) 2006 MHA
10	Shirish B Patel AromarRevi, Ed Recovering from Earthquakes, Response Reconstruction and Impact Mitigation in India 2010 Routledge, Tolstoy Marg, New Delhi
11	Satish Modh Introduction To Disaster Management 2010 Macmillan Publishers India Limited, New Delhi
12	Committee on Disaster Research in the Social Sciences: Future Challenges and Opportunities, National Research Council Facing Hazards and Disasters: Understanding Human Dimensions 2006 The National Academies Press, Washington DC