**SYLLABUS**

**FOR**

**TWO-YEAR MASTER PROGRAMME**

**IN**

**PLANNING**



|  |
| --- |
| **NAAC – A Grade** |

**DEPARTMENT OF ARCHITECTURE & PLANNING**

**COLLEGE OF ENGINEERING & TECHNOLOGY**

**(An Autonomous and Constituent College of BPUT, Odisha)**

**Techno Campus, Mahalaxmi Vihar, Ghatikia,**

**Bhubaneswar-751029, Odisha, INDIA**

[**www.cet.edu.in**](http://www.cet.edu.in)

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**COURSE: M. Plan. (AR&PL - Master of Planning)**

**Duration: 2 years (Four Semesters)**

**Abbreviations Used: U= UG, I= Integrated, P= PG**

**PC= Professional Core PE= Professional Elective OE= Open Elective**

**LC= Lab Course MC= Mandatory Course AC= Audit Course**

**L= Lectures P= Practical/Laboratory IA\*= Internal Assessment**

**T= Tutorial PA= Practical Assessment EA=End-Semester Assessment**

**\*Internal Assessment Max. Mark (30 marks) consists of Mid Semester (20 marks) and Quiz+Assignment (10 marks)**

**Subject Code Format:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| **Prog (U/I/P)** | **Type (PC/PE/OE/LC/MC/AC)** | | **Department (CE/EE/IE/ME/…)** | | **Semester (1/2/…/0)** | **Serial No. (1/2/3/…/99)** | |

**1st SEMESTER**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Subject Type** | **Subject Code** | **Subject**  **Name** | **Teaching Hours** | | | **Credit** | **Maximum Marks** | | | |
| **L** | **T** | **P** | **IA** | **EA** | **PA** | **Total** |
| 1 | Core 1 | PPCPL101 | Evolution of Urban and Regional Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 2 | Core 2 | PPCPL102 | Planning Theory and Techniques | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 3 | Core 3 | PPCPL103 | Infrastructure Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 4 | Core 4 | PPCPL104 | Socio-economic basis for Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 5 | Core 5 | PPCPL105 | Research Methodology & Technical Report Writing | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 6 | Lab 1 | PLCPL101 | Planning Studio ‐ I | 0 | 0 | 12 | 6 | - | - | 100 | 100 |
| **Total** | | | | **15** | **0** | **12** | **21** | **150** | **350** | **100** | **600** |

**2nd SEMESTER**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Subject Type** | **Subject Code** | **Subject**  **Name** | **Teaching Hours** | | | **Credit** | **Maximum Marks** | | | |
| **L** | **T** | **P** | **IA** | **EA** | **PA** | **Total** |
| 1 | Core 6 | PPCPL201 | Regional Planning and  Development | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 2 | Engg. Sc. 1 | PESPL202 | Transportation Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 3 | Core 7 | PPCPL203 | Environmental Planning & Management | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 4 | Core 8 | PPCPL204 | Inclusive Urban Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 5 | Core 9 | PPCPL205 | Urban Information System | 2 | 0 | 4 | 4 | 30 | 70 | - | 100 |
| 6 | Lab 2 | PLCPL201 | Planning Studio - II | 0 | 0 | 12 | 6 | - | - | 100 | 100 |
| **Total** | | | | **14** | **0** | **16** | **22** | **150** | **350** | **100** | **600** |

**3rd SEMESTER**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Subject Type** | **Subject Code** | **Subject**  **Name** | **Teaching Hours** | | | **Credit** | **Maximum Marks** | | | |
| **L** | **T** | **P** | **IA** | **EA** | **PA** | **Total** |
| 1 | Core 10 | PPCPL301 | Development Management  And Finance | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 2 | Core 11 | PPCPL302 | Planning Legislation | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 3 | Core 12 | PPCPL303 | Land Economics and Real Estate Planning | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 4 | Professional Elective 1  (Any One) | PPEPL301 | Public Private Partnership in Development | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| PPEPL302 | Urban Heritage & Conservation |
| PPEPL303 | Planning For Leisure and Tourism |
| 5 | Open Elective 2  (Any One) | Any one subject from Appendix-III | | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 6 | Lab 3 | PLCPL301 | Planning Studio - III | 0 | 0 | 12 | 6 | - | - | 100 | 100 |
| 7 | Project 1 | PPRPL301 | Professional Training (Summer) | 0 | 0 | 4 | 2 | - | - | 100 | 100 |
| **Total** | | | | **15** | **0** | **16** | **23** | **150** | **350** | **200** | **700** |

**4th SEMESTER**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Subject Type** | **Subject Code** | **Subject**  **Name** | **Teaching Hours** | | | **Credit** | **Maximum Marks** | | | |
| **L** | **T** | **P** | **IA** | **EA** | **PA** | **Total** |
| 1 | Core 13 | PPCPL401 | Professional Practice | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 2 | Core 14 | PPCPL402 | Project Planning and Appraisal | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| 3 | Professional Elective 3  (Any One) | PPEPL401 | Energy, Climate Change and Urban Development | 3 | 0 | 0 | 3 | 30 | 70 | - | 100 |
| PPEPL402 | City and Metropolitan Planning |
| PPEPL403 | Disaster Risk Mitigation and Management |
| 4 | Seminar 1 | PSEPL401 | Seminar Presentation | 0 | 0 | 6 | 3 | - | - | 100 | 100 |
| 5 | Project 2 | PPRPL401 | Thesis | 0 | 0 | 24 | 12 | - | - | 100 | 100 |
| **Total** | | | | **9** | **0** | **30** | **24** | **90** | **210** | **200** | **500** |

**Abstract of Credit and Marks Distribution**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Semester** | **Maximum Credits** | **Maximum Marks** |
| 1 | 1st Semester | 21 | 600 |
| 2 | 2nd Semester | 22 | 600 |
| 3 | 3rd Semester | 23 | 700 |
| 4 | 4th Semester | 24 | 500 |
| **Total** | | **90** | **2400** |

**Semester-1**

**Core 1: Evolution of Urban & Regional Planning (PPCPL101)**

**INTENT:** To enable the students to understand the evolution, theories and basic principles of Urban & Regional Planning concepts and its implications in the current trends in city planning.

**Module I:**

The City in History, Settlement size, pattern and structure as a function of socio-cultural, economic, military and religious factors, Variations in civilizations- Egyptian, Mesopotamian, Greek, Roman Town planning in Medieval times and in Renaissance Europe.

**Module II:**

Origin and evolution of civic planning; Impacts of Industrial Revolution on town and regional planning Concepts of garden City, City beautiful, Linear city etc., contributions of all leading masters in planning.

**Module III:**

Socio-economic impacts of growth of urban areas; rural-urban migration, Impact of technology on urban forms, urban structure and form- land use distribution. Types of City Plans: Comprehensive Planning, Master plans, Structure Plans, Zonal Plans, Regional planning: Definition, hierarchy. Need for regional planning.

**Text / Reference Books:**

1. Hall, P. Cities of tomorrow: an intellectual history of urban planning and design in the twentieth century, 2001, Blackwell, London.
2. Birch, E.L. and Silver, C. One Hundred Years of City Planning's Enduring and Evolving Connections, 2009, Journal of the American Planning Association, Vol.75, Issue 2, pp.113-122.
3. Sandercock, L. Making the Invisible Visible: A Multicultural Planning History, 1998, University of California Press, London.
4. Geoffrey. Peter. Hall, Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century. 1996 Updated Edition, Blackwell Publishing.
5. Jayasri Roy Choudhuri, An Introduction to Development and Regional Planning, 2001, Orient Longman Ltd, Kolkata.
6. Faludi, A. A Reader in Planning Theory, 1973, Pergamon Press, London.
7. Peter, G.H. and Tewdwr-Jones, M. Urban and Regional Planning, 2011, Routledge, London. Fifth Edition.

**Core 2: Planning Theory & Techniques (PPCPL102)**

**INTENT:** Familiarizing students with the theories and contributions of all leading masters in planning and to study Mapping, Survey Techniques and Spatial Standards.

**Module I:**

Settlement system, classification of settlements, primate city, rank-size rule, central place concept, concepts of complementary area, central goods and services, range, threshold etc; city-region relationship; structure of city regions, area of influence, dominance; rural-urban fringes; push and pull factors; migration trends and impacts on urban and rural development.

**Module II:**

Characteristics of the urban environment and its components; Land uses, physical structure & relationship between parts of a city. Classification of land use in urban area; structure and models of growth patterns of CBD, intra - urban inequalities. Compact city approach: concept, advantages and limitations; Forms of cities in developing world, Forms of cities in the developed world; Forms of cities in the former and present socialist countries. Theories of implementation of planning policies and development plans

**Module III:**

Surveys, analyses and methods and practices in comprehensive planning. Techniques of conducting surveys for land use, building use, density, structural condition of buildings, heights of building, land utilization and physical features of land; Data requirement for various types of plans; Plan preparation Techniques. Formulation of spatial standards for residential, industrial, commercial and recreational areas, space standards for facility areas, utilities and networks; Population, Distance criteria; Performance standards;

**Text / Reference Books:**

1. Faludi, A. A Reader in Planning Theory, 1973, Pergamon Press, London.
2. Birch, E.L. and Silver, C. One Hundred Years of City Planning's Enduring and Evolving Connections, 2009, Journal of the American Planning Association, Vol.75, Issue 2, pp.113-122.
3. Margaret Robert, A introduction to town planning techniques, 1974, Hutchinson Educational, University of California.
4. Lewis B. Keeble, Principles and practice of town planning, 1967, Estates Gazette.
5. Ian Braken, Urban Planning Methods, 2007, Routledge.
6. Kruekeberg D. A. and Silvers A. A., Urban Planning Analysis, 1988, John Willey and Sons Inc.

**Core 3: Infrastructure Planning (PPCPL103)**

**INTENT:** To study the significance of Infrastructure and its elements in Urban and Regional Planning and Development and to ascertain the role of water, sanitation, solid waste management in integrated Urban & Regional Infrastructure Planning.

**Module I:**

***Water supply systems:*** calculation of quantity requirements and quality standards; sources, collection and conveyance of water; treatment methods; treatment plant location; planning and layout of distribution systems and their zoning with respect to urban structure. Rain water harvesting systems for large campuses and at community level

**Module II:**

***Waste Water disposal systems:*** separate and combined systems; characteristics of waste water; Industrial effluents and their effects; waste water treatment methods; planning and location of treatment plants; disposal of municipal and industrial effluents. Storm water discharge networks, zero discharge systems, Solid waste collection and disposal: Elements of solid waste management; classification and properties of solid wastes; on site collection, storage, transportation and disposal of solid wastes; processing and treatment of solid wastes; Urban electrical distribution systems and other communication networks.

**Module III:**

Planning and programming approaches for regional infrastructure and network systems; Environmental, social and economic impacts of infrastructure and network systems; Integrated planning organization and management of infrastructure and network systems; Key Planning issues for transportation facilities (transit hubs, ports, dry docks, airports etc) Planning guidelines and norms within facility zones;

**Text / Reference Books:**

1. Report on Indian Urban Infrastructure and Services, 2011, Government of India – NIUA.
2. Gathe Donald E.; Billings, R. Bruce; Buras, Nathan, Managing urban water supply, 2003, Dordrecht, Kulwer Academic Press.
3. Yadav, Satish, Water Problems and its Management, 2004, Hope India Publications.
4. W’Mays Larry, Urban Water Supply Handbook, 2002, McGraw Hill Handbook.
5. Butter. David, Urban Drainage, 2004, David Butter & John W. Davis Spon Press (IInd Edition) London & New York, 2004.
6. Bandela, N.N.; Tare, D.G., Municipal Solid Waste Management, 2009, B.R. Publishing.
7. Status of Water Supply, Sanitation and Solid Waste Management in Urban Areas, 2005, National Institute of Urban Affairs.
8. Tchobanoglous. George & Kreith. Frank, Handbook of Solid Waste Management, 2002, McGraw Hill.

**Core 4: Socio-economic basis for Planning (PPCPL104)**

**INTENT:** To develop understanding with relevance to Socio-economic issues in Urban and Regional planning in order to study socio-cultural profile of indian society along with economic growth development of in the context of Urban and Rural Settlements.

**Module I:**

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

**Module II:**

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.

**Module III:**

Micro and Macro Economics – Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing, 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.

**Text / Reference Books:**

1. Sinha, V.C. and Acharia, E. Elements of Demography, 1984, Allied Pub., Delhi.
2. Martine. George, The New Global Frontier: Urbanization, Poverty and Environment in the 21st Century, 2008, Earthscan Publications
3. Friedrich. J, A Theory of Urban Decline: Economy, Demography and Political Elites, Urban Studies, Sage Journal, June 1993 vol. 30 no. 6907-917
4. Jhingan, M, The Economics of Development and Planning, 1998, Vrinda Publications, Delhi.

**Core 5: Research Methodology and Technical Report Writing (PPCPL105)**

**INTENT:** To familiarize the students with objectives, types of research and research process in Planning and to develop the skills and ability to write correctly their present ideas in a logical manner.

**Module I:**

Introduction, definition, objectives of research, Types of research: descriptive vs. Analytical, applied vs. fundamental, quantitative vs. qualitative, conceptual vs. empirical.

Research Process: problem formulation, literature survey, development of working hypothesis, preparation of research design, determination of sample, data collection and analyses, hypothesis testing, generalization and interpretation, report preparation.

**Module II:**

Hypothesis- nature, characteristics, basic concepts- null and alternative hypotheses, level of significance, types of errors. Hypothesis testing,

Research Design- main concepts: dependent and independent variables, extraneous variable, control, research hypothesis. Types of research designs- exploratory, descriptive & diagnostic, experimental

**Module III:**

Collection of Primary data- methods- observations- structured, unstructured, interview, schedules and questionnaires. Applications, advantages and disadvantages of each type;

Sampling- criteria of selecting samples, probability sampling, non-probability sampling, Characteristics and sub categories in each type. Data Tabulation- editing, coding, classification, tabulation. Preparation of Report /Thesis- prefatory part, main body, supplementary part, referencing and bibliography

**Text / Reference Books:**

1. Kothari. C. R, Research Methodology: Methods and Techniques, 2004, New Age International.
2. Newman. Isadore, Benz. Carolyn R., Qualitative-quantitative Research Methodology: Exploring the Interactive Continuum, 1998, Southern Illinois University Press.
3. Hay. Lain, Qualitative Research Methods in Human Geography, 2000, Oxford University Press

**Lab 1: Planning Studio – I (PLCPL101)**

**INTENT:** To appreciate contextual location of Area in relation to City and understand concepts of land use with its development issues.

The Studio would comprise of a series of exercises of varying complexity which would aim to develop the skills of planning through a multi-disciplinary approach focusing on spatial, social, economic and environmental issues.

**Module I:**

***Basic Skill Development exercises:*** Introduction to Graphic representations, reading of drawings, and documentation of a case study / literature reference study of suitable scale for understanding of the urban context.

**Module II:**

***Need Identification:*** Analyses and interpretation of user responses. Data collection techniques, Socio-economic surveys and analyses.

**Module III:**

***Area planning:*** Layout and subdivision of plots. Site Planning of residential cluster

**Module 4:**

***Land Use Planning of an urban area of suitable scale:*** Concepts of land use, density of development, layout of networks, financing schemes.

**Text / Reference Books:**

1. Lynch. Kevin, Hack Gary, Site Planning,1984, Maple Vail Inc. Publisher
2. Smith, Carl, et. al., Residential Landscape Sustainability – A Checklist Tool, 2008, Blackwell Pub., Oxford.
3. Russ, Thomas H., Site Planning & Design Handbook, 2009, McGraw Hill Companies, Inc.

**Semester-2**

**Core 6: Regional Planning and Development (PPCPL201)**

**INTENT:** To study Concepts and Typology of Regions and Regional Dynamics and to expose students with various Regional Planning and Development Approaches in India.

**Module I:**

***Concept of regional planning:*** nature, objectives, levels and aims; Concept of a region, types, and regionalization. Elements of settlement system size, function, spacing, linkage, input tributary and output tributary, settlement patterns and factors responsible thereof.

**Module II:**

***Regional interaction***- Measurement of distribution of settlements, size and class of settlements, cluster and agglomeration studies, functional at tributes and spacing of settlements, potentialities and centrality of settlements. Regional inequalities - Growth, density and spatial inequalities of population distribution, spatial patterns and characteristics of occupational types.

**Module III:**

***Regional planning processes:*** Identification of plan objectives; collection, classification and analysis of data; Norms and standards for regional planning; Formulation of alternative plan proposals with respect to population distribution, location of new regional economic activities, infrastructure and plan implementation. Selected case studies in regional development in the Indian Context.

**Text / Reference Books:**

1. Wang, X., Von Hofpe, R., Research Methods in Urban and Regional Planning, 2007, Springer.
2. McLoughlin, J. B., Urban and Regional Planning. A systems approach, 1969, Faber and Faber, London.
3. Kulshrestha, S. K., Urban and Regional Planning in India: Handbook for Professional Practice, 2012, Sage Publications, New Delhi.
4. Misra. R.P., Regional Planning, Concept, Techniques, Policies and Case Studies, 2002, Concept Publishing Company, New Delhi.
5. John Glasson and Tim Marshall, Regional Planning, 2007, Routledge, Oxford shire.
6. Peter Hall and Mark Tewdwr John, Urban and Regional Planning, 2008, Routledge, New York.
7. Jayasri Roy Choudhuri, An Introduction to Development and Regional Planning, 2001, Orient Longman Ltd, Kolkata.

**ES 1: Transportation Planning (PESPL202)**

**INTENT:** To study Public Transport Network Planning and Scheduling and to introduce students the traffic survey techniques and Hierarchy of road networks.

**Module I:**

Overview of transportation systems and modes, design and operating characteristics, Classification of roads, road geometries and road components, traffic volume, origin destination, spot speed, speed and delay, parking and pedestrian issues. Design and preparation of layout for road intersections, rotaries and signalized intersections

**Module II:**

Traffic and transportation surveys- Study area definitions, surveys and their types, sampling of travel methods, different survey techniques. Use of analytical models for transportation planning- programming and scheduling, processing of travel data, analysis and interpretation of traffic studies; introduction to transport planning process; trip generation, trip distribution, trip assignment, Modal Split and Integrated land use and transportation models.

**Module III:**

Road networks and hierarchy, Basis of regional network of roads, Characteristics of national, state and district highways; By-pass design factors of highways through towns; Traffic Management- existing organizational and legal framework, traffic and environmental management techniques; review of the existing traffic management schemes in case cities.

**Text / Reference Books:**

1. Papacostar, C.S. and Prevedons, Transportation Engineering and Planning, 2001, Prentice Hall of India.
2. Kaliyali, L.R., Transport Planning and Traffic Engineering, Khanna publishers.
3. O’Flaherty, C.A., Transport Planning and Traffic Engineering, Butterworth Heinerman, An Imprint of Elsevier.
4. Chakraborty and Das, A, Transport Planning and Highway Engineering, 2003, PHI

**Core 7: Environmental planning and management (PPCPL203)**

**INTENT:** To study the Interface between Environment and Development and to familiarize the students with environmental Risks, Impact and Role of Institutions of Environment Management.

**Module I:**

Fundamentals of ecosystem—its structure, function, environmental degradation and its impact on various ecosystems, Environmental degradation, pollution types, effects & control techniques; Case study of environmental land use analysis; preparation of comprehensive policy and programs for improving environmental quality in an urban context.

**Module II:**

Environmental Impact Assessment (EIA) - environmental evaluation and its parameters; Procedural and administrative aspects of EIA; methods of EIA matrices and networks; quantitative methods; techniques of assessment of environmental impacts on air water and land; economics and social impacts; risk assessment and management, Indicators of environmental quality assessment; principles of environmental approach to planning.

**Module III:**

Environmental Ethics, Law & management, Principles of ecological approach to planning, Indicators of sustainability in planning & development of settlement, Environmental design in the context of natural resource management; need for public awareness and participation. Environment Management systems, cleaner production; commercial and non-commercial fuels and the bio-mass economy; resource depletion; alternative fuels and technologies; energy accounting and auditing; energy policies, norms and standards for clean air and water; measurement of environmental quality.

**Text / Reference Books:**

1. Pritchard. Paul, Environmental Risk Management, 2001, Earthsan Publication Ltd.
2. Roberts. Peter, Ravetez. Joe and George. Clive, Environment and the City, 2009, Routledge, Taylor and Frances Group.
3. Brandom P.S., Lombardi P.L.and Bentivejna. V, Evaluation of the Built Environment for Sustainability, 2005, E & FN Spon, London.
4. Roggemo. Rob, Adaptation to Climate Change: A Spatial Challenge, 2009, Springer.

**Core 8: Inclusive Urban Planning (PPCPL204)**

**INTENT:** To study Significance of Inclusion in Planning and Development Process and to expose students to various Policies, Programmes and Legislation for Participatory Planning.

**Module I:**

Understanding Inclusive Planning - Definitions and components. Stakeholders Profile and Needs, Access to Shelter, Services and Livelihoods - Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc.; Slums - dimensions, causative factors, determinants, location characteristics of settlements; Informal sector - growth, characteristics, functions, economic contributions, linkages with formal sector, impact on Urban Development

**Module II:**

Participatory Planning Process and Policies, Programmes and Legislation - Methods, role of stakeholders (including civil society organizations), etc.; Related Acts, Five year plans, policies and programmes at various levels.

**Module III:**

Planning interventions - Inclusive zoning, development and building regulations, Slum Improvement.

**Text / Reference Books:**

1. Datta, A., The Illegal City: Space, Law and Gender in a Delhi Squatter Settlement, 2012, Ashgate, Burlington.
2. Roy, A. and Ong,A. , Worlding Cities: Asian Experiments and the Art of Being Global, 2011, Wiley Blackwell, London.
3. Eijk, G.V., Unequal Networks: Spatial Segregation, Relationships and Inequality in the City, 2010, IOS Press, Amsterdam.
4. Harriss, J. Antinomies of Empowerment: Observations on Civil Society, Politics and Urban Governance in India, Economic and Political Weekly, Vol.42, No.26, pp.2716-2724. 2007.
5. Amnesty International. (2010). Insecurity and Indignity: Women Experiences in the Slums of Nairobi, Kenya. London: Amnesty International.
6. UN Habitat (2012), Gender issue guide – urban planning and design.

**Core 9: Urban Information System (PPCPL205)**

**INTENT:** To introduce students to Geo-Informatics, Satellite Images and Remote Sensing and Conceptual Models of Spatial and Non-spatial Information System.

**Module I:**

Definitions and introduction to remote sensing, components of remote sensing system, active and passive remote sensing, electromagnetic radiations and their interactions with the earth features and atmosphere, Spectral windows and spectral signatures and their significance in remote sensing. Remote sensing satellite orbits, image acquisition process, repeativity, row/path and ground swath and coverage.

**Module II:**

Various remote sensing platforms like ground based, air borne and satellite based. Passive and active remote sensors: Return Beam Videocon (RBV), Multi–Spectral Scanners (MSS), Thematic Mapper (TM), push broom scanners, Linear Imaging Self Scanner (LISS), thermal infrared scanning systems, radiometers, Radar, Lidar and SAR. Spectral and spatial resolution of various remote sensors with special relevance to Indian Remote Sensing satellites, Different types of remotely sensed data products.

**Module III:**

Geometry, radiometry and pre-processing of remotely sensed imagery. Ground truth collection and geo-referencing of imagery, Characteristics of photographic images, colour, tone and texture, photo-interpretation keys, techniques of photo-interpretation, Digital image classification techniques and extraction of thematic information

**Module IV:**

Geographic Information System (GIS) – Introduction, Geographical concepts and terminology, Components of GIS, Data acquisition, Raster and vector formats, Scanners and digitizers, Method of digitization, Data pre-processing, Format conversion, Data reduction and generalization, Data merging, Edge matching, Rectification and registration, Database structures, Conventional database management systems Spatial database management, Data manipulation and analysis, Representation of real world problems, Problems solving and spatial modeling, Application of GIS in various natural resources mapping and management.

**Text / Reference Books:**

1. Bhatia, S.C., Fundamentals of Remote Sensing, 2008, Atlantic Publications, Delhi.
2. Longley Paula, et al, Geographic Information Systems and Science, 2001, John Wiley and Sons Ltd., New York.
3. Dixon, W.J. and Massey, F.J., Introduction to Statistical Analysis, 1951, McGraw Hill, New York.

**Lab 2: Planning Studio – II (PLCPL201)**

**INTENT:** The thrust of this studio would be on urban planning issues. Development Plans for urban areas would be prepared as part of the studio curriculum and to strengthen the capabilities of student in Statistics and Operation Research and make them enable to understand the Characteristics of the City for Preparation of Sustainable Development Plan.

**Module I:**

Preparation of an integrated plan for an urban region focusing on all aspects of physical planning including socio-economic factors, infrastructure planning, and public private partnership; Identification of an urban region.

**Module II:**

Survey of the study area; (Study area visit for 2 weeks) Analyses and presentation of data and information;

**Module III:**

Planning for urban area and its region (structure plan / development plan) with emphasis on: Land use, transportation networks, and Infrastructure networks;

**Module IV:**

Detailing of Action Area programs and urban renewal/urban conservation plans, Financing and public-private participation; Implementation strategies including urban governance and management issues.

**Text / Reference Books:**

1. Punch, Keith, An Introduction to Social Research: Quantitative and Qualitative Approaches, 2005, Sage Publications.
2. Neuman, William, Basics of Social Research: Qualitative and Quantitative Approaches, 2007, Pearson, Allen and Bacon.
3. Finlay, B. Statistical Methods for the Social Sciences, 2009, Pearson Publisher University of Florida, US.
4. Peter Hall and Mark Tewdwr-John, Urban and Regional Planning, 2008, Routledge, New York.
5. Choudhuri. Jayasri Roy, An Introduction to Development and Regional Planning, 2001, Orient Longman Ltd, Kolkata.

**Semester-3**

**Core 10: Development Management and Finance (PPCPL301)**

**INTENT:** To study the processes and management of Urban Planning and Development and Development Finance covering State Finance and Municipal Finance and to provide exposure to students on mechanism of financing the development.

**Module I:**

National goals and political-economic systems for development management processes; Systems of local governments in India; development administration of National, State and Local level and the process of decision making, development and management; Structure of implementing authorities: Improvement trusts; Development authorities, Metropolitan Development Authorities, and their relationship with local governments.

**Module II:**

Public relation and citizen participation, personnel management, manpower planning, performance, appraisal, motivation and morale; corporate management: systems approach to urban management, organizational design, management information systems. Organizational behavior: organization theories, authority and conflict, administration communication, leadership in administration, organizational changes.

**Module III:**

Environment of Urban Finance: national plan and urban development; inter-governmental fiscal relationship, municipal fiscal system. Innovations in urban infrastructure finance: Equity participation by stake holders, debt financing. Municipal fiscal administration: property tax administration, rent control system, user changes and pricing of public services, municipal expenditure, administration of grants in-aids. Local planning and budgeting: Municipal Corporate Planning; program planning and budgeting; local financial Management: financial control & delegation, performance evaluation techniques, cash flow management, local debt management, financial information system; municipal fiscal programming, project scheduling and budgeting.

**Text / Reference Books:**

1. Baud, I.S.A. and Wit, J. de, New Forms of Urban Governance in India: shifts, models, networks and contestations, 2008, Sage Publisher, New Delhi.
2. Rhodes, R.A.W., Understanding Governance: policy networks, governance, reflexivity and accountability, 1997, Open University Press, Maidenhead, GB, Philadelphia.
3. Government of India, 73rd and 74th Constitution Amendment, Acts, 1992, Government of India, New Delhi.
4. Joanna Autor Ledgerwood, Microfinance Handbook: An Institutional and Financial Perspective, 1999, The World Bank, Washington DC.
5. Report on Indian Urban Infrastructure and Services, 2011, Government of India – NIUA.

**Core 11: Planning Legislation (PPCPL302)**

**INTENT:** To impart knowledge of various Legislations on Urban Planning and Development and to expose students to basic concept of Law and Indian Constitution in general and 73rd and 74th Constitution Amendments, Development Control Rules, Zoning Laws.

**Module I:**

The meaning, significance and objectives of planning legislation; constitutional basis and provisions relating to land, its development and use. Evolution of planning legislation in India, Overview of legal tools for urban planning & development. (Town and Country Planning, Improvement Trust and Development Authorities etc)

**Module II:**

Objectives, contents and procedures for preparation and implementation of Regional plans, development plans, Town Planning Schemes, Area Plans etc. Legislation for land acquisition and land ownership including rural and urban land ceiling Acts and their implications on development. Legislation on Conservation of natural resources including Mining and Forestry Acts, Conservation and Management of Ancient Monuments and Archaeological sites and ruins. Overview of Development Control Regulations- zoning, sub-division regulations, building regulations and bye laws.

**Module III:**

Role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges. Role in interdisciplinary groups; Formulation of project proposal and outlines; consultancy agreements and contracts

**Text / Reference Books:**

1. ITPI, Planning Legislation and professional Practice, ITPI, New Delhi.
2. Bijlani, H.U. & Balachandran, Law and Urban Land, 1978, IIPA, New Delhi.
3. GoI, URDPFI Guidelines Vol. 2A, 2014, ITPI, New Delhi.
4. GoI, Indian Contract Act 1872; Indian Contract Act 1872; The Arbitration and Conciliation Act 1996. Constitution of India; Constitution (73rd & 74th Amendment) Acts 1992; Model Rent control Legislation; Slum (Improvement and Clearance) Act 1956; Land Acquisition Act 1894 and amendments thereof, Environment (Protection) Act 1986; Model Town Planning and Regional Planning Development Law; and other acts.
5. Edgar F N Ribeiro, Reassessment of Urban Planning and Development Regulations in Asian Cities, 1999, United Nations Centre for Human Settlements.
6. Das. Amiya Kumar, Urban Planning in India, 2007, Rawat Publishers and Distributors.

**Core 12: Land Economics and Real Estate Planning (PPCPL303)**

**INTENT:** To introduce the students the basic definitions and concepts related to Real Estate Legislation, Planning and Management and economic principles of land uses.

**Module I:**

Economic concepts of land, objectives and scope of land economics; economic principles of land use; economic rent, land use and land values, market dynamics and impact on land use pattern. Development of Land and Real Property process- cost of development, source of finance.

**Module II:**

Economic aspects of land policies at various levels of decision making; Private ownership and social control of land; Land use restrictions, compensation and requisition taxation of capital gain on land; Valuation of land and property portfolios; Methods of valuation.

**Module III:**

Definition of real estate - physical, financial and social perspectives, Comparison of real estate to other investment avenues; Real, local, national and global factors affecting real estate

Concepts of real estate analysis-Mapping supply to understand markets, Demand factors affecting real estate development, Demand-Supply Gap analysis, Real estate as facilitator of development; Transaction and renting of real estate, Lease deeds/ sale deeds, sale documents, registration; Mortgage and pledging; Real estate dynamics in metropolitan cities and tier I, tier II & tier III cities.

**Text / Reference Books:**

1. Ratcliff, John, et.al., Urban Planning and Real Estate Development, 3rd edition,2009, Routledge publisher.
2. Weimer, Arthur M and Hoyt Homer, Principles of Real Estate, 6th edition, The Ronald Press Co., New York.
3. Grigsby, william G., Housing Markets and Public Policy, 1963, Pennsylvania Press.
4. Habibullah Wajahat, Land Reforms in India, 2005, Sage Publications.
5. Harvey. Jack, Jowsey.Ernie, Urban Land Economics, 6th edition,2003, Palgrave publisher.

**PE 1: Public Private Partnership in Development (PPEPL301)**

**INTENT:** To study the need for PPP as an effective project delivery mechanism for infrastructure, affordable housing etc. and expose the students to different PPP models being practiced in international and domestic scenario.

**Module I:**

Basis and need for PPP, Evolution of PPP, definition, salient features of PPP; Guidelines for successful PPPs. Approval methods and execution of PPP projects, different models of PPP – DB, DBM, DBO, BOOT, Concessions, Service contract etc. Scope and coverage of PPP- Policy level and Transaction Level; Key emerging challenges in PPP, Strength and weakness of PPP in India.

**Module II:**

Enabling environment for successful PPPs – Institutional mechanism, Financing mechanism and Capacity Building Programme. PPP life cycle process; Pre feasibility analysis, Demand analysis and Cost analysis. Project risk management - Types of Risk, assessment and their allocation between different parties; Risk mitigation measures. Nature of private participation in different sectors. PPP structuring – Scope, cost recovery, duration, PPP variant. Recommended PPP models in India.

**Module III:**

Financing and operating of projects on PPP models. Role of PPP in Housing and Urban Development. Various approaches to PPP in Housing – Virtual land approach, slum rehabilitation approach, Rental approach, Direct/Cross Subsidy approach etc. International best practices and domestic experiences in PPP. Meeting needs of urban poor through PPP. Role of Government as partner, as regulator, as facilitator in PPPs. Tendering and Contracting; Key features of procurement, RFQ, RFP. Good Governance in Public Private Partnerships. Institutional and Governance mechanism in PPP.

**Text / Reference Books:**

1. Robinson, H., Kanilo, P., Anumba, C.J. and Patel, M., Governance and Knowledgement for Public Private Partnership, 2010, Wiley – Blackwall, Oxford.
2. Ratcliff, John, et.al.Urban Planning and Real Estate Development,3rd edition, Routledge publisher.
3. Telliford, G., Public – Private Transportation Partnerships around the World, 2009, Nova Science Publishers.
4. Delmon, Jeffrey., Public-Private Partnership Projects in Infrastructure: An Essential Guide for Policy Makers, 2011, Cambridge University Press.
5. Yescombe, E.R., Public Private Partnerships- Principles of Policy and Finance, 2007, Yescombe consulting Ltd. London, UK, Elsevier.

**OE 2: Housing and Community Planning (POEPL301)**

**INTENT:** To introduce the Basic Definitions, Concepts and Socio-economic Dimensions related to Housing and to provide students a basic understanding of Housing at the Neighbourhood and City level and to appreciate the Housing Sector as an Integral Sector of overall Town Planning System.

**Module I:**

Shelter as a basic requirement, definition of Housing, Census of India definitions, Introduction to policies, housing need, demand and supply, housing age, occupancy rate, crowding, housing shortage, income and affordability, poverty and slums, houseless population. Various housing typologies viz. traditional houses, plotted development, group housing, multi-storied housing, villas, chawls, etc.

**Module II:**

Housing as social security, role of housing in development of family and community well-being, safety, crime and insecurity, deprivation and social vulnerability, gender issues related to housing. Contribution of housing to micro and macro economy, contribution to national wealth and GDP, fiscal concessions, forward and backward linkages. Process of Public and private sector housing development process; social aspects of housing: built environment and human behavior, evaluation of user satisfaction, housing norms and standards.

**Module III:**

Understanding and evaluation of Housing Policy and programmes in India; five year plans, Central and state government policy; Policy framework for urban and rural housing; Comparative policy analysis. Slums and squatters, night shelters, public health issues related to housing, concept of green housing, green rating of housing projects; basic services for housing neighbourhoods. Planning and design criteria for modern neighbourhoods, norms and criteria for area distribution, housing and area planning standards, net residential density and gross residential density, development controls and building byelaws, URDPFI guidelines, NBC 2005 provisions.

**Text / Reference Books:**

1. Dwyer, D.J., People and Housing in Third World Cities, 1981, Orient Longman.
2. Abrams, Charles, Man’s Struggle for Shelter in an Urbanizing World, 1964, MIT, Harvard.
3. Payne, Geofrey, Urban Housing in the Third World, 1977, Routledge and Keegan Paul, USA.
4. Douglas Farr, Sustainable Urbanism: Urban Design with Nature, 2007, John Wiley & Sons.
5. Aromar Revi, Shelter in India – Sustainable Development Series, 1990, StosiusInc / Advent Books Division.
6. GRIHA all Volumes – An evaluation tool to help design, build, operate and maintain a resource efficient built environment, TERI, India.

**OE 2: District planning and Rural development (POEPL302)**

**INTENT:** To study District Planning with Integration of Rural and Urban Development Initiatives, Policies and Programmes and to expose students to development and management Issues, Initiatives and Strategies.

**Module I:**

Current Scenario – Recent Development in decentralized district level planning. 73rd and 74th Constitution Amendment Acts, Participative District Planning; Role of Planning Commission and Finance Commissions, and ICT in District Planning. District Planning - Data Management and District Level Visioning, Institutional and other support for District Planning Committee, Bridging gap through district planning, resource mapping and determination of funding sources, consolidation of urban and rural plans; Rural-Urban spatial relationship; District Development Plans – Guidelines for District Planning: Content and context and methodologies, Village Development Plans – an Integrated approach, rural norms and standards (spatial). Capacity Building for Decentralized Planning.

**Module II:**

Rural Development **-** Introduction: Meaning and Scope and overview of rural development: Historicalperspective – Rural Development Programmes in India. Problem / perception and identification; Rural Area Planning – Programmes / Policies / Schemes for rural development, their coverage and outcomes; Rural Infrastructure Development, Bharat Nirman – A business plan for rural infrastructure, Rural Building Centers, PMGSY, IAY, Rajiv Gandhi Technology Mission, Central Rural Sanitation Programme, PURA. Rural Employment Schemes: Sampoorna Grameen Yojana, Housing for all, Rurban etc.

**Module 3:**

Changing Profile of the Rural areas of India: Consumption pattern changes, land utilization changes, living standard changes, changes in asset ownership – its implication in the planning process; Rural Settlement Analysis: Types, activity, environment and economic interface in rural habitat, technology in rural settlement; Land Utilization: Types of land utilization and its relevance to planning; Land conversions and its regulation; Sources of information for land information; Technology in Rural Development: ICT in rural development, Rural Information system, Weather forecasting, disaster minimization, market information, etc. E-Panchayat, energy efficient technologies and alternative technologies;

**Text / Reference Books:**

1. Mathew, George, Panchayati Raj, from Legislation to Movement, 2002, Concept Publishing Co., New Delhi.
2. Constitution (73rd Amendment and 74th Amendment) Act 1992, GoI, New Delhi.
3. Manual of Integrated District Planning, 2006, Planning Commission, New Delhi.
4. Various Five Year Plans (1st to 12th), Planning Commission, New Delhi.
5. Maheshwari, S., Rural Development in India: A Public Policy Approach, 1985, Sage publication, New Delhi.
6. Cokke, B. and Kothari, U, People’s Knowledge, Participation and Patronage, 2001, ZED Books, London.

**OE 2: Urban Poverty & Planning for Informal Sector (POEPL303)**

**INTENT:** To make students understand the Problems and Issues of Informal Sector and their Housing Conditions and to study various Strategies of Government and NGOs for the Improvement of Slums.

**Module I:**

Urban Poverty- Dimensions of urban poverty, magnitude of problem, urban poverty alleviation central and state programmes; Concept of Basic Needs, standards for basic needs, provision of basic services to urban poor and informal sectors;

**Module II:**

Characteristics of rural-urban migration and their impact on informal sector growth; Socio-economic deprivation and urban poor;

**Module III:**

Gaps in existing institutional systems of delivery of basic services to informal sectors; Appraisal of the role of government, organizational set up and their limitations in catering to unorganized and informal sector; Alternative approaches for delivery of basic services to urban poor and informal sectors. Role of private sector, NGO’s and other voluntary organizations in poverty alleviation; Case studies from India and other developing countries;

**Text / Reference Books:**

1. Huchzermeyer, Marie., Cities with Slums: From Informal Settlement Eradication to a Right to the City in Africa ,2011, UCT Press.
2. UNHS Programme, The Challenge of Slums Global Report on Human Settlements ,2003, UN-Habitat Earthsacn Publishing, London.
3. Dr. D Goswami, Housing and Urban Poverty Alleviation, 2012, SAAD Publications, Delhi.
4. Kalpana Sharma, Rediscovering Dharavi: Stories from Asia's Largest Slum, 2000, Penguin Books.
5. Kishor C Samal, Informal Sector: Concept, Dynamics, Linkages & Migration ,2008, Concept Publishing Company, New Delhi
6. Davis. Mike, Planet of Slums, 2006, Verso books publisher, London.

**Lab 3: Planning Studio- III (PLCPL301)**

**INTENT:** The thrust of this studio would be on regional Planning and would include the preparation of a regional development plan for a selected area. Special area planning would also form a part of the curriculum of this studio.

**Module I:**

Defining characteristics of identified area;

Case Study and Literature Review of planning concepts and norms for the selected area/special area;

**Module II:**

Selection of Site and collection of data (Field trip of 2 weeks duration to be included)

**Module III:**

Data analyses and presentation; Outline framework of development- sectoral and spatial;

**Module IV:**

Implementation framework- capital investment and funding; methods; financial feasibility; Governance and Management aspects

* The Studio also includes a Seminar Module to help students undertake the process of study and research to be able to finalize on their topic for thesis project in fourth semester with sufficient background and references.
* Students are to select topics of individual interest reflecting needs of the day.
* The topics so chosen are to be subjected to discussions and criticisms by the department.
* On finalization of topic, the students would be required to formulate an action plan including objectives, scope of work, methodology of work, case studies to be undertaken, site selection culminating in broad programming of their thesis.

**Text / Reference Books:**

1. Balisacan, Arsenio M., Hill, Hal, The Dynamics of Regional Development: The Philippines in East Asia, 2007, ADB Institute and Edward Elgar Publishing Ltd., Cheltenham, USA.
2. Chaudhuri, Ray Jayasri, An Introduction to Development and Regional Planning with special reference to India, 2001, Orient Longman Ltd., Kolkata.
3. R.P. Misra, Regional Planning, Concept, Techniques, Policies and Case Studies, 2002, Concept Publishing Company, New Delhi.
4. Glasson, John. and Marshall, Tim., Regional Planning, 2007, Routledge, Oxford shire.
5. Peter Hall and Mark Tewdwr- John, Urban and Regional Planning, 2008, Routledge, New York.
6. Jain, Manishika, GIS & Remote Sensing Techniques, 2009, Himanshu Publications, New Delhi.

**Project 1: Professional Training (Summer) (PPRPL301)**

* Each student shall have to undergo Professional Training for a period of at least 6 Weeks in an establishment approved by the class coordinator and Professor In charge.
* The practical training will commence during the summer break between second and third semester.
* A student will be required to submit a performance report from the Planner under whom training is undertaken as well as a detailed report on the work carried out by him during the training;
* The Internal assessment marks for the practical training will be awarded to each student by the Prof. in charge in consultation with the course coordinator on the basis of:

1. The performance report from the Planner under whom the training was carried out.
2. On the assessment of the report of works rendered by the student during the training.

* The external Jury will award the marks for the practical training on the basis of Viva-voce examination of the student on the work rendered by the student during training.

**Semester-4**

**Core 13: Professional Practice (PPCPL401)**

**INTENT:** To study Legislations related to Urban Planning and Development and to make students

understand their role and responsibilities as professional planner, and equip them with the knowledge, procedures, and legal tools required for Professional Practice in Urban Planning.

**Module I:**

Role of Planner- Planner's input as professional at various levels and organizations, his role in decision making processes, relevant issues: generalists vs. specialists, professionals vs. technocrats, planner as decision maker vs. advisor to decision maker, relationship with client, developers, institutions and contractors; relationship with other experts such as engineers, architects, sociologists, economist, lawyers, etc. for specialized studies related to planning.

**Module II:**

Organization - Aims and objectives of professional institutes, sister bodies; professional roles and responsibilities of planning consultants; professional ethics; Intellectual Property Right; responsibilities towards clients, fellow professionals and general public.

**Module III:**

Scope of services for different projects like master plan for urban area, zonal district plan, sector/ neighborhood; layout, group-housing schemes, commercial centers, industrial estates, etc. Fees and scales of professional charges; Consultancy agreements and safeguards

**Text / Reference Books:**

1. Planning Legislation and professional Practice, ITPI.
2. Bijlani, H.U. & Balachandran, Law and Urban Land, 1978, IIPA, New Delhi.
3. URDPFI Guidelines Vol. 2A, GOI.
4. Kulshrestha, S. K., Urban and Regional Planning in India: Handbook for Professional Practice, 2012, Sage Publications, New Delhi.
5. GoI, Indian Contract Act 1872; Indian Contract Act 1872; The Arbitration and Conciliation Act 1996. Constitution of India; Constitution (73rd & 74th Amendment) Acts 1992; Model Rent control Legislation; Slum (Improvement and Clearance) Act 1956; Land Acquisition Act 1894 and amendments thereof, Environment (Protection) Act 1986; Model Town Planning and Regional Planning Development Law; and other acts.

**Core 14: Project Planning and Appraisal (PPCPL402)**

**Module I:**

The concept of projects, Importance of project formulation, appraisal and management; life cycle of project; detailed project report, and feasibility studies; concepts of financial feasibility (payback period, IRR, DCF, NPV, CBR); Methodology for project identification and formulation; Feasibility studies, input analysis, financial cost-benefit analysis, social-cost benefit analysis;

**Module II:**

Need for project appraisal; Project formulation: definition, objectives; Stages of project form Network analysis; CPM, PERT, resource leveling and allocation, time-cost trade off aspects; Bar charts, Milestones, Standard oriented cost control techniques; Techno-economic analysis of projects.

**Module III:**

Project implementation, stages of implementation, actors in project implementation; Project monitoring: monitoring techniques: BIM techniques, integrated reporting, Milestones, time and cost overrun and under runs, unit index techniques. Project evaluation: Life of a project; stages, approach and steps, techniques of project evaluation: input analysis, financial cost-benefit analysis, social-cost benefit analysis; Case studies in urban and regional development projects.

**Text / Reference Books:**

1. Forbes Davidson, Urban Projects Manual: A Guide to Preparing Upgrading and New Development accessible to Low Income Groups, 2nd edition, Liverpool University Press DFID.
2. Joseph Martial Ribeiro, International Development Projects: Appraisal, Execution Planning and Monitoring, 2011, Press Internationals Polytechnique.
3. Colin H. Kirkpatrick, John Weiss, Cost-benefit analysis and project appraisal in developing countries, 1996, Edward Elgar Publishing Inc.
4. Jain, D. K., Project planning and appraisal in planned economy the Indian context,1981, Uppal Publishing.
5. Srivastava, U.K., Project planning, financing, implementation and evaluation, 1981, IIM, Ahmedabad.

**PE 3: Energy, Climate Change and Urban development (PPEPL401)**

**INTENT:** To study Interface between Energy, Climate Change and Urban Development and to equip students with relationship of Plans, Policies and Strategies with reference to Energy Planning.

**Module I:**

Introduction - Energy, Climate change and Urban Development – Interface.

**Module II:**

Energy Generation and Consumption - Energy Supply and Demand, Energy Consumption in cities, determinants of energy demand, phenomenon of climate change, factors influencing climate change, impacts of climate change.

**Module III:**

Energy Planning and Management, and Mitigation and Adaptation to Climate Change - Energy efficient development, Compact city form, Transit oriented development. Mechanisms and measures for mitigating and adapting to climate change at various levels. Plans, Policies and Strategies - Related to energy planning, conservation, climate change mitigation and adaptation.

**Text / Reference Books:**

1. Dash. S.K, Climate change: an Indian perspective, New Delhi, 2007, Cambridge University Press.
2. Jenks, Mike; Burgess, Rod, Compact cities: Sustainable urban forms for developing countries, 2000, Spon Press, London.
3. Bicknell, Jane, Adapting cities to climate change: understanding and addressing the development Change, 2009, Earthscan, London.
4. Andres Duany, Jeff Speck, Mike Lydon, The Smart Growth Manual, 2009, McGraw-Hill.
5. David Owen, Green Metropolis: Why Living Smaller, Living Closer, and Driving Less are the Keys to Sustainability, 2009.

**PE 3: City and Metropolitan Planning (PPEPL402)**

**INTENT:** To study the Growth of Metro and Mega Cities and their relationship with their respective Regions; and spatial planning approaches for their Planned Development.

**Module I:**

Urban Growth and System of Cities - Growth of cities scale, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities. City – Region Linkages, City, fringe and the periphery - physical and functional linkages, peri-urban development.

**Module II:**

Metro and Mega Cities: Problems and Issues -Growth trends and processes, characteristics, problems, concepts and concerns ofurban sustainability, issues related to diversity and unintended growth, economic,social and environmental sustainability, quality of life, inclusivity and equity, climatechange, transit oriented development, participatory planning. Inner city – issuesand problems, approach to development.

**Module III:**

Human Settlement Planning, Urban Development Policies and Programmes **-** Concepts, approaches, strategies and tools; Policies and programmes at variouslevels, impact on metro and mega city development.

**Text / Reference Books:**

1. Ewing Reid, Measuring Urban Design: Metrics for Livable Places (Metropolitan Planning + Design) 2nd Edition, 2013, Island Press.
2. City and Metropolitan Planning and Design, ITPI, New Delhi.
3. Ramachandran, R., Urbanization and Urban Systems in India, 1998, Oxford University Press, New Delhi.
4. Bawa, V. K., Indian Metropolis: Urbanization, Planning and Management, 1987, Inter-India Publications, New Delhi.
5. Misra, R.P. & Misra, K., Million Cities of India Vol. 1&2, 1998, Sustainable Development Foundation, New Delhi.

**PE 3: Disaster Risk Mitigation and Management (PPEPL403)**

**INTENT:** To study disaster management practices and mitigation measures and their Impact on environment and development and to make students aware of various disaster mitigation measures and preparedness.

**Module I:**

Definitions, meaning and types of disasters; Natural disasters and manmade calamities- statistics, degree of damage, frequency of occurrences and other historical facts;

**Module II:**

Classification of disasters in India by predominant types- earthquake, flood, hurricanes, fires etc.

**Module III:**

Disaster preparedness, response and post disaster recovery and rehabilitation measures; Technology for rebuilding of disaster affected areas; Psychological impact on disaster victims; Risk mitigation and risk transfer.

**Text / Reference Books:**

1. Rajib Shaw, Community, Environment and Disaster Risk Management, 2010, Emerald Group Publishing Limited.
2. Rajib Shaw Hari Srinivas, Anshu Sharma, Urban Risk Reduction An Asian Perspective, 2009, Emerald Group Publishing.
3. P C Sinha, Introduction to Disaster Management, 2007, Anmol Publications, New Delhi.
4. Jegadish Gandhi P, Disaster Mitigation & Management Post Tsunami Perspectives, 2007, Deep & Deep Publications Pvt Ltd, New Delhi.
5. NDMA, Disaster Management Guidelines, all editions.
6. Jagbir Singh, Disaster Management: Future challenges and opportunities, 2007, I.K. International Publishing House Pvt. Ltd.
7. Satish Modh, Introduction To Disaster Management, 2010, Macmillan Publishers India. Limited, New Delhi

**Seminar: Seminar Presentation (PLCPL401)**

**INTENT:** Presentations and discussions by faculty, guest speakers, and students on current topics in the areas of Urban & Regional Planning. The oral dissemination and defense of scientific and logical concepts in planning is a fundamental communication tool that students will employ throughout his/her professional career. In this course, students will participate in five activities that will hone his/her oral presentation skills: observation, question, critique, research, and presentation.

**Observation:** One of the most effective means of gaining an appreciation for the art of presentation is to observe the performance of others. The mannerisms and appearance, the voice, and the visual aids employed by a speaker may be viewed in light of what works and what doesn’t.

**Question:** The formulation of relevant questions that probe a speaker’s knowledge, experimental methods, assumptions, and interpretations is an important part of any presentation, and of the scientific method.

**Critique:** The critique offers the opportunity for observers to indicate to the areas within the presentation that were well-done, and areas within the presentation that could be improved upon.

**Research:** It is an expectation and goal of the Faculty of Planning that this seminar series will be a forum for our students and faculty to dispense and gain insight into the current and cutting edge activities in areas of Urban & Regional Planning. Students will be required to make presentations on areas related to his/her Thesis topics.

**Presentation:** Public speaking is not normally a pleasant experience, particularly for those who are new to the activity; but, it can become so. To attain confidence and comfort on the podium requires practice. Seminar Presentation enable students an opportunity to practice within the friendly confines of the department, observed by the faculty and your peers.

**Project 2: Thesis (PPRPL401)**

* To develop independent critical thinking and design/research abilities and apply the knowledge gained, skills developed and professionalism inculcated over the last three semesters in an exercise of own interest and significant complexity.
* The thesis project is to be undertaken independently by each student on a topic of his/her choice, selected and approved by the faculty during the previous semester as part of course requirements of the Subject Seminar.
* As part of the studio requirements, the student is expected to go through a process of documentation, analyses and synthesis related to his/her specific topic and related area of work.
* Initial stages would include study of relevant case studies and literature relevant to the topic, on the basis of which the space program would be determined.
* Alternative designs arrived at through an iterative process of prioritization and elimination would be developed in the next stage.
* Final stages of work would include detailed design of the best option selected. Detailing would be largely dependent on the thrust and focus of the project selected and would vary from student to student.
* The student is required to work under the guidance of a supervisor allotted by the department and complete the requisite work in the course of the semester, ending in a viva-voce exam by a panel of examiners both external and internal.
* Progressive evaluation would be done by a panel of external and/or internal jurors during reviews held at intervals during the course of the semester.

The student is required to defend his thesis through drawings, reports, study sheets, models and digital presentations and verbal communications in all the reviews and the final viva-voce.