**College of Engineering, Pune**

**(An Autonomous Institute of Govt. of Maharashtra, Permanently Affiliated to S.P. Pune**

**University)**

**Department of Civil Engineering**

**(Town Planning)**

**Curriculum Structure & Detailed Syllabus (PG Program)**

**M.Plan.**

**(Effective from: A.Y. 2019-23)**

1. Providing students with entry-level skills as well as the knowledge needed to progress in the field of Planning.
2. Enhance the knowledge, learning, and awareness of important urban and regional planning issues and the planning practices.
3. To collaborate with Planning Institutions in India and abroad through research and exchange programs, professional, and service activities.

**Program Outcomes (POs)**

Graduates will able to

1. demonstrate adequate knowledge and required skill in various aspects of Planning.
2. adopt a multidisciplinary approach to deal with the contemporary needs of Planning.
3. acquire expertise in conducting independent research and consultancy in diversified areas of Planning.
4. exhibit leadership ability and aptitude in team / group work.
5. analyze and envisage trends based on basic statistical tools, GIS and Remote Sensing.
6. demonstrate professional ethics and administrative ability in the discharge of responsibilities.
7. meet the needs of public sector, Private Sector and Planning in general, in diversified domains of the Planning Profession.

**Correlation between the PEOs and the POs**

**Note:** The cells filled in with indicate the fulfilment/correlation of the concerned PEO with the PO.

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| **Program Educational Objectives (PEOs)** | **Program Outcomes (POs)** | | | | | | |
| **(a)** | **(b)** | **(c)** | **(d)** | **(e)** | **(f)** | **(g)** |
| **I** | Checkmark |  | Checkmark |  | Checkmark |  |  |
| **II** | Checkmark | Checkmark | Checkmark |  | Checkmark |  | Checkmark |
| **III** |  | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |

**List of Abbreviations**

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| **Abbreviation** | **Title** | | **No. of Courses** | **Curriculum Content (% of total number of credits of the program)** | **Total number of contact hours** | **Total number of credits** |
| PSMC | Program Specific Mathematics Course | | 1 | 3.94% | **3** | 3 |
| PSBC | Program Specific Bridge Course | | 1 | 3.94% | **3** | 3 |
| DEC | Department Elective Course | | 3 | 7.89% | **6** | 6 |
| MLC | Mandatory Learning Course | | 2 | 0% | **4** | 0 |
| PCC | Program Core Course | | 7 | 31.6% | **21** | 21 |
| LC | Studio Course | | 3 | 15.78% | **30** | 12 |
| IOC | Interdisciplinary Open Course | | 1 | 3.94% | **3** | 3 |
| LLC | Liberal Learning Course | | 1 | 1.31% | **0** | 1 |
| SBC | Skill Based Course | | 3 | 1.31% | **16** | 27 |
|  | | **Total** | | | **86** | **76** |

**Semester I**

|  |  |  |  |  |  |  |  |
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| **Sr.**  **No.** | **Course**  **Type** | **Course**  **Code** | **Course Name** | **Teaching Scheme** | | | **Credits** |
| **L** | **T** | **P** |
| 1. | PSMC | MPL-19001 | Quantitative Methods in Planning | 3 | - | - | 3 |
| 2. | PSBC | MPL-19002 | Planning Techniques | 3 | - | - | 3 |
| 3. | SBC | MPL-19003 | Geoinformatics | 3 | - | - | 3 |
| 4. | PCC | MPL-19004 | Traffic and Transportation Planning | 3 | - | - | 3 |
| 5. | PCC | MPL-19005 | Planning Theories | 3 | - | - | 3 |
| 6. | MLC | ML-19012 | Effective Communication Skill | 1 | - | - | 0 |
| 7. | LC | MPL-19006 | Planning Studio- I (Area appreciation, LAP) | - | - | 10 | 4 |
| 8. | MLC | ML-19011 | Research Methodology and Intellectual Property Rights | - | 2 | - | 0 |
| **Total credits** | | | | **16** | **2** | **10** | **19** |

**Semester II**

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| **Sr.**  **No.** | **Course**  **Type** | **Course**  **Code** | **Course Name** | **Teaching Scheme** | | | **Credits** |
| **L** | **T** | **P** |
| 1. | IOC | IOC-19013 | Design Thinking and Participatory Planning | 3 | - | - | 3 |
| 2. | PCC | MPL-19011 | Socio-Economic Aspects of Planning | 3 | - | - | 3 |
| 3. | PCC | MPL-19012 | Planning legislation | 3 | - | - | 3 |
| 4. | PCC | MPL-19013 | Utilities and Services Planning | 3 | - | - | 3 |
| 5. | DEC-I | MPL (DE)-19003 | Sustainable Urban Planning &  Development | 3 | - | - | 3 |
| MPL (DE)-19005 | Rural Development | 3 | - | - | 3 |
| 6. | LC | MPL-19014 | Planning Studio-II | - | - | 10 | 4 |
| 7. | LLC | LL-19001 | Liberal Learning Course | - | - | - | 1 |
| **Total credits** | | | | 15 | - | 10 | 20 |

**Semester-III**

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| **Sr.**  **No.** | **Course**  **Type** | **Course**  **Code** | **Course Name** | **Teaching Scheme** | | | **Credits** |
| **L** | **T** | **P** |
| 1. | SBC | MPL-20001 | Professional Training | - | - | - | 1 |
| 2. | PCC | MPL-20002 | Urban Governance and Management | 3 | - | - | 3 |
| 3. | PCC | MPL-20003 | Land Economics Management | 3 | - | - | 3 |
| 4. | LC | MPL- | Planning Studio-III | - | - | 10 | 4 |
| 5. | DEC | MPL(DE)-20004 | Housing, Land Market and Finance | 3 | - | - | 3 |
| 6. | MPL(DE)-20003 | Place Making & Urban Design | 3 | - | - | 3 |
| 7. | Planning Thesis I | MPL-20005 | Planning Thesis – I | - | - | 5 | 5 |
| **Total credits** | | | | 11 | - | 13 | 19 |

**Semester-IV**

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| **Sr.**  **No.** | **Course**  **Type** | **Course**  **Code** | **Course Name** | **Teaching Scheme** | | | **Credits** |
| L | T | P |
| 1. | Planning Thesis II | MPL- | Planning Thesis – II | - | - | 5 | 15 |
| 2. | MLC | ML- | Intellectual Property Rights | 1 | - | - | 0 |
| 3. | SBC | MPL- | Professional Practice and Ethics | 3 | - | - | 3 |
| **Total credits** | | | | 4 | - | 4 | 18 |

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| **[MPL-19001] QUANTITATIVE METHODS IN PLANNING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Analyze data and draw inferences. |
| **CO\_2:** Forecast future trends and test hypothesis. |
| **CO\_3:** Provide understanding of the application of quantitative techniques to analysis of planning problems. |
| **CO\_4:** Knowledge about various types of data available to planners and its sources in India. |
| **CO\_5:** Draw conclusions with the help of various statistical tools. |

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| **Unit 1:** | **Data Collection and Presentation [7 Hrs]** |
|  | Data Collection: Primary and Secondary Sources of data, Survey Design, sources of various data in India |
|  | Data Presentation: Classification of Data, Tabulation of Data, Charting of Data, Choice of Suitable Diagrams, etc. |
| **Unit 2:** | **Data Analysis [8 Hrs]** |
|  | Measures of Central Tendency: characteristics of a Good Average, Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean, etc. |
|  | Measures of Variation: Significance of Measuring Variation, Methods of Studying Variation, Average Deviation, Standard Deviation, etc. |
|  | Skewness, Moments and Kurtosis: Measures of Skewness, Moments, Kurtosis, etc. |
| **Unit 3:** | **Probability and Data Sampling [6 Hrs]** |
|  | Probability: Types of Probability, Random Variable, Probability Function, |
|  | Sampling: Purpose and Principle of Sampling, Methods of Sampling, Size of Sample, Merits and Limitations of sampling, Sampling Distribution, etc. |
| **Unit 4:** | **Statistics [8 Hrs]** |
|  | Correlation Analysis: Significance, Correlation & Causation, Types of Correlation, Methods of Studying Correlation, Multiple Correlation, etc. |
|  | Regression Analysis: Difference between Correlation and Regression, Linear Bivariate Regression Model, Regression Lines, Equations, Coefficients, etc. |
|  | Index Numbers: Use of Index Numbers, Unweighted Index Numbers, Weighted Index Numbers, Quantity Index Numbers, Volume Index Numbers, Test for Perfections, etc. |
| **Unit 5:** | **Forecasting and Time Series Analysis [6 Hrs]** |
|  | Forecasting: Introduction, Steps in Forecasting, Methods of Forecasting, etc. |
|  | Time Series Analysis: Components of Time Series, Straight Line Trends, Non-Linear Trend, etc. |
| **Unit 6:** | **Linear Programming and Hypothesis Testing [7 Hrs]** |
|  | Linear Programming: methods for maximizing, methods for minimizing, etc. |
|  | Input-Output Analysis |
|  | Hypothesis Testing: The Chi (χ2) Test, The Z-Score Test, The T-Test, Test for Proportion |

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| **Reference Books:**   1. Connor, L R and Morreu, A J H (1964): Statistics in Theory and Practice, Pitman, London 2. Kruckerberg and Silvers (1974): Urban Planning Analysis: Methods and Models, John Wiley & Sons, New York 3. Mode, E B (1961): Elements of Statistics, Prentice Hall, New Jersey Naiman, Rosenfeld, Zirekel (1972): Understanding Statistics, McGraw Hill, USA 4. Wannacott and Wannacott (1969): Introductory Statistics, John Wiley & Sons, New York 5. Willams, Ken (ed) (1975): Statistics and Urban Planning, Charles Knight & Co. Ltd, London 6. Yamane, Taro (1964): Statistics – An Introductory Analysis, Harper, New York 7. Gupta S. P. and Gupta M. P. (2005), Business Statistics, Sultan Chand & Sons, New Delhi. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | - | 2 | - | 2 | 2 | 3 | 2 | 1 |
| CO2 | 1 | - | 1 | - | 3 | - | 3 | 2 | - |
| CO3 | 2 | - | - | - | 2 | 1 | 2 | 3 | - |
| CO4 | 1 | - | 1 | - | 1 | - | 3 | 2 | 1 |
| CO5 | 1 | - | - | - | 3 | 3 | 2 | - | - |

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| **[MPL-19002] PLANNIING TECHNIQUES** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** To build a depth understanding of spatial and non-spatial data collection, presentation and interpretation in context for physical planning. |
| **CO\_2:** Learn various techniques for effective data identification and collection through current practices. |
| **CO\_3:** To build a strong background in social research procedures and other methods useful in contemporary planning practice. |
| **CO\_4:** To prepare and work on various city and development plans using various theoretical techniques. |
| **CO\_5:** Learn theoretical knowledge of planning techniques that can be applicable in preparing plans in urban and rural areas. |

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| **Unit 1:** | **Techniques of Preparation and collection of spatial data (Base map), Non spatial data (Socio Economic survey and Physical survey) [6 Hrs]** |
|  | Base map, Plan, General features of bas map, scale, type of scales for different hierarchy of Plans |
|  | Data requirements for urban and regional planning, sources and methods of data collection, questionnaire design, sampling techniques, interview |
|  | Technique of conducting surveys for landuse, building use, density, structural condition of building |
| **Unit 2:** | **Techniques of Graphic Presentation of Spatial Data [6 Hrs]** |
|  | Land use classification, coding and analysis; residential and non-residential density patterns and analysis |
|  | Colour, black and white presentation techniques; basis disciplines of illustration; Presentation of spatial data, analysis and proposals. |
| **Unit 3:** | **Method of Analysis [6 Hrs]** |
|  | Methods of analysis of Socio-Economic and Physical data; Use of techniques of Location Quotient, Coefficient of Localization; Locational attributes of activity and population |
|  | Techniques for Understanding structure of urban areas, land values and density patterns; Formulation of spatial standards for residential, industrial, commercial and recreational areas, space standards for facility areas, utilities and networks |
|  | Population, Distance criteria; Performance standards; Case studies |
| **Unit 4:** | **Regional Planning [8 Hrs]** |
|  | Concept and need for Regional Planning, Region, Formal, Functional, Planning Regions; Regional delineation techniques, Case Studies in regional delineation. SWOT analysis |
|  | Spatial Structure of Regions. Nodes, Growth poles, Hierarchy, Nesting Functions, Rank size Rules, Multiplier Effects Etc. Factor analysis, Cluster analysis; Flow analysis |
| **Unit 5:** | **Plan Preparation Techniques [7 Hrs]** |
|  | Setting of Goals and Objectives; Methodologies for preparation of urban/ regional development plans, master plans, structure plan and strategy plan techniques; plan implementation techniques; public participation and plan implementation; |
|  | Techniques of urban renewal and central area redevelopment; Contents of a Master Plan, Regional Plan, etc. |
| **Unit 6:** | **Introduction to Advanced Techniques [6 Hrs]** |
|  | Thresholds analysis, retail location and industrial location analysis; intervening opportunity models; Gravity Models; Applications in planning. |

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| **Reference Books:**   1. Urban Planning methods: research and Policy analysis by Ian Bracken, Methuen and Co. Ltd. London ISBN0-416-74870-8 2. Urban Land Use Planning by F. Stuart Chapin Jr., Harper 7 Brothers, Publishers, New York, USA |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 2 |  | 1 | - | - | - | 2 | 1 | - |
| CO2 | 1 | - | - | - | 3 | - | 2 | 2 | - |
| CO3 | - | - | 1 | - | - | 3 | 2 | - | 2 |
| CO4 | 2 | - | - | - | - | 1 | 3 | 2 | - |
| CO5 | - | - | 2 | - | - | 2 | 3 | 2 | - |

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| **[MPL-19003] GEOINFORMATICS** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Explain and Describe the components and functionality of a GIS. |
| **CO\_2:** Understand the nature of geographic information and conduct simple spatial analysis. |
| **CO\_3:** Explore mapped data by relating GIS with remote sensing technologies. |
| **CO\_4:** Learn to use GIS software used for comprehensive planning, zoning, land use inventories, site suitability assessments, and socio-demographic analysis. |

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| **Unit 1:** | **Remote Sensing [8 Hrs]** |
|  | Introduction to Remote Sensing – Aerial photography, photogrammetry, Definition of Remote sensing, A tool for resource surveys, Application in land use, land cover analysis and town planning. |
|  | Electromagnetic Energy – Definition, Properties velocity, wavelength, frequency. Electromagnetic spectrum: definition, wavelength regions, Imaging system, satellite images. |
| **Unit 2:** | **Aerial Photogrammetry [8 Hrs]** |
|  | Aerial photography – Types of aerial cameras, Types of photographs, vertical, horizontal, oblique. Geometry of Aerial photographs – Tilt, Swing, Photonadir, Principle points, principal distance, flying height, air base, overlaps, sidelaps, methods of scale determination, Image displacement due to relief and tilt, stereoscopic vision. |
|  | Satellite Imageries – Satellite platforms and orbit patterns, optical, mechanical, scanners, Infrared scanners, earth resource technology satellite, LANDSAT, SPOT, and IRS. |
| **Unit 3:** | **GIS [8 Hrs]** |
|  | Introduction – Definition and meaning, Application to town planning.  GIS Vs. Maps – Advantages and disadvantages |
|  | Date Modes for GIS –  Raster based date – Rasterization using toposheets, isolines maps and urban maps. Nature of remote sensing data, resolution. |
|  | Vector based data – Digitization of point, line aerial boundaries using graphs |
| **Unit 4:** | **GIS Component [8 Hrs]** |
|  | Components of GIS – (1) Input (2) Preprocessing (3) Spatial data base – point, line, polygon (4) Analysis (5) Output |
|  | Introduction to one Raster based and one vector based GIS package. Application of special functions and compatibility for various types of database. |

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| **Reference Books:**   1. Interpretation of Aerial Photography by Thomas Eugene Avery: Bungress Pub. Co., Minnesota. 2. Remote Sensing, Principles and Applications by Floyd Sabins; Freeman and Co, New York. 3. Principles of Remote Sensing by P. J. Carran : (ELBS). 4. Remote Sensing and Image Interpretation by Lillesand Thomas M. & Kiefer Ralph W: (John Wiley & Sons Inc. New York) 5. Geographical Information System by D. Hall & R. Babbage (1989) : 6. Bihar – GIS by Lahiri M. (1993) |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 3 | 2 | 2 |
| CO2 | - | - | 1 | - | 2 | 1 | 3 | 1 | - |
| CO3 | - | - | 3 | - | 1 | 1 | - | 2 | 1 |
| CO4 | - | - | 3 | - | 2 | - | 3 | 3 | - |

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| **[MPL-19004] TRAFFIC AND TRANSPORTATION PLANNING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Develop ability to conduct transportation planning, analysis and evaluation of systems. |
| **CO\_2**: Learn short- & long-range planning for alternative transport systems while designing for present and future cities and regions. |
| **CO\_3:** Explore the capacities for planners to work collaboratively in addressing transportation and urban infrastructure challenges. |
| **CO\_4:** Appreciate concept of economic appraisal in transport projects. |
| **CO\_5:** Acquire skills which would contribute in preparation of traffic management plan, area circulation plan, parking management plan, Comprehensive Mobility Plan etc. |

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| **Unit 1:** | **Transportation Systems [8 Hrs]** |
|  | Transport Systems: National, Regional and Local requirements for Transport by road, rail, water and air both for passengers and goods. |
|  | Traffic Engineering: Urban road hierarchy, Road geometric and cross-sectional elements of urban roads, Traffic surveys and their interpretation, traffic capacity, level of service concept, traffic regulation and control, requirements of different types of traffic moving and stationary. |
| **Unit 2:** | **Techniques of Graphic Presentation of Spatial Data [6 Hrs]** |
|  | Design of Urban Roads in relation to different types of traffic, segregation of traffic, canalization. |
|  | Parking needs, on and off-street parking, estimation of short term and long term parking demand and planning including planning of terminals. |
|  | Planning, engineering and management criteria for road junction. |
| **Unit 3:** | **Traffic Management [6 Hrs]** |
|  | Traffic management, principles, methods |
|  | Traffic operation plan, its scope and objective. |
|  | Non-Motorize transportation |
| **Unit 4:** | **Transport and Environment [6 Hrs]** |
|  | Transport and Environment  Detrimental effects of traffic on human life |
|  | Traffic noise, noise abatement measures |
| **Unit 5:** | **Analytical Transport Planning [8 Hrs]** |
|  | Analytical Transport Planning: The quantitative transport planning process, surveys, zoning and network building. |
|  | Transport model, prediction of future use of transportation systems, transport policy and evaluation. |
| **Unit 6:** | **IPT, MRTS, Intelligent Transport System [6 Hrs]** |
|  | Role and level of Intermediate Transport mode (IPT), Public transport and private mode in Indian Scenario |
|  | Types of Public Mass transport: Mass Rapid Transit System (MRTS), BRTS, LRT, RRTS and its role in transport system |
|  | Land use transport Cycle |
|  | Transit Oriented Development |
|  | Intelligent transport system (ITS), its component and its applicability in Indian scenario. |

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| **Reference Books:**   1. Traffic Engineering and Transport Planning by L. R. Kadiyali 2. Principals of Urban Transport Systems Planning by B. G. Hutchinson 3. Introduction to Transport Planning by B. J. Bruton 4. Space Standards for Roads in Urban Areas by IRC 69-1977 5. Guidelines on Regulations and Control of Mixed Traffic in Urban Areas by IRC 70-1977 6. Geometric Design Standards for Urban Roads in Plain by IRC 86-1983 |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 2 | - | 2 | 1 | 3 | 2 | - |
| CO2 | - | - | 1 | - | - | 3 | 2 | 3 | 1 |
| CO3 | - | - | - | 2 | - | - | 2 | 2 | 2 |
| CO4 | - | - | 3 | - | - | 1 | 2 | 1 | - |
| CO5 | - | - | 3 | - | 2 | - | 3 | 2 | 1 |

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| **[MPL-19005] PLANNING THEORIES** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Provide the students an overview and understanding of the History of Town Planning Politics and policy making in modern cities. |
| **CO\_2:** Assess modern and contemporary theories of Planning. |
| **CO\_3:** Develop an appreciation of the scope and breadth of planning practice as it has emerged historically and in its contemporary manifestation in India and abroad. |
| **CO\_4:** Comprehend the Changes in theory in response to changing contexts. |

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| **Unit 1:** | **Introduction [6 Hrs]** |
|  | Theoretical aspects of Planning, interrelationships amongst physical planning, environment, economy and society. |
|  | Planning theory: shift from rural to urban, the meaning and function of cities, the separation of space and community, economic advantage of cities. |
| **Unit 2:** | **Cities in History [8 Hrs]** |
|  | The colonial city- effects of colonization on third world urban pattern and city structure- planning under colonial rule. |
|  | Garden city and regional perspective- Garden city idea and new towns, regional planning Ideas and Practices- Anarchist tradition |
|  | Garden-Regional city in India, New Towns and Integrated development of small and medium town schemes in regional context of metropolitan plans. |
|  | The City of neighborhoods and communities- neighborhoods in planning and development of neighborhood idea. |
|  | Indian Neighborhood- urban renewal and its aftermath. |
| **Unit 3:** | **Planning Theories [8 Hrs]** |
|  | Urban concentrations and growth characteristics factors, historical, administrative, location, economic, socio-economic consequences. The essential characteristics of city/town, importance of morphological aspects in town planning |
|  | Geological factors affecting urban development. Urban geological factors governing the growth of ancient cities. |
| **Unit 4:** | **Urban Models [8 Hrs]** |
|  | Urban models, Hot. Urges, Hams and Ulan, Mogen, Indian Model-Small.  Classification of towns by form, function, |
|  | The city and its region, Dickson, Smailes, Location, spacing and size of urban settlements, Christaller Theory, etc. |
| **Unit 5:** | **Advocacy and Participatory Planning [12 Hrs]** |
|  | NGOs in Planning: rise of advocacy planning |
|  | Changing role of NGOs in India, Urban Social Movement in India. |
|  | Sectoral urban planning process, district planning committee-role and functions: planning process through state planning and commission, planning commission, NIT Aayog and other bodies: roles, functions and process. |
|  | Participatory planning process. |

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| **Reference Books:**   1. The Urban Pattern by A. B. Gallion, S. Eisner. (Van Nostrand Reinhold Company) 2. Text Book of Town Planning by G. K. Bandopadhyaya 3. Urban and Regional Planning by Peter Hall 4. Geography of Settlements by F. S. Hudson, Macdonald and Evans Ltd. Estover, Plymouth PL 6 7 PZ UK |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 3 | 2 | - |
| CO2 | - | - | 1 | - | - | 1 | 2 | 2 | - |
| CO3 | - | - | 3 | - | - | 3 | - | 3 | 2 |
| CO4 | - | - | - | - | - | 2 | - | 3 | - |

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| **[MPL-19012] EFFECTIVE COMMUNICATION SKILLS** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** To produce effective dialogue for business related situations |
| **CO\_2:** To use listening, speaking, reading and writing skills for communication purposes and attempt tasks by using functional grammar and vocabulary effectively |
| **CO\_3**: To analyze critically different concepts / principles of communication skills |
| **CO\_4**: To demonstrate productive skills and have a knack for structured conversations |
| **CO\_5**: To appreciate, analyze, evaluate business reports and research papers |

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| **Unit 1:** | **Fundamentals of Communication [4 Hrs]** |
|  | 7 Cs of communication, common errors in English, enriching vocabulary, styles and registers |
| **Unit 2:** | **Aural-Oral Communication [4 Hrs]** |
|  | The art of listening, stress and intonation, group discussion, oral presentation skills |
| **Unit 3:** | **Reading and Writing [4 Hrs]** |
|  | Types of reading, effective writing, business correspondence, interpretation of technical reports and research papers |

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| **Reference Books:**   1. Raman Sharma, “Technical Communication”, Oxford University Press. 2. Raymond Murphy “Essential English Grammar” (Elementary & Intermediate) Cambridge University Press. 3. [Mark Hancock](http://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22Mark+Hancock%22) “English Pronunciation in Use” Cambridge University Press. 4. Shirley Taylor, “Model Business Letters, Emails and Other Business Documents” (seventh edition), Prentise Hall 5. Thomas Huckin, Leslie Olsen “Technical writing and Professional Communications for Non-native speakers of English”, McGraw Hill. |

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| **MPL-19006] PLANNING STUDIO – I (Area Appreciation, LAP)** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 8 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Develop planning insight and make acquaintance with various planning related exercises, such as, Layout Planning, Neighborhood Planning, Urban Renewal / Redevelopment, etc. |
| **CO\_2:** Emphasis on site visits related with planning related exercise. |
| **CO\_3:** Understand the fundamentals of plan preparation and approval. |
| **CO\_4:** Understand the physical infrastructure in all aspects for logistics, urban roads and traffic management |
| **CO\_5:** Understand the concepts and practical aspects of road safety audit. |

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| **Assignment 1:** | **Film Appreciation (Individual Assignment) [Respective Weightage 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. |
| **Assignment 2:** | **Literature Review (Individual Assignment) [Respective Weightage 10%]** |
|  | 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. |
|  | 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 3:** | **Area Appreciation [Respective Weightage 20%]** |
|  | 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) [Respective Weightage 30%]** |
|  | 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. |
| **Assignment 5:** | **Neighborhood /Area Level Planning [Respective Weightage 30%]** |

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| **Reference Books:**   |  | | --- | | 1. Site Planning by Lynch, Kevin 2. Residential Landscape– A Checklist Tool by Smith, Carl, et. al., publication Blackwell Pub., Oxford 3. Chapter 11, handbook, PWD, Govt. of Maharashtra, |  1. Infrastructure Planning |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 1 | 1 | 2 | - | - | 1 | 3 | - | - |
| CO2 | 2 | - | - | 3 | - | - | 3 | 1 | - |
| CO3 | 3 | - | 1 | 2 | - | - | 2 | 3 | - |
| CO4 | - | - | 1 | - | - | 1 | 2 | 2 | 1 |
| CO5 | 1 | - | 2 | - | - | 2 | 2 | 2 | - |

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| **[MPL-19011] RESEARCH METHODOLOGY AND INTELLECTUAL PROPERTY RIGHTS** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Unit 1:** | **Introduction to Research Methodology** |
|  | Definition of Research, Qualities of Researcher, , Objectives of research, Various Steps in Scientific Research, Types of Research; Hypotheses Research Purposes - Case Study Research. |
| **Unit 2:** | **Research Problem** |
|  | Components of Research Problem Research Problem and Selection of Research Problem, Need for defining the Problem, Techniques for defining a Problem, Development of hypothesis |
| **Unit 3:** | **Research Design** |
|  | Research & Survey Design, Meaning and Need of Research Design , Features of a good Research Design, Types of Research Design-Exploratory, Descriptive and Experimental Research, Bias, Collecting Samples. |
| **Unit 4:** | **Referencing Information Sources** |
|  | Using secondary sources of information: using an Encyclopedia, bibliography card, translation card catalogue information, periodic indexes and usage, compiling a preliminary bibliography; Referencing documentation sources: styles of footnotes, endnotes etc., model bibliography entries. |
| **Unit 5:** | **Report Writing** |
|  | Report Writing: Writing and Formulating of Reports, Steps in Report Writing, Types of Report, Introduction to SPSS |
| **Unit 6:** | **Intellectual Property Rights** |
|  | Introduction to the concepts Property and Intellectual Property, Nature and Importance of Intellectual Property Rights, Objectives and Importance of understanding Intellectual Property Rights. |
|  | Understanding the types of Intellectual Property Rights: -  Patents-Indian Patent Office and its Administration, Administration of Patent System – Patenting under Indian Patent Act, Patent Rights and its Scope, Licensing and transfer of technology, Patent information and database. Provisional and Non Provisional Patent Application and Specification, Plant Patenting, Idea Patenting, |

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| **Reference Books:**   1. Wilkinson & Bhandarkar: METHODOLOGY AND TECHNIQUES OF SOCIAL RESEARCH. 2. Pauline Vyoung: SCIENTIFIC SOCIAL SURVEYS AND RESEARCH. 3. Panneerselvam, R., RESEARCH METHODOLOGY, Prentice Hall of India, New Delhi, 2004. 4. C.R.KOTHARI, Research Methodology; New Age International (P) Ltd 5. D.K.BHATTACHARY, Research Methodology; Excel Books |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | PSO1 | PSO2 | PSO3 |
| CO1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **[MPL-19007] PLANNING LEGISLATION** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** An examination of the Indian legal system, including the structure and functioning of law-making institutions. |
| **CO\_2:** Understand the implication of law relating to planning and land development and local government, with an emphasis on statutory authority, finance, and land use control. |
| **CO\_3:** Introduces legal principles governing the protection of the environment in India. |
| **CO\_4:** To correlate the role, responsibilities of different organizations/boards involved in implementation of plans |
| **CO\_5:** To apply the understanding of acts in planning exercises and resolve various nature of disputes. |

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| **Unit 1:** | **[8 Hrs]** |
|  | Concept of Law, source of Law (Constitution, custom, legislation & precedent - case law), meaning of norms of Law, legislation, ordinance bill, Act, President’s consent, Regulations and Bye-Laws etc. |
| **Unit 2:** | **[8 Hrs]** |
|  | Significance of law and its relationship to Urban Planning, Statutory basis for planning. Urban & Rural relationship in planning. |
|  | Indian Constitution concepts and contents, provision regarding property rights, legislative competence of state and central governments to enact town planning legislation. |
|  | History of planning legislation in India and other countries, concept of structure, plans, local plan and action plan under the English Law. Current planning Acts and current legal machinery. |
| **Unit 3:** | **[8 Hrs]** |
|  | An overview of other Acts so far as they are related to the physical planning. |
|  | Acts relating to slum clearance, improvements and rehabilitation, housing development authorities, Improvements Trusts, Urban Land Ceiling Act, 1976, urban conservation and restoration, historical monuments, archaeological monuments and sites and remains, landscape and traffic – transportation. |
|  | Tree Preservation Act 1975, Transfer of Property Act, M.L.R. Code 1965, B. P. M. C. Act 1949, M. M. Council Act, 1965 etc. |
| **Unit 4:** | **[8 Hrs]** |
|  | Concept of Arbitration and its related law. Betterment levy and development charge-cess, public participation in statutory planning process. |
|  | Acts dealing with compulsory acquisition of lands for public purposes. Payment of compensation as per market value, enhancement of compensation by the Court etc. |
|  | Complete land acquisition procedure and method under L. A. Act 1894. Acquisition of lands for public purpose under other related statutes. |
| **Unit 5:** | **[8 Hrs]** |
|  | Significance of land development control, objectives and legal tools, critical evaluation of zoning, sub-division regulations, building regulations and bye-laws. |
|  | Law relating to peripheral development control. Coastal Area Development (C.R.Z.), T.D.R. concept and its legal status etc. |
| **Unit 6:** |  |
|  | Statutory planning procedure and conduct of planning inquiries stipulated under M.R.T.P. Act 1966 or such other planning laws prevailing in the State. |
|  | 73rd and 74th Amendment to the Constitution and its related impact on the planning process in the State |

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| **Reference Books:**   1. Model state zoning enabling law and model zoning regulations by [India. Town and Country Planning Organisation.](http://openlibrary.org/a/OL4185A/India.-Town-and-Country-Planning-Organisation.) (TCPO) New Delhi 2. Town and Country Planning by TCPO, New Delhi 3. Maharashtra Regional and Town Planning Act 1966 4. Land Acquisition Act 1984 |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 2 | 3 | - |
| CO2 | - | - | - | 1 | - | 2 | 3 | 3 | 1 |
| CO3 | - | - | 2 | - | - | - | 2 | 2 | - |
| CO4 | - | - | - | 2 | - | - | 2 | 3 | 3 |
| CO5 | - | - | - | 3 | - | 3 | 2 | 3 | - |

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| **[MPL-19008] SOCIO-ECONOMIC ASPECTS OF PLANNING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Understand subject matter of Economics and its relevance in Planning |
| **CO\_2:** Appraising of nature of Indian Economy, Land Economics along-with Land Use & Land Values. |
| **CO\_3:** Understand Valuation and Public Finance. |
| **CO\_4:** To understand Development Economics. |
| **CO\_5:** To realize Land Economics. |

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| **Unit 1:** | **Nature and Scope of Sociology [4 Hrs]** |
|  | Sociological concepts and methods, man and environment relationships; Sociocultural 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. |
| **Unit 2:** | **Community and Settlements [7 Hrs]** |
|  | 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. Settlement Policy: National Commission on Urbanization, Rural Habitat Policy and experiences from developing countries regarding settlement structure, growth and spatial distribution. |
| **Unit 3:** | **Elements of Micro and Macro Economics [6 Hrs]** |
|  | Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing; |
|  | Determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty, and long-term investment planning. |
| **Unit 4:** | **Land Economics [7 Hrs]** |
|  | Cost, price and value of commodities, Perfect Market Conditions, Concept of Pareto Optimality, Welfare Economics, Land Characteristics: immobility, Divisibility, Modification, Non standardized commodity, etc,; |
|  | Attributes of land: Location, Area, Configuration, Permissibility, Restrictions etc,; Effect of Govt. Policies and taxation on Land as a Resource etc. |
| **Unit 5:** | **Development Economics and Lessons from Indian Experiences [7 Hrs]** |
|  | 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. |
| **Unit 6:** | **Nature of India Economy [7 Hrs]** |
|  | Stages of development: undeveloped, underdeveloped, developed etc, different criteria of underdeveloped, poverty, Ignorance, diseases, mal distribution of national Income, Administrative Incompetence, social disorganization etc. |
|  | Characteristics of underdevelopment country: poverty, Dualistic economy, unemployment and disguised unemployment, backwardness, etc. obstacle of economic development, vicious circles of poverty, market imperfection |

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| **Reference Books:**   1. Urban Sociology by N. Jayapalan, Atlantic Publishers & Distributors, New Delhi 2002 2. Principles of Economics, by Dr. D N Dwivedi, Vikas Publishing House, 2006 3. The Economics of Development and Planning by Jhingan, M, Vrinda Publications, Delhi, 1998 4. Sustainability and Human Settlements: Fundamental Issues, Modeling and Simulation by Mani Monto, L.S. Ganesh & K. Verghese, SAGE Publications Pvt. Ltd, New Delhi, 2005 5. Aspects of Land Economics by W. Lean & B. Goodall. 6. Economic Development, Cities and Planning by M. Harris: Oxford University Press, Mumbai 1978 7. Urban Economic Development in India, by V.V. Subrahmanyam and R.L. Bawa, Vedam Books Pvt. Ltd, New Delhi 8. Indian Economy by S. K. Misra & V. K. Puri, Himalaya Publishing House, Delhi. 9. Economics of Cities edited by Jean-Marie Huriot & Jacques-Francois Thisse, Cambridge University Press. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 3 | - | - | - | 3 | 2 | - |
| CO2 | - | - | - | - | - | 3 | 3 | 2 | 1 |
| CO3 | - | - | 2 | - | - | - | 2 | 2 | - |
| CO4 | - | - | - | - | - | 2 | 3 | - | - |

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| **[MPL-19009] UTILITIES AND SERVICES PLANNING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Study various infrastructure systems and its importance. |
| **CO\_2:** Address urban infrastructure challenges. |
| **CO\_3:** Enable short- and long-range planning for alternative infrastructure systems while designing for present and future cities and regions. |
| **CO\_4:** Analyse requirement of social infrastructure in city planning |
| **CO\_5:** Analyse Regional Infrastructure issues. |

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| **Unit 1:** | **Planning for Urban Infrastructure [6 Hrs]** |
|  | Urban Infrastructure, Role of Planner in provision of urban networks and services, feasibility studies for infrastructure projects, Planning for major infrastructure projects, Various Infrastructure Programmes and policies by MOUD, PPP in infrastructure projects |
| **Unit 2:** | **Water Supply [6 Hrs]** |
|  | Urban Infrastructure, Role of Planner in provision of urban networks and services, feasibility studies for infrastructure projects, Planning for major infrastructure projects, Various Infrastructure Programs and policies by MOUD, PPP in infrastructure projects |
| **Unit 3:** | **Sewage and Sanitation [6 Hrs]** |
|  | Collection, transportation and treatment of sewage, Different methods of sewage treatments. |
|  | Biological/ Environmental/ Cultural concepts in environmental sanitation, low cost sanitation technologies and concepts as related to Indian context. |
| **Unit 4:** | **Electricity and Fire Services [6 Hrs]** |
|  | Planning for fire protection services and space standards, Planning for electrification, general scenario, services and space standards of Transformers space standards for electricity networks, space standards for burial around cemetery etc. |
| **Unit 5:** | **Solid Waste Management [6 Hrs]** |
|  | Planning for solid waste; Types of solid waste- organic & inorganic; Solid waste generation, collection and transportation; Methods of treatment and disposal of solid waste - composting, incineration, landfills and biogas plants; Consideration for location of these sites, conversion of garbage into usable forms. |
| **Unit 6:** | **Urban Energy Systems [6 Hrs]** |
|  | Energy Management, energy requirement, non-conventional energy systems, management of solar energy, wind energy, tidal energy, biomass energy, energy from waste. |

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| **Reference Books:**   1. Infrastructure Planning Handbook by Alvin S. Goodman & Makarand Hastak 2. Infrastructure Management by W.R. Hudson ,R.C.G. Hass, W. Uddin 3. Water Supply and waste water Engg. By B S N Raju 4. [Central Public Health and Environmental Engineering](http://www.indiawaterportal.org/author/central-public-health-and-environmental-engineering-organisation-cpheeo)Organization (CPHEEO) Manual 5. URDPFI Guidelines |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | - | 3 | 2 | - |
| CO2 | - | - | 2 | - | - | 2 | 2 | 3 | - |
| CO3 | - | - | 2 | - | - | 3 | - | 3 | 1 |
| CO4 | - | - | - | - | - | 1 | 2 | 3 | - |
| CO5 | - | - | 3 | - | - | 1 | 2 | 3 | - |

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| **[MPL-19010] PLANNING STUDIO – II** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 8 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Explain theoretical and applied understanding of various aspects of Urban Planning. |
| **CO\_2:** Undertake real-time exercise of Development Plan as academic exercise and to apply planning concepts as a part of Development Proposal. |
| **CO\_3:** Carry out surveys and frame proposals, such as, Junction Improvement for Urban Landscape, Town Planning Scheme for Planned Urban Extension, Conservation-Preservation of Old Core, etc. along-with phasing, funding and implementation mechanism. |
| **CO\_4**: Demonstrate an inter-disciplinary urban planning approach to develop functional concepts of planning |

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| **Exercise 1:** | **[Respective Weightage 60%]** |
|  | Preparation of a Development Plan for a town or city including surveys, analysis, costing, phasing and methodology of implementation. |
|  | For the purpose of Development Plan, case study will be taken within Maharashtra State or outside. Considering, strength of students, group of @ 10 students will be formed for the assignment purpose and each faculty per group will be deputed for the purpose of site visit. |
| **Exercise 2:** | **[Respective Weightage 20%]** |
|  | Town Planning schemes including costing & phasing as part of Development Proposal for extended area of case study. |
| **Exercise 3:** | **[Respective Weightage 10%]** |
|  | Improvement of traffic junctions for urban landscape including costing and phasing |
| **Exercise 4:** | **[Respective Weightage 10%]** |
|  | Conservation and Preservation of old core as a port of Development Proposal for Old Core in case study. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 1 | - | 1 | - | - | - | 3 | 1 | - |
| CO2 | 1 | - | 1 | 2 | - | 2 |  | 3 | 2 |
| CO3 | 3 | 2 | 1 | 1 | 1 | - | 3 | 2 | 2 |
| CO4 | - | - | - | 1 | - | 3 | 1 | 2 | 1 |

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| **[MPL - 20001] PROFESSIONAL TRAINING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks each |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Obtain practical field experience / exposure by applying the knowledge they have gained in previous year. |
| **CO\_2:** Participate in practical activities related with various aspects / domains of Urban and Regional Planning. |
| **CO\_3:** Assist the student's development of employer-valued skills such as teamwork, communications and attention to detail. |
| **CO\_4:** Expose the student to the environment and expectations of performance on the part of accountants in professional accounting practice, private/public companies or government entities. |

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| **Methodology** | **Hrs]** |
|  | Students have to undertake 60 days (six weeks) Summer Internships during summer vacation after completion of first year course.  It is enviable to complete Summer Internships in institutes / organizations / departments / local bodies / authorities etc. related with various aspects / domains of Urban and Regional Planning.  Students are required to submit report based on Summer Internship they have undertaken and give presentation on experience they have gained through this. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 1 | - | 2 | 1 | - | - | 1 | 2 | 3 |
| CO2 | 1 | - | 2 | 3 | - | 1 |  | 3 | 3 |
| CO3 | - | - | - | 3 | - | - | - | - | 3 |
| CO4 | - | - | - | 2 | - | 3 |  | 2 | 3 |

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| **[MPL - 20004] PLANNING STUDIO – III (REGIONAL PLANNING)** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Understand Role and Relevance of Regional Planning in general. |
| **CO\_2:** Understand the Context of 73rd and 74th CAA in Regional Planning. |
| **CO\_3:** Make the students understand the ways of planning for a Region (District / Mega / Metro) and to take up a case study and prepare a Regional Plan. |
| **CO\_4:** Learn to carry out various surveys for regional planning and frame development proposals for selected region. |

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| **Unit 1:** | **Context of Regional Plans** |
|  | Role and relevance of regional planning at district or block level for regional planning, critical appraisal of district or block level plans; Understanding the contents of various types of regional plans and their linkages with higher and lower order plans. |
| **Unit 2:** | **Constitutional Provisions** |
|  | District planning in the context of 73rd and 74th Constitution Amendment Acts; District Planning Committees (DPCs); Metropolitan Planning Committees (MPCs) and Ward Committees. |
| **Unit 3:** | **Organization of Field Surveys** |
|  | Formulation of goals, objectives, methodologies; identification of data and sources of information; Collection of secondary and primary data for sectoral and spatial planning; detailed data analysis. |
| **Unit 4:** | **Analysis and Synthesis** |
|  | Identification of development issues, potential thrust areas and constraints: sectoral and spatial; designing of alternative planning strategies, settlement patterns and development strategies; Sectoral and spatial prioritization, phasing, financial plans, institutional mechanisms, legislative framework, management plans |
| **Unit 5:** | **Plan, Policies and Proposals** |
|  | Preparation of Regional Plan Document along with drawings, etc; Preparation of policies and proposals with different scenarios and identification of priority areas; phasing and monitoring; governance structures for implementation; regional land utilization plan and the plan document |

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| **Reference Books:**   1. Social Research Methods, by Bryman Alan, Oxford University Press, 2008 2. Manual of Integrated District Planning, Planning Commission, New Delhi 3. Regional Planning, John Glasson, Taylor and Francis, UK 4. Regional Planning in India, Mahesh Chand and V.K. Puri, Allied Publisher Pvt. LtD, New Delhi |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 2 | - | 2 | - | - | - | 3 | - | - |
| CO2 | 1 | - | 1 | 2 | - | 2 | 3 | 2 | - |
| CO3 | 3 | 2 | 1 | 1 | 1 | - | 1 | 3 | 2 |
| CO4 | - | - | - | 1 | - | 3 | 1 | 3 | 2 |

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| **[MPL - 20005] PLANNING THESIS – I** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Application of knowledge gained by the students to produce a piece of research work on their own effort under the guidance of a supervisor. |
| **CO\_2:** Problem identification, problem analysis and drawing of conclusions. |
| **CO\_3:** Learn application of research techniques acquired by them. |
| **CO\_4:** Develop competency to work in professional fields. |

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|  | **Work to be completed** |
|  | * Finalization of topic, * Review of literature pertaining to topic, * Identification of scope / gap based on literature review * Framing of Aim & Objectives, * Scope & Limitation, * Methodology to be followed, * Identification of case study areas |
|  | **Methodology** |
|  | Allocation of supervisor will be done at the end of Semester-II based on availability of supervisor, domain expertise of the supervisor, student’s performance in the previous semester and interests / preferences. The students will have to choose the topic for dissertation during the Semester-III in consultation with the supervisor. Dissertation shall be a work in the application or development of new concepts of planning at different levels of original nature. The originality of the work will be the key of this dissertation. Performance of the students will be evaluated as per the Departmental Policy in this regard. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | 1 | 2 | 1 | 1 | - | - | 2 | 3 | 1 |
| CO2 | 2 | - | 1 | - | 3 | - | 2 | 3 | 2 |
| CO3 | 2 | - | 3 | - | - | - | 3 | - | - |
| CO4 | - | - | - | 3 | - | 2 | - | - | 3 |

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| **[MPL - 20004] PROFESSIONAL PRACTICE AND ETHICS** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Study the Role of Government, Private Sector and the Third Sector for Governance of Cities and Regions. |
| **CO\_2:** Learn the Scope, Nature and Procedure of Professional Practice |
| **CO\_3:** Prepare consultancy proposals and Quote Fees and Charges for Professional Work. |
| **CO\_4:** Understand practice aspects of planning processes, and the political, institutional and legal systems that direct and/or inform planning. |
| **CO\_5:** Learn current practices and able to use it in their professional self-design. |

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| **Unit 1:** | **Overview of Governance [6 Hrs]** |
|  | Definition, concepts, components, government and governance, hierarchy and structure, forms of governance, process of inclusion and exclusion, |
| **Unit 2:** | **Legislations pertaining to Governance [6 Hrs]** |
|  | Institutional frame and mechanism for governance as envisaged in the 73rd and 74th Constitution Amendment Acts. |
|  | Process of decision making in the process, further implementation and execution and management process. Functions and powers, structure and funding resources to the local Government and their performance. |
| **Unit 3:** | **Institutions and Organizations [6 Hrs]** |
|  | Differences between institutions and organizations; approaches to understanding organizations; types, structure and functions, their interface and conflicts, reach, and their effectiveness; Methods, process and evaluation; Present organizations and involved in urban governance. |
| **Unit 4:** | **Professional Practice [6 Hrs]** |
|  | 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; Formulation of project proposal and outlines, consultancy agreements and contracts, managerial aspects; Role in inter disciplinary groups: Appreciation of the decision-making processes and the process in relation to varied consultancy assignments of planning. |
| **Unit 5:** | **[8 Hrs]** |
|  | Public relation and their effective participation in planning and implementation process. Citizens approach to the planning process and their effective participation in the process. Personnel management, manpower planning, performance appraisal, motivation, monitoring and improvement in moral etc. |
| **Unit 6:** | **Project Formulation [8 Hrs]** |
|  | Introduction to the plan preparation life cycle of the project, project identification, importance of the project’s implementation timely, quick formulation of the project and its appraisal, monitoring and evaluation etc. |
|  | Important role of PPM method i.e. planning, programming and its effective management for implementation and execution, costs saving etc. O-error methods, PERT and CPM application. Stages in Project Evaluation, Methods of Project Evaluation. |

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| **Reference Books:**   1. Planning Legislation and Professional Practice, by Institute of Town Planners, India, New Delhi 2. Reading Material on Project Formulation & Appraisal, by Dr. A. N. Sachithanandan, by Institute of Town Planners, India, New Delhi. 3. The Economics of Development & Planning by M. L. Jhingan 4. Urban and Regional Planning in India: Handbook for Professional Practice, Kulshrestha, S. K. Sage Publications, New Delhi |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 3 | - | - |
| CO2 | - | - | - | 3 | - | 1 | 3 | 1 | - |
| CO3 | - | - | 2 | 2 | - | - | 2 | 2 | 1 |
| CO4 | - | - | 3 | - | - | 2 | 3 | 2 | - |
| CO5 | - | - | - | 1 | - | - | - | 2 | 3 |

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| **[MPL -] URBAN GOVERNANCE AND MANAGEMENT** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students are able to |
| **CO\_1:** Introducing students to the laws, policies and institutions governing cities and urbanization in India. |
| **CO\_2:** Enabling students to understand processes and structures that play an important role in the administration of these laws and policies vis-à-vis different classes of citizens. |
| **CO\_3:** Equipping students with the skill to analyze legal and policy documents in their application to urban governance. |
| **CO\_4:** Discuss how these structures constrain collective decision making about particular urban issues |
| **CO\_5:** Learn current practices and able to use it in their professional self-design. |

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| **Unit 1:** | **Overview of Governance [6 Hrs]** |
|  | Introduction to Urban Governance, Definition, concepts, components, government and governance, hierarchy and structure, forms of governance, process of inclusion and exclusion, Framework of National /State/ Local Self Government – Principles of Subsidiarity, Complementarity and Equity; Local Governance Framework, |
| **Unit 2:** | **Legislations pertaining to Governance [6 Hrs]** |
|  | Institutional frame and mechanism for governance as envisaged in the 73rd and 74th Constitution Amendment Acts. Panchayati Raj Institutions and Constitutional Sanction; Salient Features of 73rd and 74th Constitutional Amendment Act, 1992; |
|  | Constitution, Powers and Functions of Municipal, Governments and PRIs (Village Panchayat and Zila Parishad, further implementation and execution and management process. Functions and powers, structure and funding resources to the local Government |
| **Unit 3:** | **Institutions and Organizations [6 Hrs]** |
|  | Urban Governance Institutions, Differences between institutions and organizations; approaches to understanding organizations; types, structure and functions, their interface and conflicts, reach, and their effectiveness; |
| **Unit 4:** | **Urban Governance and Institutional Reforms [6 Hrs]** |
|  | Administrative reforms and structural reforms, Indicators of Good Governance: Formulation of Governance Index; Citizens’ Charter; Citizens’ Participation in Urban Governance: Institutional and Legal ,Framework; Ward/Wards Committee; Constitution, Powers and Functions of Area Sabhas; e- municipal Governance; Performance Evaluation of Local Governments: Report Card System; Service Level Benchmarking; Liberalization and Globalization and Its Impact on Urban Settlements; CBO/NGO Partnership, Capacity building |
| **Unit 5:** | **Urban Management [6 Hrs]** |
|  | Key to successful urban management, Team Building and Leadership; Conflict Management; Change Management, Stress Management, Personnel management, manpower planning, performance appraisal, motivation, monitoring and improvement in moral etc, Parastatal Agencies: Role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles in Urban Management; Interagency Cooperation, |
| **Unit 6:** | **Municipal Finance [6 Hrs]** |
|  | Constitutional Provision for Local Finance, Plan and Non Plan Financing (Planning Commission and Finance Commission); Categorization of Municipal Sources of Revenue: Internal Vs. External, Revenue, Capital Vs. Revenue Receipt; Reforms in Municipal Finance, Local Resource Mobilization, Local Government Budget, Fiscal decentralization, |
|  | Other options of Finance: Value Capturing Mechanism/External Borrowings (Bi lateral and Multilateral) and Corporate funding as CSR |

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| **Reference Books:**   1. India: The Challenges of Urban Governance, O.P. Mathur, National Institute of Public 2. Finance and Policy, New Delhi 3. Local Governance in India – Niraja Gopal et all., Oxford University Press 4. New Forms of Urban Governance in India, Baud I.S.A. et all., Sage 5. People’s Participation in Urban Governance, K.C. Sivaramkrishnan, CSS, New Delhi 6. Elements of Urban Management. Kenneth J. Davey. ISBN 0-8213-2424-1, 55 pages, published November 93 7. Urban Governance and Management: Indian Initiative, P.S.N. Rao, Kanishka Publisher 8. Leadership and Team Building, Uday Kumar Halder, Oxford University Press 9. Developing Countries, Bahl Roy W. Et all., Oxford University Press 10. Public Finance: Policy Issues for India, Sudipto Mundle, Oxford University Press 11. New Issues in Panchayati Raj, D. Bandopadhyay et all., Concept Publishing 12. Ministry of Housing and Urban Affaris (2020): Draft National Urban Policy Framework, 13. 2nd Administrative Reforms Commission (Chapter on Urban Governance) 14. 14th Finance Committee Report (Chapter on Funds Transfer to ULBs |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | - | 2 | 3 | - |
| CO2 | - | - | 2 | - | - | 3 | 3 | 2 | - |
| CO3 | 1 | - | 3 | - | - | 3 | 3 | 2 | - |
| CO4 | - | - | - | - | - | 3 | 3 | 3 | - |
| CO5 | 2 | - | 3 | - | - | 2 | 1 | 3 | - |

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| **[MPL - ] LAND ECONOMICS AND MANAGEMENT** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Examine both theory and practical applications of the different theories of urban growth |
| **CO\_2:** Know the role and use of land, real estate and environment within an economy. |
| **CO\_3:** Identify and Examine different problems faced on land and the built environment |
| **CO\_4:** Explain possible approaches of dealing with different problems identified on land and the built environment |

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| **Unit 1:** | **Land Economics, Land Policy and Land Markets [12 Hrs]** |
|  | 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. |
| **Unit 2:** | **Supply Side Management [12 Hrs]** |
|  | Property Rights: ownership, user and exchange rights: Its implication on land supply, Land Development: Type, cost, methods of disposal. Corruption and land markets: Corruption, black money and land markets; Relation between land, share and gold markets. |
|  | Regulation in Land Markets: Social justice and land distribution: public domain, social-democratic regulation and corporatist regulation, collective action of the state and regulation of its supply of land – overall impact of regulation on land prices: Master Plan, Zoning and other planning regulations and their impact on supply. |
|  | Land Management Techniques: Private land assembly, co-operatives in land development, FDI in land development, land pooling and plot reconstitution, Transfer of development rights, land sharing and land lease. |
| **Unit 3:** | **Demand Side Management [12 Hrs]** |
|  | Income elasticity of land, business cycles and its impact on demand for land, externalities and internalities in land development and induced demand, economic growth and demand for land; Changes in tastes and preferences and its effect on type of land; Poor and their demand; Physical, fiscal, financial and legal incentives for inducing or restricting the demand for land; Mega investments and its effect on land. |
| **Unit 4:** | **Land Pricing and Real Estate Markets [12 Hrs]** |
|  | Land valuation techniques, land pricing, subsidies, auctions; type of development: plotted, flatted 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; Real estate regulatory bill and its likely impact. |
|  | Land Information System (LIS): Land records in rural areas (examples from Karnataka, Andhra, etc), transparency in land transaction, methods of publicizing land prices and land price monitoring. |

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| **Reference Books:**   1. Urban Land Economics, by Harvey, Jack and Jowsey Erine, Macmillan, Publications, London, 2004,6th Edition. 2. Sustainable Land Management,Sourcebook, by world bank, WorldBank Publications, Washington 2008 |

* Give the mapping of COs with POs and PSOs - indicating dash- no mappimng, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | 1 | 3 | - | - | 3 | 3 | 2 | - |
| CO2 | 1 | - | 2 | - | - | 3 | 2 | 2 | - |
| CO3 | 2 | - | 3 | - | 2 | 3 | 3 | 2 | - |
| CO4 | 1 | - | 2 | - | - | - | 3 | 2 | - |

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| **[MPL - 20007] PLANNING THESIS – II** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 3 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Application of knowledge gained by the students to produce a piece of research work on their own effort under the guidance of a supervisor. |
| **CO\_2:** Problem identification, problem analysis and drawing of conclusions. |
| **CO\_3:** Learn application of research techniques acquired by them. |
| **CO\_4:** Develop competency to work in professional fields. |

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|  | **Methodology** |
|  | This is in continuation of Dissertation-I. Students are required to carry out site visits of case study area and present findings based on site visits, surveys conducted, data collection and analysis, result & discussion, etc. before the Departmental Committee and submit draft report. The student has to defend his or her work before a Jury comprising Chairman, Supervisor, Internal and External Examiners. Students required to submit final dissertation report incorporating comments given by Jury, if any. |
|  | **Work to be Completed** |
|  | * Site visits to case study area * Reconnaissance / Preliminary survey * Conducting detailed survey * Analysis of data collected * Hypothesis testing, if any * Result & discussion * Submission of dissertation report. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 | |
| CO1 | 1 | 2 | 1 | 1 | - | - | - | - | 2 | |
| CO2 | 2 | - | 1 | - | 3 | - | 2 | 3 | - | |
| CO3 | 2 | - | 3 | - | - | - | 2 | 1 | - | |
| CO4 | - | - | - | 3 | - | 2 | - | - | 3 | |
| **[MPL -] PLACE MAKING AND URBAN DESIGN** | | | | | | | | | |
| **Teaching Scheme: Examination Scheme:** | | | | | | | | | |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks | | | | | | | | | |
| **End Sem. Exam.** - 60 marks | | | | | | | | | |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Identify, evaluate, synthesize main elements of urbanism, and communicate key issues related to place making, public space, the arts, and cultural planning in cities. |
| **CO\_2:** Explore processes of planning, place making research methodologies, analysis, and visual representation techniques in individual and group settings |
| **CO\_3:** Identify the historical roots of urban design, criticisms of modern planning and design, concepts of space and place, urban sustainability issues, and urban design practice. |
| **CO\_4:** Analyze place making theories and research methods to a real-world project through a series of community-based fieldwork assignments, including ethnographic and qualitative experiments. |
| **CO\_5:** Enable students to engage with community, agency and / or investor in the practical process of place-making and Synthesize learning through short and long writing exercises that culminate in a final presentation |

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| **Unit 1:** | **Fundamental Concepts [5 Hrs]** |
|  | Introduction to place-making and urban design, Historical roots of urban design, criticisms of modern planning and design, concepts of space and place, and urban design practice,   Understanding Place and Identity, concept of genius loci, urban design as place making, dichotomies in urban design, Histories of place - Social, cultural and political histories of idea of place and its design. |
| **Unit 2:** | **[5 Hrs]** |
|  | Elements of urban design, concepts in urban form- Theory and discourses, Scales of urban design- region-city-district-precinct-building, Public Space and place, Street as public space, Tangibles and intangible aspects of place, Place- drawing ideas from arts, literature and other medias, Public space in India- ideas and concepts, Urban narratives. |
| **Unit 3:** | **[5 Hrs]** |
|  | Urban form and its contents, Instruments of urban form and design regulation- normative and descriptive, place making principles, Urban codes (form-based codes), Economics of ‘Place’, What is place-making, Role of urban design in shaping urban place and space, Development plans and urban form, qualitative surveys and aspects of place making, case studies in urban design |
| **Unit 4:** | **[5 Hrs]** |
|  | Communicative Design: The deliberation process, Roles of arts and culture in urban development, participatory design, co-design, Urban design as public policy, Urban design and place making as evolving process, Urban design deliverables – structure plan, vision, guidelines etc. Interface of urban design discipline with landscape, transport, conservation, management. |
| **Unit 5:** | **[5 Hrs]** |
|  | Climate change and urban form, urban sustainability issues, Technological advancement such as Geographic Information System, Artificial Intelligence and urban design-place making. |

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| **Reference Books:**   1. Bacon, Edmond. (1967) Design of Cities. London: Thames & Hudson. 2. Bentley, Ian. et al. (1987) Responsive Environments: A Manual for Designers. Oxford. Architectural Press 3. Llewellyn, D. (2000) Urban Design Compendium. London: English Partnerships. 4. Carmona, M. and Tiesdell, S. (2007) Urban Design Reader. Amsterdam; Boston, MA: Elsevier. 5. Kostof, Spiro. (1999). The City Assembled: The Elements of Urban Form through History Thames and Hudson 6. Mumford, Lewis. (1961) The City in History. London: Pelican. 7. Paulsen, Krista & Orum, Anthony & Chen, Xiangming. (2012). Introduction to Cities: How Place and Space Shape Human Experience. 8. Short, J. R., (1996). The Urban Order: Introduction to Cities, Culture, and Power. John Wiley & sons. 9. Rossi, Aldo., (1984). The Architecture of the City. London: MIT Press. 10. Lynch, Kevin. (1981) A Theory of Good City Form. Cambridge, MA: The MIT Press. 11. Alexander, C. (1977) A Pattern Language. New York: Oxford University Press. 12. K. Siddhartha, S. M., (2016). Cities, Urbanisation & Urban Systems (Settlement Systems). New Delhi: Kitab Mahal Publishers & Distributors. 13. Planning Techniques for AITP, Reader on Institute of Town Planners India 14. Ramachandran, R., (1989). Urbanization and urban systems in India. Michigan: Oxford University Press. 15. Cuthbert, A. (2003) Designing Cities: Critical Readings in Urban Design. Oxford: John Wiley & Sons. 16. Cuthbert, A. (2007a) The Form of Cities: Political Economy and Urban Design. Vol. 47. Oxford: Blackwell. 17. Krier, R. (1993) Urban Space. New York: Rizzoli. 18. Larice, M., (2007). The Urban Design Reader. New York: Routledge. 19. Newman, O. (1973) Defensible Space. London: The Architectural Press. 20. Sitte, C (1889 orig.) City Planning According to Artistic Principles. See Collins and Collins, 1989. 21. Prashad. D., Chetia.S.(2010). New Architecture and Urbanism: Development of Indian Traditions. Cambrige Scholars Publishing 22. Sykes, P. R. &. H., (2008). Urban Regeneration: A Handbook. Sage 23. John Diamond, et.al. (Eds.), (2011). Urban Regeneration Management: International Perspectives. London: Routledge. 24. Michael S. Gibson, M. J. L., (1982). An Introduction to Urban Renewal. Hutchinson. 25. Couch, C., (1990). Urban Renewal: Theory and Practice. London: Macmillan Education Ltd. 26. Kadiyali, L. R., (2011). Traffic Engineering and Transport Planning. New Delhi: Khanna. 27. John A. Flannery, K. M. S., (2008). Urban Landscape Design, The Neues Publishing Company. 28. Ian Douglas, N. W., (2011). Urban Ecology: An Introduction. Routledge. 29. Zeisel, J., (2006). Inquiry by Design: Environment/Behavior/Neuroscience in Architecture, Interiors, Landscape, and Planning. W. W. Norton. |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 2 | - | - | - | 3 | - | - |
| CO2 | - | - | 1 | 1 | - | - | 3 | 2 | - |
| CO3 | - | - | 2 | - | - | - | 3 | - | - |
| -CO4 | - | - | - | - | - | 2 | 1 | 3 | - |
| CO5 | - | - | - | 2 | - | 3 | - | - | 3 |

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| **[MPL -] DESIGN THINKING AND PARTICIPATORY PLANNING** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** To familiarize students with design thinking concepts and principles as a systematic process of tackling relevant business and/or social problems. |
| **CO\_2:** To understand the practices the methods, processes and tools of design thinking from Ideation to Go-To-Market. |
| **CO\_3:** To evaluate a problem through the approaches of human perspective with the object of design innovation. |
| **CO\_4:** To expose the student with perspectives, ideas, concepts, and solutions related to the design and execution of innovation driven projects using design thinking principles for interdisciplinary problem solving. |

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| **Unit 1:** | **Design Thinking: Background and Introduction [6 Hrs]** |
|  | Service design thinking and relational welfare , moving from a top-down approach to public service distribution towards an approach that takes community building as a starting point for co creation , Historic Background of Design Thinking, Need, Definitions including Definition by Tim Brown, Design thinking as an Approach, Characteristics of Design Thinking, Design thinking as a non-linear process, 5 – stage process of Design Thinking, Testing/ Prototyping/ Systematic Experimentation How Does Design Thinking Promote Innovation?, Innovation Mindset, Developing insights into end users/ stakeholders.  **Studio Exercise:** Case studies of application of design thinking and Co creation |
| **Unit 2:** | **Design Thinking: Tools and Theory [6 Hrs]** |
|  | Design Theory, Phases, methods & tools, Fundamental Concepts, Design Thinking Resources, Double Diamond process stages, Introduction to design tools - Visualization, Journey Mapping, Value Chain Analysis, Mind Mapping , Brainstorming , Concept Development , Assumption Testing 8. Rapid Prototyping, Customer Co-creation 1, Learning Launch.  **Studio Exercise:** Thinking visually |
| **Unit 3:** | **Participatory Planning [6 Hrs]** |
|  | New approaches to participation, New approaches for interaction with citizens; how do we learn, listen and reflect through visual approaches of Drawing, video, photo, citizen mapping, VR etc, Participatory planning tools, Challenges in using participatory approaches, Ethics and participation, ethical standards and challenges, Inclusive, Participatory or Opportunistic Participatory  **Studio Exercise:** Storytelling approaches including visual storytelling |
| **Unit 4:** | **Design Thinking and Co-Creation approach for Cities [6 Hrs]** |
|  | Urban Innovation & Design Thinking, Urbanism and Design Thinking, design process in urbanism from a cognitive point of view.  **Studio Exercise:** Applying a role-play approach to test new ways of planning neighborhoods with knowledge and municipal partners – based on cases |
| **Unit 5:** | **Application of Design Thinking for inclusive cities [6 Hrs]** |
|  | Putting Inclusive design into Global and Local Perspective, Cities as living laboratories, Smart city and a human and inclusive approach, design thinking as a bottom up and in an iterative process will involve the different citizens and players in the city to come to an integrated approach.  **Studio Exercise:** Design Thinking approach for re-imagining Urban Public Places: Public space is where most links and social intersections take place, being responsible for the majority of interactions and random phenomena. A lively public space is a complex balance of overlapping layers which should respond to the demands, desires and expectations of a plural society, providing the conditions for a more inclusive and healthier social life. |

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| **Reference Books:** |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 3 | 2 | - |
| CO2 | - | - | 3 | 1 | - | - | 3 | - | - |
| CO3 | - | - | 2 | - | - | - | 3 | - | - |
| CO4 | - | - | - | - | - | 3 | 2 | - | 2 |

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| **[MPL (DE) - 20001] SUSTAINABLE URBAN PLANNING AND DEVELOPEMNT** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** To Understand the principles and practice of sustainable development, within the context of planning. |
| **CO\_2:** To identify different tools of sustainability planning |
| **CO\_3:** To implement sustainability in planning process at different spatial scales. |
| **CO\_4:** To establish a broad basis of debate on the critical environmental, social, cultural, economic and design issues confronting contemporary urban societies, and the role that sustainable urban development can play in addressing these fundamental issues. |

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| **Unit 1:** | **[6 Hrs]** |
|  | Introduction to Course, Introduction to Sustainable Development Concepts and Theory, current urban problems and opportunities, History, definitions, and perspectives on Sustainability Theory and Background to Sustainability Planning, The Three E's: Environment, Economics, ethics, and ecology of sustainable development, |
| **Unit 2:** | **[6 Hrs]** |
|  | Analyzing the Three E's within an urban development debate, Ethics, Worldviews, and Sustainability, Tools for Sustainability Planning: indicators, ecological footprint, other mechanisms, Planning, planners, and sustainability plans |
| **Unit 3:** | **[6 Hrs]** |
|  | Planning for Sustainability at Different Scales, Regional Planning and Sustainability, Municipal Planning and Sustainability, Implementing sustainability, Sustainable Transportation Planning, Concept of New Urbanism and Smart Growth, |
| **Unit 4:** | **[6 Hrs]** |
|  | Materials, Energy, and Food, The Natural step, Environmental issues, Concepts and Theory: Industrial Ecology and Green Development |
| **Unit 5:** | **[6 Hrs]** |
|  | Neighborhood Planning and Sustainability, Ecological Site Design and Architecture, Sustainable building, Green building concept, assessment, |
| **Unit 6:** |  |
|  | International development on Sustainability in Planning, International Institutions; Sustainability Planning in western world, Sustainability Planning in Developing Countries. |

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| **Reference Books:**   1. The Ecology of Place: Planning for Environment, Economy, and Community. Beatley, Timothy and Kristy Manning. 1997 Washington, D.C. Island Press 2. Sustainable Cities in developing Countries. Cedric Pugh. 2000 London, UK. Earthscan 3. Regenerative design for Sustainable Development, John Tillman Lyle. 1994. New York, John Willy & Sons 4. City-Region 2020, Joe Ravetz. 2000 London, UK, Earthscan |

* Give the mapping of COs with POs and PSOs - indicating dash- no mapping, 1- Low, 2 - Med, 3 - High

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | 1 | 3 | - | - |
| CO2 | - | - | 3 | 1 | - | - | 2 | - | - |
| CO3 | - | - | 2 | - | - | 1 | 2 | - | - |
| CO4 | - | - | 2 | - | - | - | 2 | 3 | - |

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| **[MPL -] HOUSING, LAND MARKET AND FINANCE** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** Understand the Basic Definitions, Concepts related to Housing Assessment, Development, Standards and Design. |
| **CO\_2:** Analyse housing policies and housing finance. |
| **CO\_3:** Understand basic concepts in Land Markets. |
| **CO\_4:** Relate integrated theoretical and practical instruction in finance, investment, Housing and policy as they relate to global commercial property markets. |

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| **Unit 1:** | **Introduction and Housing Assessment [6 Hrs]** |
|  | Concepts and Definitions: Shelter as a basic requirement, Census of India definitions, Existing Housing Statistics; definitions; urban and rural housing statistics; Introduction to concepts of Housing Shortage, Housing Need, quantitative and qualitative aspects of housing; Housing Demand - Understanding current methods of demand assessment; Knowledge of data sources and their use and interpretation; census, NSSO and other data; Limitations of existing methods of assessments. |
| **Unit 2:** | **Housing Development Process [6 Hrs]** |
|  | Understanding of factors affecting residential location, theoretical knowledge of ecological, neoclassical, institutional approach to housing; Housing subsystems and their characteristics: formal and non-formal housing; Process of Public and private sector housing development process; policy context, actors and their interrelationships; Inner city housing, Slums, Squatter housing, Unauthorized Housing. |
| **Unit 3:** | **Housing Standards and Design [6 Hrs]** |
|  | Factors determining residential densities; Densities, costs and development control regulations; Housing designs parameters and their relationship to costs; Housing design and climate; Housing for disaster prone areas. Communities; its characteristics and housing; socio-economic implication of slums, clearance/ improvement of slum; sites and services schemes, squatter upgrading, incremental approach |
| **Unit 4:** | **Housing Policy [6 Hrs]** |
|  | Understanding and evaluation of Housing Policy and programmes in India; five year plans, Central government policy; Policy framework for urban and rural housing; Comparative policy analysis; Housing for the low income groups; Co-operative housing, objectives and principles; management and financing of housing projects; investment in housing in public and private sectors. |
| **Unit 5:** | **Introduction to Land Market [6 Hrs]** |
|  | 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. |
| **Unit 6:** | **Housing Finace [6 Hrs]** |
|  | Financial environment at the national level, financial system and regulation, Characteristics of housing finance, policy for housing finance in national plans. Sources of finance, public – private sector investment in housing, finance in urban and rural sector implications of long-term and short-term financing, fiscal aspects of subsidizing public and private housing, housing finance requirements of economically weaker sections. |

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| **Reference Books:**   1. Housing : Changing Needs and New Directions, V. Gandotra, M. Shukul, N. Jaju and N. Jaiswal, Authors press 2. Housing and Urbanisation- A study of India, Cedric Pugh, Sage Publications, New Delhi 3. Housing Laws in India- Problems and Remedies, P.K.Sarkar , Eastern Law House Private Ltd. 4. National Housing Policy, GOI, New delhi 5. Reading Material on Housing, K. Thomas Poulose, ITPI, India 5. Understanding Housing Policy, Brain Lund, The Policy Press, Great Britain 6. Urban Development and Housing in India- 1947 to 2007, Rishi Muni Dwivedi, New Century Publications 7. Housing Policies and Related Acts and Schemes of Government of India 8. Holding Their Ground: Secure Land Tenure for the Urban Poor in Developing Countries, Durand-Lasserve, Royston L, Earthscan Publication, UK 9. Plotting, Squatting, Public Purpose and Politics, Land Market Development, Low Income Housing and Public Intervention in India, Baken, Robert Jan, King’s SOAS Studies in Development Geography 10. Shadow Cities: A Billion Squatters, a New Urban World, Neuwirth, Robert Taylor & Francis Group 11. The Urban Housing Manual: Making Regulatory Frameworks Work for the Poor, Payne, Geoffrey and Majale, Michael, Earthscan Publication, UK 12. Urban Land Market and Land Price Change: A Study in the Third World Context, Amitabh Kundu, Ashgate Pub0lishing Company. 13. Economics, Real Estate and the Supply of Land, Alan Evans, Wiley and Blackwell 14. Analyzing Land Readjustment: Economics, Law and Collective Action, Hong, Yu-Hung and Barrie Needham, Lincoln Institute of Land Policy 15. Subbulakshmi, V. (ed.) Housing Finance in India 2004 ICFAI University Press, Hyderabad |

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 1 | - | - | - | 2 | - | - |
| CO2 | - | - | 2 | - | - | - | - | 2 | - |
| CO3 | - | - | 1 | 1 | - | - | 3 | - | - |
| CO4 | - | - | - | - | - | 2 | 3 | 2 | - |

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| **MPL -] RURAL DEVELOPMENT** |
| **Teaching Scheme: Examination Scheme:** |
| **Lectures:** 10 Hrs/ week **T1 and T2 -** 20 marks |
| **End Sem. Exam.** - 60 marks |

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| **Course Outcomes:** At the end of the course, the students is able to |
| **CO\_1:** To study rural development as a process of change in the rural areas of India. |
| **CO\_2:** To understand the factors that affect rural change, |
| **CO\_3:** To define rural progress, and identify areas that can bring the about economic, social development. |
| **CO\_4:** To understand designing of appropriate rural development policies and programs and need for integrated approach to planning. |

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| **Unit 1:** | **[6 Hrs]** |
|  | National planning and rural development  Concepts of planning for rural settlements  Urban-rural relationship and theories of rural development push and pull factors |
| **Unit 2:** | **[6 Hrs]** |
|  | Agro based industries, agricultural development, rural transportation and social services  Communications with rural areas and amenities  Legislation and existing methodology for rural planning |
| **Unit 3:** | **[6 Hrs]** |
|  | Energy needs of the rural sector  Environmental and ecological considerations in rural planning  Area, district and block level development planning and implementation |
| **Unit 4:** | **[6 Hrs]** |
|  | Public participation in rural development process and the role of voluntary organizations.  Rural settlement patterns  Methods, role of stakeholders (including civil society organizations), etc.; Related Acts, Five year plans, policies and programs at various levels |
| **Unit 5:** | **[6 Hrs]** |
|  | Planning principles of village planning and norms  Rural settlement evolution and historic perspective |

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| **Reference Books:**   1. Rural Development in India Past, Present, & Future, Dr Vasant Desai, Publisher 2. Himalaya, 3. Dynamics Of Rural Development, by Keshav Dev Gaur , 4. Peoples’ Participation in Rural development in India, Durgadas Roy, Publisher Gangchil 5. Document Published by Ministry of Rural development, Govt. of India |

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| POs & PSOs  COs | PO1 | 2 | 3 | 4 | 5 | 6 | PSO1 | PSO2 | PSO3 |
| CO1 | - | - | 2 | - | - | 1 | 3 | - | - |
| CO2 | - | - | 1 | 2 | - | 2 | 3 | 2 | - |
| CO3 | - | - | 1 | - | - | - | 2 | 1 | - |
| CO4 | - | - | 3 | - | - | - | - | 3 | 1 |