Proposed

Course Structure and Syllabus for Post Graduate Degree Courses

In the

Department of Architecture, Town and Regional Planning Indian Institute of Engineering, Science and Technology, Shibpur

Leading to award of

Master of Planning
(With specialization in Urban and Regional Planning)

Duration of the courses

4 Semesters (Two Years)

With effect from July 2014

First Semester [Part I]

Sl.	Subject Name	Code	Contact hours per Marks week			Credit			
			L	S	Exam	IA ^[1]	S	Total	
	Theoretical Subjects	•							
1	Planning Theory [PT]	MURP 101	3		70	30	-	100	3
2	Transportation Planning and Design[TPS]	MURP 102	3		70	30	-	100	3
3	Infrastructure, Network and Services [INS]	MURP 103	3		70	30	1	100	3
4	Statistical Methods in Planning [SMP] [2]	MURP /MAT H104	3		70	30	-	100	3
5	Demography and Population Studies[DPS]	MURP 105	2		35	15	-	50	2
6	Elective I [ELE-I] [3]	MURP 106	2		35	15	ı	50	2
	Total		16					500	16
	Sessional Subjects								
7	Planning Project I ^[11] [PLP-I]	MURP 151		10			200	200	6
8	Planning Project Report I ^[12] [PLR-I]	MURP 152			100			100	3
9	Planning Project Viva Voce I ^[13] [PLV-I]	MURP 171			100			100	2
10	GIS and Remote Sensing [GRS]	MURP 153		4			100	100	3
	Total			14			_	500	14
	Grand Total		16	14				1000	30

Note: Exam: End Semester Final Examination/ L: Lecture/ S: Sessional

#1 : IA~ Internal Assessment [(Mid Semester Exam or Class Test) + Assignment: 15+15=30].

#2 : Statistical Methods in Planning [SMP] Code MURP/MATH 104A to be offered by Dept. of Mathematics, Bengal Engineering and Science University, Shibpur.

#3 : Elective Ia: MURP/HUM 106/1: Sociology and Planning (SAP); to be offered by Dept. of Humanities, Bengal Engineering and Science University, Shibpur.

Elective Ib: MURP 106/2: Disaster Mitigation and Management (DMM).

#11 : Consists of two interim reviews of 100 marks each.

#12: End Semester presentation of Drawing and Report to a Jury of at least three Examiners consisting of the Subject Teacher/s, one External and one Internal Examiner nominated by the Departmental Academic Committee.

#13: Viva Voce Examination to be conducted by the Jury as described in #12.

Second Semester [Part 2]

Sl.	Subject Name	Code	hour	tact s per eek	Marks		Credit		
			L	S	Exam	IA*	S	Total	
	Theoretical Subjects								
1	City and Metropolitan Planning [CMP]	MURP 201	3		70	30	-	100	3
2	Regional Planning Theory [RPT]	MURP 202	3		70	30	-	100	3
3	Ecology, Environment and Energy [EEE]	MURP 203	3		70	30	-	100	3
4	Housing and Urban Renewal [HUR]	MURP 204	3		70	30	ı	100	3
5	Urban Design Principles [UDP]	MURP 205	2		35	15	ı	50	2
6	Elective II** [ELE-II]	MURP 206	2		35	15	ı	50	2
	Total		16					500	16
	Sessional Subjects								
7	Planning Project II ^[21] [PLP-II]	MURP 251		12			300	300	9
8	Planning Project Report II ^[22] [PLR-II]	MURP 252			100			100	3
9	Planning Project Viva Voce II ^[23] [PLV-II]	MURP 271			100			100	2
	Total			12				500	14
	Grand Total		16	12				1000	30

Note: Exam: End Semester Final Examination/ L: Lecture/ S: Sessional

* : IA~ Internal Assessment [Mid Sem. or Class Test and Assignment: 15+15=30].

** : Elective II: MURP 206/1: **Urban Heritage Conservation (UHC)**; MURP 206/2: **Landscape Planning (LSP)**; MURP 206/3: **Rural Development and Planning (RDP)**.

#21 : Consists of 2 interim reviews of 100 marks each.

#22: End Semester presentation of Drawing and Report to a Jury of at least three Examiners consisting of the Subject Teacher/s, one External and one Internal Examiner nominated by the DAC.

#23 : Viva Voce Examination to be conducted by the Jury as described in #22.

Third Semester [Part 3]

Sl.	Subject Name	Code	hour	tact s per ek	Marks		Credit		
			L	S	Exam	IA*	S	Total	
	Theoretical Subjects								
1	Project Planning and Management [PPM]	MURP 301	3	-	70	30	-	100	3
2	Urban Administration and Management [UAM]	MURP 302	3	-	70	30	-	100	3
3	Planning Legislation and Professional Practice [PLP]	MURP 303	3	-	70	30	-	100	3
	Total		12					300	9
	Sessional Subjects								
5	Planning Project and Thesis I ^[31] [PPT-I]	MURP 351	-	16	-	-	350	350	10
6	Planning Project and Thesis Report I ^[32] [PPR-I]	MURP 352	-	-	150	-	-	150	4
7	Planning Project and Thesis Viva Voce I ^[33] [PPV-I]	MURP 371	-	-	100	-	-	100	2
8	Fieldwork Training and Viva voce [FTV] ^[34]	MURP 372		ot eding eeks			100	100	3
	Total			16				700	19
	Grand Total		12	16				1000	28

Note: Exam: End Semester Final Examination/ L: Lecture/ S: Sessional

- * : IA~ Internal Assessment [Mid Semester or Class Test and Assignment: 15+15=30].
- #31: Consists of 2 interim reviews of 125 marks each, by a Jury of at least Three Examiners consisting of the Principal Supervisor/s, one Internal Examiner, and one External Examiner nominated by the DAC who will be the common External Examiner for all candidates and who will further continue to act as one of the two external examiners in stage #32.
- #32: End Semester presentation of Drawings and Report to a board of examiners of at least Four Examiners consisting of the Principal Supervisor/s, one Internal Examiner nominated by the DAC, and Two External Examiners nominated by the DAC who will be the common External Examiners for all candidates.
- #33 : Viva Voce Examination to be conducted by the Jury as described in #32.
- #34: Fieldwork Training and Viva Voce involves field training not exceeding **SIX weeks** to practical exercises independently or jointly with external planning organizations/Institutions addressing study of real world situations related to planning, and the Viva Voce examination will be conducted at the end of the training program by a jury of at least three examiners amongst which the Head examiner will act as the coordinator.

Fourth Semester [Part 4]

SI.	Subject Name	Code	hour	tact s per eek		Ma	rks		Credit
			L	S	Exam	IA	S	Total	
	Sessional Subjects								
1	Planning Project and Thesis II ^[41] [PPT-II]	MURP 451	-	24	-	-	500	500	15
2	Planning Project and Thesis Report I ^[42] [PPR-II]	MURP 452	-	-	300	-	-	300	9
3	Planning Project and Thesis Viva Voce II ^[43] [PPV-II]	MURP 471	-	-	200	1	-	200	4
	Total			24		·		1000	28
	Grand Total			24				1000	

Note: Exam: End Semester Final Examination/ L: Lecture/ S: Sessional

#41: Consists of 3 interim reviews of 150 marks each, by a Jury of at least Three Examiners consisting of the Principal Supervisor/s, one Internal Examiner, and one External Examiner nominated by the DAC who will be the common External Examiner for all candidates and who will further continue to act as one of the two external examiners in stage #42.

#42: End Semester presentation of Drawing and Report to a board of examiners of at least Four Examiners consisting of the Principal Supervisor/s, one Internal Examiner nominated by the DAC, and Two External Examiners nominated by the DAC who will be the common External Examiners for all candidates.

#43 : Viva Voce Examination taken by the Jury as described in #42.

DETAILED COURSE CONTENT

First Semester [Part 1]	Full Marks	: 1000
Planning Theory and Technique [PTT] Code: MURP 101 [Theory Subject] 3 Lecture periods per week	Full Marks Semester Exam Final Exam Internal assessment	: 100 : 3 hours : 70 : 30

- Module 1: Planning of Human Settlement in historical perspective. An overview of Urban Planning Theory. Methodology of Planning, Aims and objectives of planning.
- Module 2: Components of settlement structure. Models of urban structure. Demand and supply of land for urban use, means and mechanisms. Impact on Urban Structure. Goals of land policy.
- Module 3: Concepts of land use; systems affecting land uses and rationale for land use planning. Location attributes of land uses. Activity system and choice of space qualities. Ekistics.
- Module 4: Various planning process; Evolution of Planning Process, Rationalistic and Incremental planning; Systems approach and physical planning. Introduction to spatial planning at regional level. Choice theory and advocacy planning and their relevance, Types of plan for urban areas.
- Module 5: Special topics which may include but not limited to the following: Human Settlement Planning, concepts and approaches of Sustainable Development; Development and control; Issues on poverty;; Sprawl and urban expansion; New Towns; Future of Cities.
- Module 6: Submission of end term Research paper and presentation of seminar.

Transportation Planning and Design [TPS]Full Marks: 100Code: MURP 102Semester Exam: 3

hours

[Theory Subject] Final Exam : 70 3 Lecture periods per week Internal assessment : 30

- Module 1: Urban structure and transportation systems evolution, technological characteristics, modes and classifications.
- Module 2: Land use-transportation inter-relationships; urban travel characteristics, urban transport planning process.
- Module 3: Mass transit systems: problems and prospects; tramways, trolley buses, LRTS, RTS- operation characteristics; planning transit systems. Para-transit modes.
- Module 4: Transport and environment; Energy and Transport; Economic evaluation of transport systems.

- Module 5: Traffic flow characteristics; Traffic analyses and design considerations; design of intersections; traffic signals and street lighting; local area traffic management, grade separation; flyovers.
- Module 6: Submission of end term Research paper and presentation of seminar.

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Infrastructure, Network and Services [INS]Full Marks: 100Code: MURP 103Semester Exam: 3 hours[Theory Subject]Final Exam: 703 Lecture periods per weekInternal assessment: 30

- Module 1: Introduction to concepts and theories of design and operation of urban services and network systems, Provision of infrastructure and role of the state
- Module 2: Infrastructure for transportation, water supply, sewage, waste water, storm water, solid waste collection/ generation/ purification/ distribution/ disposal/ refuse collection/ recycling.
- Module 3: Infrastructure for Electricity, communication and other network, Social infrastructure Education, health, civic, cultural infrastructure, police protection, fire fighting, general welfare etc.
- Module 4: Operational planning for emergency evacuation in urban areas, basic needs formulation of objectives, norms and standards both for space allocation and quality control.
- Module 5: The network and service systems: components, interrelationship, requirements and needs of appropriate technology. Effects of density, land use and urban structure on design of network and service systems. Cost recovery, economics of urban service system and networks.
- Module 6: Submission of end term Research paper and presentation of seminar.

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Statistical Methods in Planning [SMP]Full Marks: 100Code: MURP/MATH 104Semester Exam: 3 hours[Theory Subject]Final Exam: 703 Lecture periods per weekInternal assessment: 30

- Module 1: Data collection: Statistical data and methods; collection of data, record, file, sources of data; questionnaire design, design of sample surveys; simple random sampling, stratified sampling, systematic samples, etc.; data coding, data verification.
- Module 2: Basic data presentation: Statistical tables; types of tables, comparisons, methods of presentation, graphic presentation; types of charts; plotting a curve, rules for drawing curves; bar charts, pictography, pie charts, histograms.
- Module 3: Statistical methods: Raw data, frequency distribution, selecting number of classes, class limits, curves, cumulative frequency distribution and ogives, measures of central tendency; arithmetic mean, median, mode, geometric mean Page 7 of 20

and harmonic mean; measures of absolute dispersion, range, quartile deviation, average deviation, standard deviation, skewness and kurtosis. Statistical Program for Social Sciences (SPSS), Genstat and Statistica and thier application for statistical methods.

- Module 4: Time series analysis: Variation in time series, trend analysis, cyclical variation, seasonal variation, irregular variation, time series analysis forecasting; Applications in planning. Chi-square test. Correlation, Simple linear regression and Multiple Regression. Bivariate and multivariate analysis.
- Module 5: Probability: Introduction, addition rule, conditional probability, multiplication rule, random variables and probability distribution, mathematical expectation; Binomial distribution, poisson distribution and normal distribution.
- Module 6:- Test of Significance, Test of Hypotheses, Queuing Theory.

Module 7: Class assignment.

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Demography and Population Studies [DPS]Full Marks: 50Code: MURP 105Semester Exam: 2 hours2 Lecture periods per weekFinal Exam: 35Internal assessment: 15

- Module 1: Introduction, Scope, method, subject matter and relevance for spatial planning, sources of demographic data. Interrelations: Population change, socioeconomic dimension of development and pattern of human settlements.
- Module 2: Population, composition and spatial distribution; population structure and composition, spatial distribution causes and implications of spatial differentiation. Analysis of labour force, mortality and fertility, relevance for spatial planning.
- Module 3: Theory models and measurement of internal migration, internal migration and urban growth. Population estimation and projection techniques relevant for regions and settlements. Indian population census data: an appraisal.

Sociology and Planning [SAP]Full Marks: 50Code: MURP/HUM 106/1Semester Exam: 2 hours[Elective Theory Subject]Final Exam: 352 Lecture periods per weekInternal assessment: 15

- Module 1: Classical foundation; Chicago school of sociological inputs; social, spatial, natural and built environment.
- Module 2: Urban ethnographic traditions; capitalism and industrialization; socio-spatial change and urban dynamics.
- Module 3: Social discriminations; disadvantaged section of society; social networks; global cities.
- Module 4:- Sociological approaches of Human Settlement Planning.

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Disaster Mitigation and Management [DMM] Full Marks : 50
Code: MURP 106/2 Semester Exam : 2 hours
[Elective Theory Subject] Final Exam : 35
2 Lecture periods per week Internal assessment : 15

Module 1: Disaster: Classification, concepts, hazards, vulnerability, risks, human response to disaster, impacts

Module 2: Disaster mitigation and management: Relevance of disaster management in development and environment, disaster preparedness, prevention, displacement and development, Role and responsibilities of government and non–government organizations, Disaster Education – awareness of individuals, communities and participation at various levels;

Module 3: Integrating disaster mitigation in the spatial planning process, Design and provision of infrastructure for disaster mitigation.

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Planning Project I [PLP-I] Code: MURP 151 [Sessional Subject] 10 periods per week

The content of PLP-I may include but not limited to the following topics on which the students are expected to work hands on, in individual capacity or in a team, including occasional field trip to various organizations, libraries, offices and various urban and rural areas within India or abroad, for the purpose of collection/procurement of data including photographs, imageries, maps, reports, statistical and population handbooks and for the purpose of conducting study and primary survey, as may be instructed by the subject teacher from time to time:

Literature survey on planning and related fields. Exercise on exposure to neighborhoods, zones and cities with knowledge of mapping and satellite imagery. Study on urban problems – identification, data collection and classification from smaller to larger urban areas. Introduction to planning survey techniques, may include but not limited to – land use, demographic features, socioeconomic, traffic and transportation, services and infrastructure, environmental issues. Preparation and representation of spatial and non spatial data in conventional and digital format. Analysis of planning data. Analysis of data for future projection. Introduction to planning mechanism for local self governments of urban/rural areas. Suggestive urban/rural planning solutions/strategy/policy. Case studies, preparation of drawings and reviews of progress.

Students may require to visit urban/rural areas in India or abroad for the purpose of carrying out planning study/survey for a duration of not exceeding 2 weeks during which all other classes will be suspended.

There will be two interim reviews under PLP-I, which will carry 100 full marks each, end term Final review of Sessional work under PLR-I will carry 100 full marks and Viva voce examination under PLV-I of 100 marks will be carried out as detailed in the structure of the syllabus.

Full Marks : 200

The following assignments are suggestive and may be applicable as per convenience.

Assignment 1: Literature Review (Individual Assignment: not more than two weeks duration).

Each student is expected to read the articles given from a journal or a few books and write summary of not more than a page (250 words only) of each, highlighting the problem, approach, methodology, analysis, how the author arrived at the conclusion and its relevance to Indian context. There will be a negative marking for writing the same text as in the original (that is copying from the original text given to them).

Assignment 2: Residential development (Group Assignment: not more than three weeks duration). Preparation of a residential development scheme with schematic housing layout, services, roads and other network.

Assignment 3: Area Appreciation (Individual Assignment: not more than four weeks duration).

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.

Assignment 4: Site Planning (Individual Assignment: not more than four weeks duration).

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 space 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 variables such as soil conditions, topography, environmental dimensions, location, spatial standards applicable to the site, etc.

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Planning Project Report I [PLR-I] Full Marks : 100

Code: MURP 152

[Sessional Examination]

As detailed in the course structure.

Planning Project Viva Voce I [PLV-I] Full Marks : 100

Code: MURP 171

[Viva Voce Examination]

As detailed in the course structure.

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GIS and Remote Sensing [GRS] Full Marks : 100

Code: MURP 153 [Sessional Subject] 4 periods per week

Sessional hands-on workouts will be selected from amongst the following topics which may include but not limited to the list and subject to availability of resources including data and software:

Module 1: Introduction to GIS and Remote Sensing.

Module 2: Basic concepts in satellite remote sensing, satellites, sensors & coverage, principles of digital image processing, satellite data products & its use, application of remote sensing in regional studies - geology, geomorphology, forest and vegetation, water resource and drainage system, land use and land cover analysis, urban sprawl studies and urban remote sensing issues.

Module 3: G.I.S applications in planning and its role in physical planning, creation of digital database for GIS, representation & storage of spatial data, processing tools, data analysis & modeling; Introduction to GPS technology.

City and Metropolitan Planning [CMP] Code: MURP 201 [Theory Subject] Full Marks Semester Exam : 3 hours : 70	Second Semester [Part 2]	Full Marks	: 1000
3 Lecture periods per week Internal assessment : 30	Code: MURP 201	Semester Exam Final Exam	: 3 hours : 70

- Module 1: Urban Growth and System of Cities: Urbanisation, Growth of cities, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities.
- Module 2: City Region Linkages: City, fringe and the periphery physical and functional linkages, peri-urban development, Urban Sprawl.
- Module 3: Metro and Mega Cities: Problems and Issues; Growth trends and processes, characteristics, problems, concepts and concerns of urban sustainability, issues related to diversity and unintended growth, quality of life, inclusivity and equity, climate change, transit oriented development, participatory planning. Inner city, Special Area Development—Designing Central Business District (CBD) and Business Improvement District (BID), Areas for development of industries, issues and problems, approach to development.

Module 4:

Module 4: Urban Policies, Programs and Approaches: Policies, programs and approaches at various levels, impact on metro and mega city development.

Module 6: Submission of end term Research paper and presentation of seminar.

Regional Planning Theory [RPT] Full Marks : 100
Code: MURP 202 Semester Exam : 3 hours
[Theory Subject] Final Exam : 70
3 Lecture periods per week Internal assessment : 30

- Module 1: Introduction to Regional Planning Theory.
- Module 2: Elements of settlement system size, function, spacing, linkage, input tributary and output tributary, settlement patterns and factors responsible thereof.
- Module 3:- Regions, their structures, characterization and construction; delineation of regions and methods and techniques of regionalization: Economic regionalization, composite regionalization.
- Module 4: Measurement of distribution of settlements, size and class of settlements, cluster and agglomeration studies, functional at tributes and spacing of settlements, potentialities and centrality of settlements.

- Module 5: Distribution of city sizes and rank-size rule, negative exponential density gradient. Theoretical framework of central place theory. Christaller's fixed Khierarchy, Losch's general system of location of settlements
- Module 6: Regional development models: their structures, characterization and construction

Module 7: Submission of end term Research paper and presentation of seminar.

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Ecology, Environment and Energy [EEE] Full Marks : 100
Code: MURP 203 Semester Exam : 3 hours
[Theory Subject] Final Exam : 70
3 Lecture periods per week Internal assessment : 30

- Module 1: Fundamentals of ecosystem its structure, function, flow of energies & matters in environment, environmental factors & process with respect to geological, hydrological & atmospheric system; environmental degradation and its impact on various ecosystems.
- Module 2: Resource use, exploitation and conservation; Impact of human activities on environment. Environment and economy interaction.
- Module 3: Environmental degradation, pollution types, effects & control techniques; environmental impact assessments techniques and concept of environmental atlas; environmental evaluation and its parameters thresholds, indicators, audits, environmental certification, lifecycle analysis; Indicators of environmental quality assessment; principles of environmental approach to planning.
- Module 4: Environment and poverty links; Environmental policy, Acts and Regulations; Environmental education, participatory approaches, emerging concepts.
- Module 5: Energy, Climate change and Sustainable Urban Development Interface; Energy Consumption in cities, determinants of energy demand, phenomenon of climate change, factors influencing climate change, impacts of climate change.
- Module 6: Submission of end term Research paper and presentation of seminar.

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Housing and Urban Renewal [HUR]

Code: MURP 204

[Theory Subject]

3 Lecture periods per week

Full Marks

Semester Exam

Final Exam

To

Internal assessment

30

- Module 1: Introduction to Housing and Urban Renewal.
- Module 2: Global population and housing scenario; Urban and rural context of housing problems.
- Module 3: Housing scenario in India; Housing shortage; Problems of urban poverty; Slums and squatters settlements.
- Module 4: Residential layouts, housing densities, neighborhood unit, community facilities.

 Social aspects of housing; Finance for housing: priority in the national plans
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role of public and private agencies, role of cooperatives and various institutions. Housing norms and standards.

Module 5: Urban Regeneration, renewal, rehabilitation, revitalization, reconstruction and redevelopment – concepts, purpose, interventions, processes, approaches, methods and tools.

Module 6: Submission of end term Research paper and presentation of seminar.

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Urban Design Principles [UDP]Full Marks: 50Code: MURP 205Semester Exam: 2 hours[Theory Subject]Final Exam: 352 Lecture periods per weekInternal assessment: 15

- Module 1: Scope and objectives of urban design; its relation with urban planning; scale of various urban design projects regional and city level;
- Module 2: Social/cultural/ecological/energy determinants of design; Imageability of the city and Elements of urban design as derived by Kevin Lynch.; Structure of urban spaces location criteria of activities and urban uses; principles of townscape design, Gordon Cullen's findings;
- Module 3: Urban spaces Hierarchy and nature; Urban scale Intimate, Urbane and Monumental. Human scale and Generic scale in Urban Design; Behavioral issues in urban design; principles of urban spatial organization; Modern Techniques and emerging approaches to urban design.

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Urban Heritage Conservation [UHC]Full Marks: 50Code: MURP 206/1Semester Exam: 2 hours[Elective Theory Subject]Final Exam: 352 Lecture periods per weekInternal assessment: 15

- Module 1: Historic cities and areas townscape and architectural heritage conservation typology, classification, inventory and mapping. Integrated urban heritage conservation principles, economic, legal, tourism and planning aspects
- Module 2: Programs and techniques for adaptive reuse, restoration, rehabilitation. Integration of historic monuments/areas/cores/urban systems in the developmental process and land use, regulatory measures and legislations. Managing cultural heritage.
- Module 3: Preparation of conservation and heritage management plans. Implementation of plans and urban management, phasing, resource mobilization, incentives, acts and legal tools, peoples' awareness and participation, role of various actions groups. Case studies.

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Landscape Planning [LSP]Full Marks: 50Code: MURP 206/2Semester Exam: 2 hours[Elective Theory Subject]Final Exam: 352 Lecture periods per weekInternal assessment: 15

- Module 1: Introduction to Landscape planning scope and objective; Natural landscape systems; Historical landscape forms – western and eastern; Landscape planning in urban context.
- Module 2: Socio cultural inputs in landscape planning. Environment and landscape; Green technology.
- Module 3: Site planning process, principles and methods. Art in landscape planning. Design of prominent places, may include but not limited to plazas, urban parks, waterfronts, streets, caMURPs, commercial areas, transport corridors and historical sites.

Rural Development and Planning [RDP] Full Marks : 50 **Code: MURP 206/3** : 2 hours Semester Exam [Elective Theory Subject] : 35 Final Exam 2 Lecture periods per week Internal assessment: 15

- Module 1: Introduction to rural development concepts, historical background, Indian perspective, global scenario.
- Module 2: Socio economic aspects poverty, resource audit, environmental issues, concepts of community development, cooperative movement.
- Module 3: Rural economic development food and nutrition, health, education, connectivity, services, shelter, tourism.

Planning Project II [PLP-II] Code: MURP 251 [Sessional Subject] 10 periods per week

Full Marks : 300

The content of PLP-II may include but not limited to the following topics on which the students are expected to work hands on, in individual capacity or in a team, including occasional field trip to various organizations, libraries, offices and various urban and rural areas within India or abroad, for the purpose of collection/procurement of data including photographs, imageries, maps, reports, statistical and population handbooks and for the purpose of conducting study and primary survey, as may be instructed by the subject teacher from time to time:

Literature survey on planning case studies and related fields.

Preparation of base maps and generation of data for urban/rural and regional planning.

Preparation of components of development plans and carrying out study/survey of selected Urban/Rural centers according to Town and Country Planning acts as may be applicable – having sectoral plan components that may include – landuse, traffic and transportation, physical and social infrastructure, networks and services, environment, commercial and industrial development, coastal and hill area development, settlement on eco-sensitive areas, housing, slum improvement, energy issues, any other topic relevant to the subject.

Students may require to visit urban/rural areas in India or abroad for the purpose of carrying out planning study/survey for a duration of not exceeding 2 weeks during which all other classes will be suspended.

There will be two interim reviews under PLP-II, which will carry full marks of 100 each, end term Final review of Sessional work under PLR-II will carry full marks of 100 and Viva voce examination under PLV-II of 100 marks will be carried out as detailed in the structure of the syllabus.

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Planning Project Report II [PLR-II] Full Marks : 100

Code: MURP 252

[Sessional Examination]

As detailed in the course structure.

Planning Project Viva Voce II [PLV-II] Full Marks : 100

Code: MURP 271

[Viva Voce Examination]

As detailed in the course structure.

Third Semester [Part 3]	Full Marks	: 1000
Project Planning and Management [PPM]	Full Marks	: 100
Code: MURP 301	Semester Exam	: 3 hours
[Theory Subject]	Final Exam	: 70
3 Lecture periods per week	Internal assessment	: 30

- Module 1: Introduction to Projects; Nature of planning projects; Project Life Cycle; Identification of projects
- Module 2: Methodology for project identification and formulation of opportunity studies, feasibility reports and detailed project reports. Policy parameters for appraisal of project reports. Planning Commission guidelines, requirements of principle financing agencies in the field of urban and regional planning. Review of project appraisal techniques adopted by financing agencies.
- Module 3: Techniques for identifying and assessing conditions of risk and uncertainty in the project environment. Sensitivity and probability analysis in the Indian context. Emerging trends in the decision making process with respect to project appraisal and resource allocation at various levels of government.
- Module 4: Cost effectiveness analysis and cost-benefit analysis. Financial cost-benefit analysis. Cash flow analysis, time value of money, discounted cash flow analysis. Measures of project profitability based on market prices Net present value, internal rate of return, benefit cost ratio, etc. Exercises and cases studies.

Economic cost-benefit analysis. Distinction between market prices and accounting prices, objective functions in economic cost-benefit analysis, derivation and application of shadow wage rates. Measures of project profitability based on efficiency prices. Case Studies.

Social cost-benefit analysis: Trade-offs between efficiency and equity goals in project appraisal, measurement of direct and indirect costs and benefits in different sectors of urban and rural development. Adjustments for project impact on saving and investment, income distribution, consumption of merit and demerit goods. Case Studies.

- Module 5: Types of evaluation of project concurrent, ex-ante and ex-post. Methods of evaluation, techniques of evaluation, end results, Presentation of evaluation findings, Techniques of Monitoring of Development Works.
- Module 6: Submission of end term Research paper and presentation of seminar.

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Urban Administration and Management [UAM]Full Marks: 100Code: MURP 302Semester Exam: 3 hours[Theory Subject]Final Exam: 703 Lecture periods per weekInternal assessment: 30

- Module 1: Paradigms of urban administration; Urbanization and Urban Policies; Global and local issues. Systems of local governance in India; development administration of National, State and Local levels and the process of decision making, development and management.
- Module 2: Economic concepts of land. Economic principles of land use, land pricing and valuation; demand forecasting for land use: factors affecting land supply and demand; Land development methods, supply and demand side management.
- Module 3: Systems approach to urban management, organizational design, management information systems.
- Module 4: Methods of urban finance financial perspective of urban development; Municipal fiscal administration; Local planning and budgeting. Intergovernmental fiscal transfers; Urban reform and policy making issues and constraints.
- Module 5: Urban Management Institutional framework; Decentralized Governance; Interagency Coordination; Legal and Regulatory Mechanism; Impact assessment and situation analysis indicators; e-governance.
- Module 6: Submission of end term Research paper and presentation of seminar.

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Planning Legislation and Professional Practice [PLP] Full Marks : 100
Code: MURP 303 Semester Exam : 3 hours
[Theory Subject] Final Exam : 70
3 Lecture periods per week Internal assessment : 30

- Module 1: Historical background; society and rules; Ground norms. Socio-political-cultural systems and role of State in legislative framework. State and the common man legislative interface; Eminent domain, police power and taxing.
- Module 2: Constitution of India with respect to urban and regional planning status of land, property, issues on development and planning, social and economic development.
- Module 3: Acts related to 73rd and 74th amendments of Constitution, urban and regional planning including town planning, metropolitan planning and district planning.
- Module 4: Topics may include but not limited to the acts on Land, Land acquisition, Land ceiling, Rent, Slum clearance, Area Development, Urban Art, Heritage Conservation, Acts on water, air and environment background, salient features, local and global factors.
- Module 5: Aims and objectives of professional institutes, sister bodies, professional role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges.
- Module 6: Submission of end term Research paper and presentation of seminar.

Planning Project and Thesis I [PPT-I] Full Marks : 350 Code: MURP 351 [Sessional Subject] 16 periods per week As detailed in the course structure. Planning Project and Thesis Report I [PPR-I] Full Marks : 150 Code: MURP 352 [End of Semester Examination of Project and Thesis] As detailed in the course structure. Planning Project and Thesis Viva Voce I [PPV-I] Full Marks : 100 Code: MURP 371 [End of Semester Viva voce Exam. of Project and Thesis] As detailed in the course structure. Fieldwork Training and Viva Voce [FTV] Full Marks : 100 **Code: MURP 372** [Viva Voce Examination] Fieldwork Training and Viva Voce involves field training not exceeding SIX weeks to practical exercises independently or jointly with external planning organizations/Institutions addressing study of real world situations related to planning, and the Viva Voce examination will be conducted at the end of the training program by a jury of at least three examiners amongst which the Head examiner will act as the coordinator.

Fourth Semester [Part 4] Full Marks: 1000 Planning Project and Thesis II [PPT-II] Full Marks: 500 Code: MURP 451 [Sessional Subject] 20 periods per week As detailed in the course structure. Planning Project and Thesis Report II [PPR-II] Full Marks : 300 Code: MURP 452 [End of Semester Examination of Project and Thesis] As detailed in the course structure. Planning Project and Thesis Viva Voce II [PPV-II] Full Marks : 200 Code: MURP 471 [End of Semester Viva voce Exam. of Project and Thesis] As detailed in the course structure. It must be clearly thought of whether the 4th Semester topic will be different one or extension of the topic dealt in Semester 3.

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