VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2018–19
Outcome Based Education(OBE) and Choice Based Credit System(CBCS)
(Effective from the academic year 2018–19)

I SEMESTER, Bachelor of Planning

Three week long mandatory non-credit Induction Program

For the UG students entering the institution, right at the start. Normal classes start only after the Induction program is completed.

Preamble

Engineering institutions are set up to generate well trained manpower in engineering with a feeling of responsibility towards oneself, one's family, and society. However, often, the incoming undergraduate students are driven by their parents and society to join engineering without understanding their own interests and talents. As a result, most students fail to link up with the goals of their own institution.

Students who enter an institution, will have come with diverse thoughts, backgrounds and preparations. It is important to help them adjust to the new environment, open them up, set a healthy daily routine, create bonding in the batch as well as between faculty and students, develop awareness, sensitivity and understanding of the self, people around them, society at large and nature, and inculcate in them the ethos of the institution with a sense of larger purpose.

The graduating student must have knowledge and skills in the area of his/her study. Character needs to be nurtured as an essential quality by which he/she would understand and fulfill his/her responsibility as an engineer, a citizen and a human being. Besides the above, several meta-skills and underlying values are needed.

Therefore, a Program is needed to

- help the newly joined students feel comfortable,
- sensitize them towards exploring their academic interests and activities,
- train them to work for excellence,
- build relations between teachers and students,
- impart a broader view of life,
- build character,
- develop awareness and sensitivity to Human Values,
- create feeling of equality, compassion and oneness,
- develop attention to society and nature.

An induction program for the UG students entering the institution, right at the start, serves the purpose. The program also makes them reflect on their relationship with their families and extended family in the college (with hostel staff and others). It also connects students with each other and with teachers so that they can share any difficulty they might be facing and seek help.

The Induction Program can also be used to rectify some critical lacunas, for example, English background, for those students who have deficiency in it.

Activities of the induction program

Induction program includes;

Physical Activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to Local Area, Familiarization to Department/Branch and Innovations, etc.

For more details refer to “A Guide to Induction Program”, Page – 31, Model Curriculum for Undergraduate Degree Courses in Engineering and Technology, January 2018, Volume I, published by AICTE, New Delhi.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF I SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 1.1	Fundamentals of Urban and Regional Planning	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 1.2	Planning Techniques - I	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 1.3	Culture and cities	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 1.4	Planning Communication - I	-	2	2	4	-	-	50	-	-	50	2
5	18 PLN 1.5	Quantitative Methods for Planners	2		1	3	3	100	50	-	-	150	3
6	18 PLN 1.6	Planning Studio - I	-	12	-	12	-	-	200	200	-	400	6
		TOTAL	11	14	3	28		400	450	200	-	1050	20
PLN = Planning Subjects													
No. of Subjects/Heads = 6 No. of Theory Examinations = 4													
Progressive Marks to be awarded by the subject teacher.													
Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each													

06.7.2018.

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SCHEME OF TEACHING AND EXAMINATION OF II SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 2.1	Cities in History	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 2.2	Introduction to Social Sciences	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 2.3	Economics for Planners	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 2.4	Site and Land Development	3	-	-	3	3	100	50	-	-	150	3
5	18 PLN 2.5	Planning Communication II	-	4	-	4	-	-	50	-	-	50	2
6	18 PLN 2.6	Geo Informatics for Planning I	1	-	2	3	3	100	50	-	-	150	2
7	18 PLN 2.7	Planning Studio II	-	12	-	12	-	-	200	200	-	400	6
		Total	13	16	2	31	-	500	500	200	-	1200	22

PLN = Planning Subjects

No. of Subjects/Heads = 7 No. of Theory Examinations = 5

Progressive Marks to be awarded by the subject teacher.

Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each

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SCHEME OF TEACHING AND EXAMINATION OF III SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 3.1	Planning Theory I	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 3.2	Planning Techniques II	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 3.3	Transportation Planning I	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 3.4	Infrastructure Planning I	3	-	-	3	3	100	50	-	-	150	3
5	18 PLN 3.5	Ecology and Resource Planning	3	-	-	3	3	100	50	-	-	150	3
6	18 PLN 3.6	Geo Informatics for Planning II	1	-	2	3	-	-	50	-	-	50	2
7	18 HUM3.7	Kannada Bhashe - Aadalitha Matthu Vyavahara	2	-	-	2	-	-	50	-	-	50	1
8	18 PLN 3.8	Planning Studio-Land Use and Transport	-	12	-	12	-	-	200	200	-	400	6
		Total	18	12	2	32	-	500	550	200	-	1250	24

PLN = Planning Subjects HUM = Humanities Subjects.

No. of Subjects/Heads = 8 No. of Theory Examinations = 5

Progressive Marks to be awarded by the subject teacher.

Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each

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SCHEME OF TEACHING AND EXAMINATION OF IV SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 4.1	Planning Theory II	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 4.2	Planning Indian Cities	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 4.3	Demography & Urbanization	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 4.4	Landscape Planning & Design	3	-	-	3	3	100	50	-	-	150	3
5	18 PLN 4.5	Housing	3	-	-	3	3	100	50	-	-	150	3
6	18 HUM4.6	Constitution of India, Professional Ethics and Human Rights	2		-	2	-	-	50	-		50	1
7	18 PLN 4.7	Planning Studio – Site Planning	-	12	-	12	-	-	200	-	200	400	6
		Total	17	12	-	29	-	500	500	-	200	1200	22

PLN = Planning Subjects HUM = Humanities Subjects.

No. of Subjects/Heads = 7 No. of Theory Examinations = 5

Progressive Marks to be awarded by the subject teacher.

Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each

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SCHEME OF TEACHING AND EXAMINATION OF V SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 5.1	Urban Design and Conservation	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 5.2	Infrastructure Planning II	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 5.3	Transportation Planning II	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 5.4	Project Formulation, Appraisal and Management	3	-	-	3	3	100	50	-	-	150	3
5	18 PLN 5.5	Planning Practice I (50% weight age of internal marks for training seminar)	1	-	2	3	-	-	50	-	-	50	1
6	18 PLN 5.6	-Elective I a) Settlement Sociology b) Contemporary Urban Planning Practices c) Planning for Special Areas	3	-	-	3	3	100	50	-	-	150	3
7	18 PLN 5.7	Planning Studio-Sub City Plan	-	12	-	12	-	-	200	-	200	400	6
		Total	16	12	2	30	-	500	500	-	200	1200	22
PLN = Planning Subjects													
No. of Subjects/Heads = 7 No. of Theory Examinations = 5													
Progressive Marks to be awarded by the subject teacher.													
Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each													

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SCHEME OF TEACHING AND EXAMINATION OF VI SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 6.1	Urban Governance and Management	3	-	-	3	3	100	50	-	-	150	3
2	18 PLN 6.2	Planning for Informal Sector and Urban Poor	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 6.3	Environment Planning	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 6.4	Urban Finance	3	-	-	3	3	100	50	-	-	150	3
5	18 PLN 6.5	Development Planning	3	-	-	3	3	100	50	-	-	150	3
6	18 PLN 6.6	Elective II a.) Land Economics & Locational Theory b.) Real Estate Planning and Management c.) PPP in Urban Development	3	-	-	3	3	100	50	-	-	150	3
7	18 PLN 6.7	Planning Studio – Development Plan	-	12	-	12	-	-	200	-	200	400	6
		Total	18	12	-	30	-	600	500	-	200	1300	24
PLN = Planning Subjects													
No. of Subjects/Heads = 7 No. of Theory Examinations = 6													
Progressive Marks to be awarded by the subject teacher.													
Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each													

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SCHEME OF TEACHING AND EXAMINATION OF VII SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (60 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 7.1	Planning for Regions	3		-	3	3	100	50	-	-	150	3
2	18 PLN 7.2	Planning Legislation I	3		-	3	3	100	50	-	-	150	3
3	18 PLN 7.3	Politics, Planning and Development	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 7.4	Planning Communication III	1		2	3		-	50	-	-	50	2
5	18 PLN 7.5	Dissertation and Training seminar	-	3	-	3	-	-	150	-	-	150	3
6	18 PLN 7.6	Electives III a.) Planning for Rural Settlements b.) Water Resources Management c.) Sustainable Urban Development	3	-	-	3	3	100	50	-	-	150	3
7	18 PLN 7.7	Planning Studio-Regional Plan	-	12	-	12	-	-	200	-	200	400	6
		TOTAL	13	15	2	30		400	600	-	200	1200	23

PLN = Planning Subjects

No. of Subjects/Heads = 7 No. of Theory Examinations = 4

Progressive Marks to be awarded by the subject teacher.

Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each

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SCHEME OF TEACHING AND EXAMINATION OF VIII SEM B. PLAN (CBCS SCHEME) W.E.F. 2018_19

Sl. No.	Subject Code	Title of the Subject	Teaching Scheme in Periods per Week (50 Mts)				Examination Scheme						Credits
			Lecture	Studio	Pract/ Tutorials	Total	Dur (hrs)	Theory Marks	Prog. / CIE Marks	Term work Marks	Viva Marks	Total	
1	18 PLN 8.1	Planning Practice II	2	-	2	4	3	100	50	-	-	150	3
2	18 PLN 8.2	Planning Legislation II	3	-	-	3	3	100	50	-	-	150	3
3	18 PLN 8.3	Electives IV a) Urban Renewal & Redevelopment b) Disaster Risk Management c)Climate Change and Human Settlements	3	-	-	3	3	100	50	-	-	150	3
4	18 PLN 8.4	Terminal Project/Thesis	-	18	-	18	-	-	400	-	400	800	9
		TOTAL	8	18	2	28	-	300	550	-	400	1250	18
PLN = Planning Subjects													
No. of Subjects/Heads = 4 No. of Theory Examinations = 3													
Progressive Marks to be awarded by the subject teacher.													
Minimum Marks for passing: Progressive Marks 50%, Theory Marks, Term work Marks and viva marks 40% in each													

Note: Bachelors of Planning B. Plan is 4 years degree program with Total 175 Credits

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18 PLN1.1 – FUNDAMENTALS OF URBAN AND REGIONAL PLANNING

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3Hrs

Objectives: *To introduce students to the basics of urban and regional planning including multiple definitions, concepts, orthodoxies, types of plans and its governance.*

Module 1: Definitions and Rationales of Planning

Various definitions of town and country planning; Goals and objectives of planning; Components of planning; Benefits of planning; Arguments for and against planning.

Module 2: Foundations of Planning

Orthodoxies of planning including the Lamps of Planning; Sustainability and rationality in planning; Components of sustainable urban and regional development; Defining what counts as planning knowledge: various sources of planning knowledge, various forms of planning knowledge; Reasoning and its various forms in planning; Space, place and location.

Module 3: Development Plans and Development Regulations

Definition of development plan; Types of development plans: master plan, city development plan, structure plan, district plan, action area plan, subject plan, town planning scheme, regional plan, sub-regional plan; Planning Advisory Group report and national level planning and design guidelines; sector plans and spatial plans; Defining development and development control regulations, types of development control; Implications of violations of development control regulations; Conforming and Nonconforming land uses; Compatible and non-compatible land uses, Locally Unwanted Land Use(LULU) and Not in my Backyard (NIMBY).

Module 4: Governance of Planning

Local government in India; District Planning Committees and Metropolitan Planning Committees; Introduction to Internationalization and globalization of planning: meanings and forms of globalization; Characteristics of a global city; Principles for planning for a global city.

Module 5: Theories of Urbanization

Theories of urbanization including Concentric Zone Theory; Sector Theory; Multiple Nuclei Theory and other latest theories; Land Use and Land Value Theory of William Alonso; City as an organism: a physical entity, social entity and political entity.

References:

1. *Fundamentals of Town Planning, G.K. Hiraskar, Dhanpat Rai Publications, 2012*
2. *An Introduction to Town and Country Planning, John Ratcliffe, Hutchinson, 1985*
3. *Republics, Kingdoms, Towns and Cities in Ancient India, G. P. Singh, D.K. Print World Ltd, 2003*
4. *Garden Cities of To-morrow, Ebenezer Howard, Swan Sonnenschein & Co.,1898*
5. *Cities in Evolution: An Introduction to the Town Planning Movement and to the Study of Civics, Patrick Geddes, Hardpress Publishing, 2012*
6. *URDPFI Guidelines (Volume I and II), Ministry of Urban Development, Government of India, 2015*

18 PLN1.2: PLANNING TECHNIQUES- I

CONTACT PERIODS: 3(Lecture) per week
THEORY MARKS: 100
PROGRESSIVE MARKS: 50
DURATION OF EXAM: 3Hrs.

Objectives: *To develop the students ability and skills to design a questionnaire, conduct surveys of various types, analyze and calculate trends of different spatial and non-spatial feature, interpret land use classification and coding and refer to the protocols of illustration.*

Module 1: Types of Data and Sources of Data for Planning

This unit will begin with understanding the difference between data, information and knowledge. Distinction between facts and opinions. Data requirements for urban and regional planning, sources of primary and secondary data. Overview of data availability from different sources for e.g. Census, NSSO etc.

Module 2: Data Collection Methods

Quantitative data collection – collection of data, record, file, questionnaire design, design of sample surveys, types of sampling, measurement scales, data coding and data verification. Qualitative data collection – focus group surveys, individual interviews, observations, ethnographic methods. Information, communication and technology (ICT) – based data collection methods.

Module 3: Physical and Socio-Economic Surveys

Physical Surveys – Preparation of Base maps at different scales, contents of base maps, techniques for conducting surveys for land use, building use, density and other surveys to be used in planning.

Module 4: Data Analysis, reasoning and relationships

Data tabulation, statistical methods, frequency distribution, classification, mean, median, mode, correlation, content analysis, Land Use classification system, planning standards, population and economic analysis, Land Suitability analysis, housing analysis, development of indicators.

Module5: Data Presentation

Preparation of tables and charts, interpreting statistical, qualitative and spatial data to identify trends, patterns and processes, communication of data through presentations, reports etc. (Linked with Planning Communication).

References:

1. *How to Analyse Data, C.T. Fitz – Gibbon and L.L. Morris, Sage, 1987*
2. *How to Conduct Survey, Arlene Fink, Sage, 2013*
3. *The Survey Methods Workbook, A. Buckingham and Peter Saunders, Rawat, 2014*
4. *Urban Settlement: Data, Measures, and Trends, David Canning and Others, Oxford University Press, 1992*
5. *Database System Concepts, Abraham Silberschatz and Others, McGraw Hill, 2011*
6. *Fundamentals of Statistics, S.C. Gupta, Himalaya Publishing House, 2013*

18 PLN1.3: CULTURE AND CITIES

CONTACT PERIODS: 3 (Lecture) per week
THEORY MARKS: 100
PROGRESSIVE MARKS: 50
DURATION OF EXAM: 3 Hrs.

Objectives:
To introduce students to the fundamentals and theories of aesthetics and culture and their role in planning and to provide information of the evolution of culture in India and abroad.

Module 1: Fundamentals of Culture and Aesthetics

Definition and symbols of culture; Concepts of beauty and ugliness; Classical theories of aesthetics; Relationship of aesthetics with other cultural values; Concepts of scale, space, form and structure. Concept of time as dimension of the built form; concept of space and scale as followed through different cultures; the elements of the town, the house, the street, the chowk; social and cultural criteria of location of towns and activities within it.

Module 2: Role of Culture and Technology in Planning

Transmission of culture; Cultural traits of ethnic groups and their expression in built form; Aesthetics of mixed culture and global culture; Cultural pollution; Role of technology in changing arts, culture, aesthetics, built form and structure of human habitat.

Module 3: Aesthetics, Culture and Technology in India- Pre-independence

Aesthetics, culture and advancement of technology in ancient India and their impact on planning of Settlements; Planning principles of the Manasara Treatise and Indus Valley Civilization. Aesthetics, culture and advancement of technology during the Mughal and British periods and their impact on planning of human settlements; Traditional Indian City Typologies.

Module 4: Aesthetics, Culture and Technology in India- Post-independence

Aesthetics, culture and advancement of technology in independent India and their impact on planning of human settlements.

Module5: Globalization, Culture and Identity

Relationship between culture and built form and city structure through cases of settlements across the world. Impact of globalization on local identities and built form. Technology as a factor in shaping modern cities- examples from different countries.

References:

1. *Culture Urbanism and Planning, Javier Monclus, Ashgate Publishing Limited, England, 2006*
2. *The Culture of Cities, Lewis Mumford, Routledge, New York, 2006*
3. *History of Architecture in all Countries, James Fergussan, 2010*
4. *Hints for Self-Culture Lala Hardayal, Javes Publication, 1960*

18 PLN1.4: PLANNING COMMUNICATION - I

CONTACT PERIODS: 4 (2 Studio + 2 Pract. /Tutorials) per week
PROGRESSIVE MARKS:50

Objectives: *- To develop the student's ability to Integrate written, verbal, and graphic communication techniques, to write report following the contemporary conventions, and to simulate situations to synthesize arguments into final products.*

Module 1: Verbal and Written Communication

Body language, eye contact, speech, spoken expression, preparing a summary/abstract, writing an assignment – references, structure, Communication: Language and communication, differences between speech and writing, distinct features of speech, distinct features of writing, Reading Skills to find out particular information and get the gist through notes, letters, articles, reports. Elements of a good presentation, essay writing, developing an argument, how to undertake a literature study, developing your own interpretations.

Module 2: Visual Communication – drawings

Basic drawing skills, line, shape, form, texture, color, composition, scale, and its application and examples in buildings, streets etc., sketching. Composition of drawings, proportion of lettering for varying emphasis, drawing pens and their use for different purposes, standard drawing format, standard symbols and notations in drawings. Scales, Choice of appropriate scale for different level of plan, graphical scale, linear scale, areal scale.

Module 3: Visual communication - model making and photography

Why photographs, photography as a tool for visual information, Images and history, developing basic understanding of photography, use of camera and its functions, elements of good photographs. Understanding of different materials for models, built form models to understand the concepts learnt in the studio, study of basic land and built forms through models,
Reading visual images, context of a photograph, photographs as evidence of reality, photography and cities, advance photography techniques. Built form models to understand the concepts learnt in the studio, study of complex land forms and built forms through models, presentation models.

Module 4: Intrapersonal Communication, Listening Skills, Self-Awareness

Ego states, defense mechanisms and identification of individual blocks in communication, emotional intelligence. Listening as an active skill; Types of Listeners; Listening for general content; Listening to fill up information; Intensive Listening; Listening for specific information, Listening effectively, barriers to listening, giving and receiving feedback.

Module5: Introduction to Computer Application

MS word, PowerPoint and Excel basic idea. Concept of Mapping and Drafting techniques; Introduction to AutoCAD; Understand the fundamental concepts and the terminologies used in CAD; Tools for digitization; Modifying tools; Layer creation and management; Creating Blocks; Annotation; Scaling; Plotting and Printing and hand-on exercises. Introduction to Google Sketch.

References:

1. *Guide to Report Writing, Netzley, Pearson Education India, 2010*
2. *Visual Communication (Handbooks of Communication Science), David Machin, De Gruyter Mouton, 2014*
3. *Effective Communication Skills: The Foundations for Change, John Nielsen, Xlibris Corporation, 2008*
4. *The Handbook of Communication Skills, Owen Hargie, Routledge, 2006*

5. *Technical Writing, Presentational Skills and Online Communication, Greenlaw, Raymond, Idea Group, U.S., 2012*
6. *Listening: Learn to Really Listen and Develop Active Listening Skills, Christian Olsen, CreateSpace Independent Publishing Platform, 2016*
7. *Computer Application in Planning, Architecture, Design: A Bibliography, Erich Bunselmeier, University of California, 1973*
8. *Mastering AutoCAD 2017 and AutoCAD LT 2017, George Omura and Brian C. Benton, Wiley, 2016*
9. *CAD / CAM Principles and Applications, P.N. Rao,Tata McGraw Hill, 2002*

18 PLN1.5: QUANTITATIVE METHODS FOR PLANNERS

CONTACT PERIODS: 3 (2 Lectures + 1 Pract. /Tutorials) per week
THEORY MARKS: 100
PROGRESSIVE MARKS: 50
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the essential concepts of correlation and regression analysis and statistical inference besides chi-square and Anova tests.*
- *To develop and train students in mathematical programming techniques and decision making under various conditions.*

Module 1: Correlation and Regression Analysis

Degree of correlation, Scatter Diagram, correlation analysis, correlation co-efficient, co–efficient of rank correlation, partial correlation analysis and multiple correlation, simple Linear and nonlinear regression, lines of regression, coefficient of regression; Multiple Regression Analysis; Use of SPSS and Applications in planning.

Module 2: Statistical Inference

Types of estimation; point, interval, testing of hypothesis, statistical hypothesis, simple and composite tests of significance, null hypothesis, alternative hypothesis, types of errors, level of significance, critical region; two tailed and one tailed tests, large and small sample tests for mean and proportion; Applications in planning.

Module 3: Chi-Square Test and Analysis of Variance (ANOVA)

Chi-square distribution: applications of chi-square distribution; test of goodness of fit; ANOVA distribution; Use of SPSS and Applications in planning.

Module 4: Mathematical Programming Techniques

Mathematical Programming models, linear programming problems, transportation problems, assignment problems, applications in planning.

Module - 5: Decision Theory

Decision making under conditions of certainty, uncertainty, and conditions of risk decision trees, pay off matrix, applications in planning.

References:

1. *Applied Statistics, S.C. Gupta, V.K.Kapoor, Sultan Chand Publications*
2. *Problems and Solutions in Statistics, V.K. Kapoor, Sultan Chand Publications*
3. *Theory and Problems, M.R. Spigel, McGran Hill*
4. *Fundamental of Statistics, S.C. Gupta, Himalaya Publications*
5. *Statistical Methods for Social Scientists, K.A. Yeomans, Penguin Education Series*
6. *Statistical Methods for Engineers, McGuen, Prentice Hall*
7. *Statistics for Management Rubin Levin, Prentice Hall*

18PLN 1.6: PLANNING STUDIO – I

CONTACT PERIODS: 12 (Studio) per week
PROGRESSIVE MARKS:200
TERM WORK MARKS: 200

Objectives:

- *To develop an understanding among students about the various planning elements and building blocks of the city.*
- *To develop skills in the students to identify different scales and prepare maps at different scales, to list the dos and don'ts in visual and pictorial appreciation of an area.*
- *To familiarize students with the neighborhood and its area appreciation.*

1. Understanding the various building blocks of a city. Developing of understanding about city planning elements using movies, lectures and city tours.

2. Distance and Area Perception- Developing an eye for distance and area and translating the same to scale on drawings.

3. Space Perception- Study of areas with varying characters to appreciate the concepts of built form, activities and people. Appreciate the various elements of built form such as plot sizes, FAR, densities, building heights and open space. (Individual work) Understanding how built form supports the various activities happening in the areas.

4. Introduction to neighbourhood: mapping of a neighbourhood and appreciating the basic characteristics of a neighbourhood. Creation of base map, recording and presenting information on the map-manually and digitally.

5. Use of mapping and presentation skills learnt in planning communication studio.

References:

1. *Site Analysis, T. Q. Edward, Architectural Media, 1983*
2. *Site Analysis, A. James and La Gro Jr., Jon Wiley and Sons, 2013*
3. *Surveying Vol. I, B.C.Punmia, Standard Book House, New Delhi,1983*
4. *Text of Surveying Vol. I, P.B.Shahani, Oxford and IBH Publishing Co.,1980*
5. *Urban Land Use Planning, Philip R. Berke, University of Illinois Press, 2006*
6. *Concept Mapping for Planning and Evaluation, Mary Kane and William M. K. Trochim, Oxford University Press*
7. *Handbook of Applied Spatial Analysis: Software Tools, Methods and Applications, Manfred M. Fischer and Arthur Getis, Springer, 2009*
8. *Cartography: Thematic Map Design, Borden Dent and Others, McGraw-Hill Education, 2008*
9. *Graphic Design for Architects: A Manual for Visual Communication, Karen Lewis, Routledge, 2015*

18 PLN2.1 – CITIES IN HISTORY

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3 Hrs.

Objectives:

- *To introduce students to the historical processes of settlement, social strata, process of social change in Indian settlements, role of functional parameters in defining a settlement and Urban processes.*
- *To enable the students the students to understand the settlements in a better way through case studies.*

Module 1: Introduction

The significance of the study of historical processes, interpreting history for planning purposes. Concept of time as a dimension of built form, human settlements as a material expression of civilization.

Module 2: Understanding Human Settlement

Origin of human settlement; Society: concepts and institutions; Social stratification: concept and bases; Agrarian classes; Industry and labor; Tribe: profile and location; Village: structure and change; Forms- caste, class, power & gender.

Module 3: Settlements in History.

Planned cities in India from Medieval to Colonial Era. Medieval planning in India, the common elements of the Indian Medieval towns. Colonial History, built form and town planning, Development of colonialism and the city; modernism and post-modernism, Elements of medieval, colonial, modern and post-modern towns.

Module4: Urban Processes

Criteria of location and development of towns in history, Political, economic, technological, social and cultural factors which have shaped settlements through history, Indian city typologies and study of urban growth, decline, renewal in different cities based on function, location etc.

Module5: History of cities in South Asia

Evolution of cities in South Asia, Urban Patterns and trends, Similarities and differences from Indian cities; challenges faced and innovative planning solutions. Examples and Case Studies from south Asia.

References:

1. *Introduction to Settlement Geography, Sumita Ghosh , Orient BlackSwan , 1998*
2. *Cities, Urbanization& Urban Systems (Settlement Systems), K.Siddhartha and S.Mukherjee, Kitab Mahal, 2016*
3. *History of Human Settlements, Sengupta, B.K., New Delhi, Institute of Town Planners, India 2002*
4. *Social Change and Problems of Development in India, G. R.Madan, Allied Publisher Pvt. Ltd., 1978*

18 PLN2.2 – INTRODUCTION TO SOCIAL SCIENCES

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3 Hrs.

Objectives: *To Introduce students to the basics of social sciences to develop among them the understanding of the society, community and its elements, various theories of political science and typology of the urban areas.*

Module 1: Sociology

Society and its characteristics, Idea of community and its elements, social system, social institutions and its function, social groups, segregation, urban and rural society.

Module 2: Political Science

Politics and political theory, basic understanding of the concepts of freedom, liberalism and neo-liberalism, equity and equality, social justice, rights and citizenship.

Module 3: Philosophy

Core concepts of philosophy- basic understanding of terms like epistemology, aesthetics, philosophy of action, social philosophy, dialectic materialism, ethics, aesthetics, life world. Indian philosophers and their big ideas; types of knowledge; philosophy as a method for enquiry.

Module 4: Geography

Populations, population density and distribution; human activities- primary secondary, tertiary and quaternary; resources and development; basic land forms, territory, space and place, geographies of scale.

Module 5: Image of the City

Typology of urban perception, impact of socio – economic status of people on the image of a city; components forming the image of a city; land marks, edges, etc.

References:

1. *Sociology: Understanding and Changing the Social World, Steve Barkan, Flat World Knowledge, 2010*
2. *Introduction to Sociology, Ryan T. Cragun, Deborah Cragun, Wikibooks, 2006*
3. *Sociology, T.K.Oomenand C.N Venugopal, 2004*
4. *D.P.Mukerji Basic concepts in Sociology, Rupa Publications India Pvt Ltd., 2004*
5. *Urban Sociology, Samir Dasgupta, Pearson Education India, 2012*
6. *Urban Sociology, N.Jayapalan, Atlantic, 2013*
7. *Urban Sociology In India, M.S.A. Rao, Orient Blackswan , 1990*
8. *An Introduction to Settlement Geography Paperback, William F. Hornby and Melvyn Jones, Cambridge University Press, 1991*

18 PLN2.3 – ECONOMICS FOR PLANNERS

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3 Hrs.

Objectives: *To Introduce students to the basics of economics through definitions and scope of economics, theory of demand / supply, firm production, concept of income and employment and develop an understanding of Urban and Regional economics.*

Module 1: Definition and Scope of Economics

Central problems of economics; micro and macroeconomic decisions and use of economics in planning.

Module 2: Theory of Demand and Supply

Law of demand and supply, elasticity of demand and supply, its use in planning.

Module 3: Theory of Firm Production

Perfect and imperfect market types, market demand and supply; pricing under different market conditions, theory of production; factors of production, costs, scale of production, and economies of scale.

Module 4: Concept of Income, Employment and Money

Classical and modern approaches, growth and development indicators; measures of national income, defining development and under development.

Module 5: Introduction to Urban and Regional Economics

Use of economic concepts in urban planning, housing, transport, taxes, land use, location, etc.; use of economic concepts in regional planning; location, disparities in development, input-output techniques, sectoral development etc. Economic Analysis. Economic Planning in India-National and Urban level.

References:

1. *Principles of Micro economics, IC Dhingra, Sultan Chand, 2011*
2. *Principles and Theories of Economics, 2. MK Goyal, ABD Publishers, 2006*
3. *Urban and Regional Economics, Mclann Philip, Oxford University Press, 2001*
4. *Application of Urban Economic Theory to Land Use and Transport-Hyderabad Metro Region, Centre for Good Governance (CGG), Cgg.gov.in/pdf/wp-1*
5. *Cities in World Economy, SaskiaSassen, Pine Forge Press, 2000*
6. *State of World Cities, UN HABITAT, 2007*

18 PLN2.4 – SITE AND LAND DEVELOPMENT

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3 Hrs.

Objectives:

- *To develop the ability of students to recall the units and scales in surveying, carry out surveying exercise, locate contour and appreciate the topography of a settlement and use TSS and GPS in documenting spatial attributes of any location.*
- *To introduce students to the basics of Geology, hydrology and geomorphology so that they can use the stratigraphic records, identify soil by its profile, make preventive plan against landslides, workout water balance studies and identify built environment compliant suitable land form.*

Module 1: Fundamentals of Surveying

Principles of surveying, types of surveying, classification of surveys & maps, Plan Vs Map, Accuracy Vs Precision, sources and kinds of error; Least Squares adjustments and applications.
Key principles of Land Surveying, Basics of Chain Surveying, Basics of Leveling.
Modern methods and Instruments, accessories, operation, EDM without reflecting prisms; Total Station – types, instrument description, field techniques, Traversing, motorized total stations; field procedures for total stations in topographic surveys.

Module 2: Topographical Surveying: Concepts and Techniques and GPS

Definition, Procedure in topographic surveying, uses of topographical maps, Relief, methods of representing relief, contour and contour interval, characteristics of a contour, methods of locating contours, Interpolation of contours, Dam Surveys. Introduction - Maps – Types of Maps – Various Satellites used by GPS – Differential GPS - Fundamentals of GPS – Application of GPS – GPS Receivers – Hand held GPS Receiver – Function – Field procedure.

Module 3: Geology,

Geological Structure, Land Forms, Weathering, Landslides and Mass Wasting. Instability of hill slopes. Land and terrain suitability for various types of development. Earthquakes, seismic zoning, disaster prevention and other planning considerations.

Module 4: Hydrology

Ground Water- Concept and role in town planning of different types of terrain, hydrologic cycle, Groundwater bearing properties of different litho logical formations, surface water, reservoirs and springs; artificial recharge and ground water mound, hydrological features in relation of seepage, fluctuation of water table and hydrographs, geological structure and underground passages for water supply. Planning considerations for the same. Implications on site selection and development.

Module 5: Fundamentals of Geomorphology

Geomorphic classification and Evolution of landforms; Geomorphic cycle and their interpretation; Evolution of typical geomorphic features of India;

Description and classification of folds, faults, joints, unconformities, fault planes; Land form types; Landslides, instability of hill slopes and its prevention

References:

1. *Surveying Theory and Practice, Raymond E. Davis, McGraw Hill*
2. *Surveying (Volume I), S. K. Duggal, TMH*
3. *Surveying (Volume I & II), B. C. Punmia, Laxmi Publications*
4. *Site Surveying and Levelling, John Clancy, Routledge, 2013*
5. *Geology: A Complete Introduction, David Rothery, Teach Yourself Kindle edition, 2015*
6. *Introduction of Physical Geology, A.K. Datta, Kalyani Publishers, 2010*
7. *Introduction to Hydrology, Warren Viessman and Gary L. Lewis, Pearson Education, 2012*
8. *Foundation of Geology, S.B. Bhagwat, Global Vision Publishing House, 2013*
9. *Applied Geology, D.V. Reddy, Vikas Publishing House, 2010*
10. *Fundamentals of Geomorphology, Richard John Huggett, Routledge, 2011*
11. *Groundwater Hydrology: Conceptual and Computational Models, Wiley India Pvt. Ltd,*

18 PLN2.5 – PLANNING COMMUNICATION - II

CONTACT PERIODS : 4(Studio) per week
PROGRESSIVE MARKS: 50

Objectives:- *To develop the student's ability to Integrate written, verbal, and graphic communication techniques, to simulate situations to synthesize arguments into final products and to provide critical reasoning for the topics considered for argumentation.*

Module 1: Critical Reasoning skills

Developing an argument, studying sources, review of literature and developing your own opinion, argument structure and identification, validity and strength of arguments, common fallacies of reasoning, use and abuse of language in reasoning, principles of fair play in argumentation, respecting opposing positions, understanding different modes of persuasion; emotional, moral and rational.

Module 2: Verbal and Written Skills

Developing skills to find out what one needs to know in order to have a responsible position on an issue. Understanding difference between propaganda and evidence-based arguments, Technical Writing: Scientific and technical subjects; formal and informal writings; formal writings/reports, handbooks, manuals, letters, memorandum, notices, agenda, minutes; common errors to be avoided, undertaking a literature study (can be linked to another theory subject assignment) writing a term paper – preparation, planning, drafting, finalizing, getting feedback, coherence and cohesion in writing.

Module 3: Visual Communication

Advance drawing and presentation skills, movie making, making a project presentation combining visual and verbal skills.

Module 4: Interpersonal and Group Communication

Process and barriers to communication, Interpersonal communication, Group dynamics, , group processes, Group formation, definition, stages of group formation, group functions, group norms, group conflicts, building effective teams, consensus building.

Module 5: Creativity

Perception, Intuition, Design as problem solving activity, understanding creativity, characteristics of creative individuals, Exercises in creative thinking skills.

References:

1. *Guide to Report Writing, Netzley, Pearson Education India, 2010*
2. *How to Write Reports and Proposals, Patrick Forsyth, Kogan Page, 2013*
3. *Writing Essays and Reports: A Student's Guide, Stephen McLaren, Viva Books, 2013*
4. *Visual Information Communication, Mao Lin Huang and Others, Springer; 2014*
5. *Visual Communication, David Machin, De Gruyter Mouton, 2014*
6. *Listening: Learn to Really Listen and Develop Active Listening Skills, Christian Olsen, CreateSpace Independent Publishing Platform, 2016*
7. *Reading Journal: For Book Lovers Diary, Potter Style, Jou Edition, 2010*
8. *Effective Communication Skills: The Foundations for Change, John Nielsen, Xlibris Corporation, 2008*
9. *Technical Writing, Presentational Skills and Online Communication, Greenlaw, Raymond, Idea Group,U.S., 2012*

18 PLN2.6 – GEO-INFORMATICS FOR PLANNING I

CONTACT PERIODS : 3 (1Lecture + 2 Pract/Tutorials) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM:3 Hrs.

Objectives:

- *To introduce students to the concept of Remote Sensing, Satellites and Aerial Remote Sensing.*
- *To explain the students the basics of Planning Information System and its application in human settlements planning.*

Module 1: Remote Sensing and Photo Interpretation

Remote Sensing -Definition, Aerial and Satellite Remote Sensing; Aerial Photo-Interpretation, Qualitative and Quantitative Elements of Photo- Interpretation; Satellite Remote sensing, Geo-Stationary and Sun-Synchronous Satellites, Principles of Electro-Magnetic Radiations, Resolutions; Introduction to Digital Image Processing; Salient Features of Popular Remote Sensing Satellites; Applications in Planning; Laboratory Exercises.

Module 2: Photogrammetry

Limitations of Traditional Surveys for Planning; Photogrammetry as an Alternative Tool for Surveying; Aerial Photographs, Classification; Principles of Stereoscopic Vision; Basic instruments -Stereo pair, Pocket and Mirror Stereoscopes, Parallax Bars; Principles of Photogrammetry, Measurement of Heights and Depths; Introduction to Digital Photogrammetry.

Module 3: Planning Information Systems

Systems Approach to Planning as basis for Planning Information Systems; Systems, Hierarchy, Types; Data and Information, Value of Information, Information Flows, Loops; Information Security and Sharing; Information Systems, Types, Limitations, New Sources of data such as big data and real data.

Module 4: Human Settlements and Planning Information Systems

Human Settlements' Information Needs, Scales and Levels, Pre-Conditions for Using Planning Information Systems; Introduction to various Planning Information Systems.

Module 5: Planning Information Systems in India

Introduction to Spatial Data Infrastructure, NNRMS, NUIS, National Urban Observatory, Municipal Information Systems, Land Information Systems, Cadastre Systems; Applications and Limitations; Tools for Spatial Data Handling, Introduction to GIS; BHUVAN; Agencies responsible for generating spatial data.

References:

1. *Handbook of Research on Geoinformatics, Harsan Karimi, IGI Global, 2009*
2. *Integration of GIS and Remote Sensing, Victor Mesev, John Wiley, 2007*
3. *Spatial Information Technology – Remote Sensing and GIS, Murali Krishna, ICORG – BSP*
4. *Geo-informatics for decentralized planning and governance, Nath& Pandey, Rawat Publications*
5. *Geo-informatics and Geo-statistics, N.M. Naidu, Saujanya Books, 2009*

18 PLN2.7 – PLANNING STUDIO - II

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS:200
TERM WORK MARKS:200

Objectives:

- *To familiarize students with the neighborhood, land use concepts and development controls.*
- *To develop an understanding among students about the city patterns and the reason behind them.*
- *To develop skills in the students to prepare questionnaire, identify infrastructure and services available issues related to it.*

1. This studio will focus on developing an understanding up to neighbourhood level and basic concepts of land use and development controls.

2. City Patterns Study- Short trip to a city/town to appreciate how a settlement grows and the driving forces behind the growth. Through guided study acquaint students with old parts of the city as well as recently planned developments. Appreciate what makes the city unique and understand how social and economic forces (such as port, tourism, industries etc) shape the city.

3. Land Use Study- Through case studies develop understanding of basic principles of land use planning such as categorization, hierarchy, permissibility, compatibility etc. Supporting infrastructure required for various types of land uses.

4. Area Appreciation- Develop understanding of the typology of residential development with respect to built form, legality, evolution, ownership etc. Understand what facilities and infrastructure are required in residential areas. Use of surveys to understand differences in socio economic conditions, infrastructure availability and satisfaction among various residential pockets. Comparing existing situation vis-à-vis statutory plans.

References:

1. *Site Analysis, T. Q. Edward, Architectural Media, 1983*
2. *Site Analysis, A. James and La Gro Jr., Jon Wiley and Sons, 2013*
3. *Key Concepts in Planning, Gavin Parker, Sage, New Delhi, 2012*
4. *Urban Land Use Planning, Philip R. Berke, University of Illinois Press, 2006*
5. *Concept Mapping for Planning and Evaluation, Mary Kane and William M. K. Trochim, Oxford University Press*
6. *Handbook of Applied Spatial Analysis: Software Tools, Methods and Applications, Manfred M. Fischer and Arthur Getis, Springer, 2009*
7. *Cartography: Thematic Map Design, Borden Dent and Others, McGraw-Hill Education, 2008*

18 PLN3.1 – PLANNING THEORY - I

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- To comprehend theorization process in planning and centrality of participation in planning theory.
- To introduce students to the concept of sustainability, rationality and globalization.

Module 1: Defining Planning Theory

Definitions of theory in general; Definitions of planning theory including theory of planning, theory in planning and theory about planning; Definition of paradigm and its various stages of development by Kuhn; Significance of planning theory; Espoused theories and theories in use.

Module 2: Participation and Planning

Public interest and its forms; History and significance of public participation; Methods of public participation; Impediments to public participation and conditions for effective public participation; Public participation and empowerment; Participation, policy formulation and implementation.

Module 3: Sustainability, Rationality and Globalization

Sustainability and rationality in planning; Components of sustainable urban and regional development; Globalization, internationalization, modernism and postmodernism debate; Pragmatism in planning; Regime theory and urban politics.

Module 4: Theories of City Development

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.

Module 5: Planning, Implementation and Evaluation

Need for evaluation; Inseparability of planning and evaluation; Planning theories and evaluation; Methods of evaluating development plans; Theories of implementation of planning policies and development plans.

References:

1. *Readings in Planning Theory, Susan Fainstein and Scott Campbell, Blackwell Publishers, 2003*
2. *Urban Planning Theory Since 1945, Nigel Taylor, Sage, 2007*
3. *Planning Theory, Philip Allmendinger, Palgrave MacMillan, 2009*
4. *A Reader in Planning Theory, A. Faludi, Butterworth-Heinemann Ltd., 1973*
5. *Planning Theory for Practitioners, Michael P. Brooks, Planners Press, American Planning Association, 2002*
6. *Urban Theory: A Critical Assessment, John Rennie Short, Palgrave MacMillan, 2016*

18 PLN3.2 – PLANNING TECHNIQUES - II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- To introduce students to the advanced planning techniques including analysis methods, plan preparation techniques and decision-making models.
- To develop the ability of the students to professionally examine, evaluate and monitor the urban and regional planning problems.

Module 1: Methods of Analysis

Methods of analysis of Socio-Economic and Physical data; Trend Analysis: Moving average method; 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.

Module 2: Plan Preparation

Types and levels of plans, hierarchy of plans, planning process
Forecasting techniques, extrapolation techniques, cohort component techniques, economic analysis techniques, goal formulation, developing planning standards, urban growth models and its use in forecasting.

Module 3: Methods of Monitoring and Evaluation and Problem Identification

Indicators for plan monitoring, cost benefit analysis, planning balance sheet, logical framework approach, plan evaluation techniques.

Module 4: Public Participation Techniques

Purpose of participation, resources, listening, types and methods of participation, challenges and issues in use of participatory methods.

Module 5 : Decision Making Models

Purpose of Models, types of decision models, linear programming models, threshold analysis and other decision models.

References:

1. *Forecasting Techniques for Urban and Regional PlanningField, B.G. and MacGregor, B.D.UCL Press, London, 1992*
2. *Urban Planning Methods:Research and Policy Analysis, Bracken, I., Methuen, London, 1999*
3. *Threshold Analysis – An Economic Tool for Town and Regional Planning, Kozlowski, J., Urban Studies, Vol No.5, No.2, pp. 132-143, 1968*
4. *Wilson, A.G. Models in Urban Planning: A Synoptic Review of Recent Literature, Urban Studies, Vol. 5, No.3, pp. 249-276, 1973*
5. *Rondinelli, D.A. Urban Planning as Policy Analysis Management of Urban Change, Journal of the American Institute of Planners, Vol. 39, No. 1, pp. 13 – 22, 1973*

18 PLN3.3 – TRANSPORTATION PLANNING - I

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To familiarize students about different Transport Systems and Road Capacity.*
- *To provide basic Concepts for Designing Transport Facilities and Traffic Management Systems.*

Module 1: Introduction

Objectives of Transportation Planning-efficiency, accessibility, equity, environment, practicality, safety etc. Transport Planning, Engineering and Management, Concepts of travel demand and transport supply. Type of transportation measures, integrated strategy, Impact of measures and impact on various transport objectives. Examples and case studies.

Module 2: Road Transport

Traffic characteristics, modes of transport, Urban and Rural road hierarchy, cross sectional elements, capacity and level of service. Typology of junctions, Signage, Tree Planting, Road Marking and Lighting. Volume Studies, Speed Studies and Parking supply and demand studies.

Module 3: Non-motorized and Public Transport

Cycling and pedestrian systems, design considerations and guidelines, pedestrian priority methods, pedestrianization, pedestrian and cycling studies, walk ability, traffic Calming Public transport modes and their capacity, benefits of public transport, Planning for public transport, public transport routing and station/stop locations. Frequency/headway of public transport, last mile connectivity, service level benchmarking. Integrating NMT and Public Transport.

Module 4: Traffic Impact Assessments

Trip generation of various land use activities, Person trips and vehicle trips, impact of additional traffic, traffic forecast and traffic assignment.

Module 5: Safety and Environment

Transport and Air Pollution, Traffic Noise: Units, sources, and impacts, Measurement of environmental impacts of transport Accidents, typology, accident black spots, Sources of data on accidents, Social Cost of accidents.

References:

1. *Transportation Engineering and Planning, C. S Papacostas, PHI Learning Publications, 2009*
2. *Metropolitan Transportation Planning, John W. Dickey, Taylor and Francis, 1983*
3. *Traffic Engineering and Transport Planning, L.R. Kadiyali, Khanna Publications, 2010*
4. *Transportation Planning, Shiftan Y and Glos Edward, Elgar Publishers, 2007*
5. *Urban Transport: Planning and Management, A K Jain, APH Publications, 2013*
6. *Principles of Urban Transport Systems Planning, B.G. Hutchinson, McGraw Hill Publications, 1974*
7. *Managing Urban Mobility Systems, RosárioMacário, Emerald Group Publishing, 2011*
8. *Cycling and Sustainability, John Parkin, Emerald Group Publishing*
9. *Parking: Issues and Policies, Ison Stephen, Emerald Group Publishing*
10. *Transport for Suburbia: Beyond the Automobile Age, Mees Paul, Earthscan*

18 PLN3.4 – INFRASTRUCTURE PLANNING - I
CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the basic knowledge of Water Supply, storm water system, sewer systems, solid waste management and other services required at urban level.*
- *To develop the understanding among students related to the requirement, standards, norms and planning Issues for urban Infrastructure.*

Module 1: Introduction, Basic Concepts and Theories

Role of physical planner in planning of utilities and services, objectives of utilities and services planning and its implications for public health and environmental protection. Familiarizing to CPHEEO manual and guidance.

Module 2: Storm Water System

Definition of Hydrology, classification, hydrological cycle, urban water cycle; Types precipitation and measurement, rain fall analysis, Surface water runoff, hydrograph, discharge for small and big rivers, watershed; Flood Frequencies, and protection measures in urban areas. Manning's formula and nomographs, full flow and partial flow; layout and design of storm water system, hydraulic design of storm water system and computation procedure, Rain Water Harvesting.

Module 3: Water Supply Systems

Surface and ground water sources, quality and quantity, location of sources and water intakes, area requirements of the components of water intakes; Water requirement for different land uses, factors affecting water demand, per capita requirement and variations; Water treatment system, location and space requirements; Components of water distribution systems, Planning for Various uses, Storage and supply network; organizations- jurisdictions and financing; PPP arrangements; Legal and government policy for urban and rural water supply. Case study discussion on innovative methods.

Module 4: Sanitation and Sewer Systems

Methods of sanitations; On-site detention, Off-site and on-site technology up gradation; Low cost appropriate technologies; standards for Indian cities; Sanitary sewer system network and layout planning, Sewage disposal methods, location criteria and capacity; Case study of innovative approaches; financing and cost recovery for sewer system.

Module 5: Solid Waste Management and Other Services

Solid waste management for Indian cities, quantity of solid waste and its character; Methods of solid waste management, collection, transportation and disposal; Land filling and composting, pre and post treatment, location and cost aspects of different methods of solid waste disposal systems; Community participation and involvement of NGOs in efficient solid waste management. Best Practices. Provision of telecommunication services- locational criteria for mobile phone towers. gas and oil pipelines.

References:

1. *Infrastructure Planning, James Parkin and D. Sharma, Thomas Telford, 1999*

2. *Urban Water Supply Handbook, Larry W. Mays, Mc Graw Hill, 2014*
3. *Managing Urban Water Supply, D.E. Agthe and Others, Kluwer Academic Publishers, 2003*
4. *Water Supply and Sewerage, Mcghee Terence J, Mcgraw Hill*
5. *Water, Wastewater and Storm Water Infrastructure Management, Grigg Neil S, CRC Press*
6. *Urban Drainage, David Butler and John W. Davies, CRC Press, 2011*
7. *Improving MSW Management in India, Da Zhu and Others, The World Bank, 2008*
8. *Water: A Manual for Engineers, Architects, Planners and Managers, Ashok Kumar Jain, Daya Publishing*
9. *Fire Protection Systems, Jones A. Maurice Delmar, Cengage Learning*
10. *Municipal Solid Waste Management, N. N. Bandela and D. G. Tare, B. R. Publishing, 2009*
11. *Public Health: Building Innovative Practice, Linda Jones and Jenny Douglas, Sage, 2012*
12. *Manual on Sewerage and Sewage Treatment, Water Supply and Solid Waste Management, CPHEEO, Govt. of India*

18 PLN3.5 – ECOLOGY AND RESOURCE PLANNING

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To induce among students the significance and relevance of ecology, ecosystems for settlement planning.*
- *To develop the student's ability to narrate and find the impact of the occurrence of environmental degradation on the eco system.*
- *To introduce students to the Global, National Efforts related to Resource Planning*.

Module 1: Introduction

Meaning and scope of ecology; evolution of ecology; man, environment and ecosystem; components of nature and basic concepts and processes of ecology; flow of material water energy, invasion, succession, predation, regulatory forces, adaption, trophic levels, food chain, food web, ecological pyramids. Resources and human settlements impact of advanced agricultural methods, urbanization and industrialization on nature; urban ecosystem approach evolution and significance; soil, water, land vegetation and energy resources; development and management.

Module 2: Quantitative Ecology

Introduction to quantitative ecology, identification of ecological parameters for planning at different levels; site planning, settlement planning and regional planning; data needs and format for data collection; types of analysis required to evolve ecological parameters. Ecological footprint and carrying capacity.

Module 3: Ecology sensitive areas

What are Ecologically Sensitive Areas? ESA as a resource for development- use and over use. Impact of development on coastal, forest, hill and river ecology. Legislations and policies for management of ecologically sensitive regions. case studies for management of ecologically sensitive areas- India and abroad.

Module 4: Climate change

Cities and climate change. Impact of built environment and transportation on Green House Gas emissions, Role of planning in Climate Change mitigation and adaptation. Management tools, sustainable buildings and retrofitting infrastructure.
Critical review of policies and regulations in India and abroad regarding Climate Change. Local Examples of climate change plans where mitigation and adaptation strategies are translated into concrete actions, Emerging technologies, National Policy Framework on Climate Change, carbon Credits and trade, carbon Footprint.

Module 5: Resource Planning Development and Management

Endowments; types of resources, exhaustive and renewable resources development; utilization and conservation of national, technological and human resources; resource management, recycling of resources and resource equilibrium; water resource management, waste land management; rural industrialization and use of non-conventional energy in rural development;

major resource development programmes in India; case studies of resource development projects in agriculture, forestry, minerals, water, manpower, etc.

References:

1. *Sustainable Cities: Urban Planning Challenges and Policy, Kimberly Etingoff, Apple Academic Press*
2. *Sustainable Development Handbook, A Roosa Stephen, Fairmont Press*
3. *Sustainable Energy Management, Golusin Mirjana, Elsevier*
4. *Environment and Development: China and India, Pachauri, R. K., TERI*
5. *Preventive Environmental Management: An Indian Perspective, Shyam R Asolekar, Centre for Environment Education*
6. *Environment and Sustainable Development, Arvind Kumar, Shree Publishers*
7. *Environmental Concerns and Sustainable Development: Some Perspectives from India, SakaramaSomayaji, TERI Press*
8. *Human Settlements and Planning for Ecological Sustainability: The Case of Mexico City, Keith Pezzoli, The MIT Press, 2000*
9. *Energy and Climate in the Urban Built Environment, MatheosSantamouris, and N. Demosthenes Asimakopoulos, James & James (Science Publishers) Ltd., 2001*
10. *Ecology and Equity, Gadgil M. and Guha R, Oxford University Press, 2013*
11. *Environmental Law and Policy in India - Cases Materials and Statutes, S. Divan and A. Rosencranz, Oxford University Publications, 2013*
12. *Fundamentals of Ecology, Odum, E.P. Barrett and Others, Cengage Learning Publication, 2005*
13. *Sustainable Practices in the Built Environment, Craig Langston (Ed.), Butterworth-Heinemann, 2001*

18 PLN3.6 – GEO-INFORMATICS FOR PLANNING - II

CONTACT PERIODS : 3 (1Lecture + 2 Pract./Tutorials) per week
PROGRESSIVE MARKS: 50

Objectives:

- *To introduce students to the concept of GIS and develop their skills to create Thematic Maps work with databases and perform Spatial Analysis.*
- *To elucidate the significance of GIS modelling and its applications in spatial planning.*

Module 1: Introduction to GIS

Concept and Definition of GIS; Components and Functions of GIS; Introduction to Arc-Map; Exploring Graphical User Interface (GUI); Identifying the toolbar and its tools; Understanding Maps, Layers & Feature Class; Understanding Vector and Raster datasets; supported files and formats; Comparison of GIS with Auto CAD.

Module 2: Creating Project and Geo-referencing

Creating New Project; Adding and creating shape files; Organizing Layers; Working with Shape files; Digitization; Importing Data Importance of adding Spatial Information to Scanned Map/Satellite Image; Accessing the Geo-referencing toolbar; Converting the paper map into scanned image; Geo-referencing of Scanned Paper Map; Adding Control Points; Auto-adjust; Update Geo-referencing; Checking the Geo-referencing Errors; Saving the Geo-reference image file.

Module 3: Working with Database and Analysis

Adding database in attribute table; Opening attribute table; Adding information from other databases. Understanding the usage of ArcTool Box; Creating Charts and graphs; Summarize; Statistics Summary; Using Field Calculator; Calculate Geometry; Query Builder; Buffering or Proximity Analysis; Overlay Analysis; Using relevant extensions for networks, 3D, spatial and statistical analysis. Land Matrix, Land Utilization, Cloud Computing, Crowd Sourcing.

Module 4: Displaying Data in Maps and Map Elements

Symbology; Labeling and Annotation; Creating Map Layout; Inserting Map Scale; Legend Map; Title; North Symbol; Creating Grids; Other map Elements and Saving a Layout. Printing a map from layout and Exporting map as image; Conducting a Land Suitability Analysis using GIS, Introduction to new concepts like cloud computing, crowd sourcing etc.

References:

1. *Remote Sensing and GIS: Theories, Methods, and Application, Weng Qihao, Mcgraw-Hill, 2010*
2. *Concepts and Techniques of Geographic Information Systems, C.P. Lo and A.K.W. Yeung, PHI Learning Private Limited, 2012*
3. *Remote Sensing and Geographical Information Systems: Basics and Applications, P.R. Vyas (Ed.), Rawat Publications*
4. *Concepts and Techniques of GIS, Chor Pang Lo, Albert Yeung, Prentice Hall, 2007*
5. *Getting to know Arc View GIS, ESRI*
6. *Wilson Handbook of GIS, John Peter, Blackwell Publishing,2008*
7. *Spatial Analysis – Modelling in GIS Environment, Paul Longley and Michael Betty, John Wiley Publications, 1996*
8. *GIS for Sustainable Development, Michele Campagna, Taylor and Francis, 2005*

18HUM3.7: KANNADA BHASHE - Aadalitha Matthu Vyavahara

CONTACT PERIODS: 2 (Lecture) per week
PROGRESSIVE MARKS: 50

[Syllabus shall be announced after receiving the approved draft from the BoS [Humanities], VTU]

18 PLN3.8 –PLANNING STUDIO- LAND USE AND TRANSPORT ASPECTS

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS: 200
TERM WORK MARKS: 200

Objectives:

- *To provide students with the basic understanding about roads, road geometrics and layout preparation and to train them in preparation of area mobility plan.*
- *To develop ability of students to assess travel patterns, travel demand, transport supply and Impact of transport on local environment.*

1. This course focuses on the interrelationship between transportation and land use, and related economic, social and environmental issues. The key learning objectives would be to:

    a) Appreciate the difference between travel demand and transport supply.
    b) As part of travel demand learn techniques for assessment, mitigation and management of traffic impact of current and proposed development.
    c) Understand key techniques for management and enhancement of transport supply.

2. Area Mobility Plan with an objective to promote and make way for sustainable mobility patterns, improve accessibility and promote livability.

3. Study of Travel Patterns- study the mobility profile of for residents and workers within the area. Modes used, trip lengths, trip purpose etc. Origin destination survey. Compare travel patterns with socio economic condition, housing typology and private vehicle ownership. Include public opinion on traffic, noise, accessibility and local environment as part of the study.

4. Assessment of Travel Demand –basic techniques for assessment of traffic impact of existing uses; surveys and analysis related to traffic generation rates and patterns, parking demand, non-motorized traffic, traffic conditions on surrounding roads and intersections. Basic principles of travel demand modelling could be used to simulate scenarios to test how change in the intensity of use of land could impact traffic in the area.

5. Transport Supply- diagnose key transportation issues in the area by undertaking studies for analysing traffic volume, journey speed, parking, pedestrian movement and access to public transport. Study the adequacy of transport infrastructure vis a vis travel demand studies undertaken earlier.

6. Impact of transport on local environment – noise, emissions, safety and quality of life. Developing indicators.

7. Consideration of needs of excluded groups such as children, elderly and women. Development of strategies consisting of planning, design and management measures.

References:

1. *Traffic Engineering and Transport Planning, L.R. Kardiyali, Khanna Publishers, 2011*
2. *Transport Planning and Traffic Engineering, O'Flaherty, Elsevier India, 2006*
3. *Highway Engineering, S.K. Khanna, Nem Chand and Brothers, 2011*
4. *Modelling Transport, Juan De Dios Ortuzar and Luis G. Willumsen, John Wiley & Sons, 2011*
5. *Transport Planning, David Banister, Spon, 2002*

18 PLN4.1 – PLANNING THEORY - II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the rational planning model, advocacy planning, equity planning and collaborative planning theory.*
- *To develop the ability of the students to comprehend the changes in theory in response to changing contexts and map the evolution of planning theories***.**

Module 1: Scientific Rationalism and Planning

Defining instrumental rationality; Systems view of planning with a focus on contributions of J. B. McLoughlin and others; Chief characteristics of Comprehensive Rational Planning Model and implications for planning practice; Systemic change.

Module 2: Advocacy Planning, Pluralism and Equity Planning

Meaning, historical background and purposes of Advocacy Planning Model; Main features of Advocacy Planning Model; Relevance for planning practice; Equity and its various definitions; Major components of the Equity Planning Model; Implications on the role of planners in planning practice.

Module 3: Political Economy Theories and the City

Defining the term political economy; Role of the state in planning; Contributions of David Harvey, Manuel Castells and others; Richard Foglesong and the property contradiction.

Module 4: Collaborative and Communicative Planning

Various components of Collaborative Planning Model; Contributions of Patsy Healey and Judith Innes and others; Deliberative policy analysis; Role of trust in planning; Planning as persuasive storytelling.

Module 5: Capabilities, Race, Gender, Religion and Caste

Defining functioning's and capabilities; Exploring relevance of Sen and Nussbaum's capabilities to planning; Role of planning and planners in enhancing capabilities of the poor; Capabilities perspective on slums and squatters; Feminist planning theory; Planning, caste and religion; Planning rights and responsibilities.

References:

1. *Readings in Planning Theory, Susan Fainstein and Scott Campbell, Blackwell Publishers, 2003*
2. *Urban Planning Theory Since 1945, Nigel Taylor, Sage, 2007*
3. *Planning Theory, Philip Allmendinger, Palgrave MacMillan, 2009*
4. *Planning Theory: From the Political Debate to the Methodological Reconstruct, Archibugi Franco, Springer, 2008*
5. *Urban Planning Theory and Practice, M. Pratap Rao, CBS Publisher & Distributers Pvt. Ltd., 2012*
6. *A Reader in Planning Theory, A. Faludi, Butterworth-Heinemann Ltd., 1973*
7. *Planning Theory for Practitioners, Michael P. Brooks, Planners Press, American Planning Association, 2002*

18 PLN4.2 – PLANNING INDIAN CITIES

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the town and regional planning in India, including the evolution of planning, planning of Indian Cities in the post-Independence period and at the end of twentieth century and early twenty first century.*
- *To develop the understanding of students regarding the development and management strategy of towns/cities followed in India.*

Module 1: Evolution of Town and Regional Planning in India

Planning thought in Independent India, overview of evolution from piecemeal projects, town planning schemes, comprehensive development plans, new towns to regional planning,

Module 2: Planning of Indian Cities in the post-Independence period

Planning interventions in Indian cities post-Independence era. Technological advances and their effect on the town; utopian thinking and movements about urban improvement and planning; the concept of neighborhood planning; planning concept and city structure, plan and concept of new towns in India, The concept of ring towns and satellite towns; Delhi Master Plan and the concept of NCR; disorientation of contemporary towns from its cultural context; the concept of conservation; the role of planner as a central figure to understand the present day problems through the medium of the study of history.

Module 3: Planning of Indian Cities at the end of twentieth century and early twenty first century

Planning in post liberalization area, Nature of planning reforms, JNNURM, SEZ, URIF, CCF, DMIC, Smart Cities changes in legal and institutional framework for planning, privatization of planning, corridor planning and its implications.

Module 4: Urban planning, development and management strategy: India

Spatial planning studies and surveys. Concepts and techniques of preparation of city plans. Planning, development and management strategies at regional and settlement levels. Tools and constraints in the implementation of development plan in terms of administration, legal and financial aspects. Role and function of public participation.

Module 5: Case studies in metropolitan planning and development

Metropolitan planning, development and management in India. Appraisal of planning and development efforts in case of some of the metropolises, viz. Kolkata, Mumbai, Delhi and Chennai, etc.

References:

1. *Re-visioning Indian Cities: The Urban Renewal Mission, K. C. Sivaramakrishnan, Sage, 2011*
2. *Report on Indian Urban Infrastructure and Services, High Powered Expert Committee (under chairpersonship of Ms. IsherAhluwalia), NIUA/MoUD, 2011*
3. *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth, McKinsey Global Institute, 2010*

18 PLN4.3 – DEMOGRAPHY & URBANISATION

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To develop and understanding about the varied relationships of demography and urbanization in India.*
- *To develop the ability to critically analyse settlement systems embedded in the urban and regional planning.*

Module 1: Study of Population

Demographic variables-fertility, mortality, migration, evolution of population study, contribution of Malthus; mortality-trends, mortality in developed and developing countries; biological and social factors and mortality gender, race, social structure, life style, social status, occupation etc; measures of mortality. Age-specific fertility rate; total fertility rate, net reproduction rate; migration-causes and consequences of population movement; reasons and types of migration trends; theories of migration and population movement; methods of measuring volumes of migration; direct and indirect measures; effect of migration of composition of population.

Module 2: Sources of data

Source of demographic data, Census of India- info available at various levels, census methodology, accessing and using census information; population structure and composition – age sex composition, sex ratio, dependency ratio, child-woman ratio; measures of age – sex structure, age – sex pyramid, population composition; marital status, cast region , literacy level, etc; life table techniques; techniques in preparing life table, abridged life table; population estimation, projection and population forecasting; basic cohorts survival model, inter regional cohorts survival model.

Module 3: World Urbanization Trends and Urbanization Patterns in India

Urban revolution; its preconditions; brief history of urbanization in the world and urbanization patterns in India, related problems, concepts of urbanism and urbanization; brief history of urbanization in India; Mughal and British influences of India cities; post-independence urbanization; urbanization process as influenced by socio-cultural, political, economic and administrative factors; definition of urban centers, concepts of rural urban continuum and dichotomy; census definition of urban places town, cities, town groups, urban agglomeration, Urbanization economies, standard urban area metropolis, megalopolis etc. functional classification of urban places.

Module 4: Settlement System and Role of Urban Area

Settlement system, 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; its structure, stages of growth, its role in urban growth; urbanization, industrialization and urban development; push and pull factors; migration trends and impacts on urban and rural development.

Module 5: Policies and Strategies for Directing Urbanization Trends in India

Urbanization policy, basic issues in urbanization policy; role of national and state level policies; five-year plans, latest attempts at urbanization policy formulation in the country, Impact of Urbanization on cities and towns, challenges for urban planners.

References:

1. *Handbook of Urbanization in India, Sivaramakrishnan, K.C., Kundu, A., and Singh, B.N., Oxford University Press, New Delhi, 2005.*
2. *Trends and Processes of Urbanization in India, Kundu, A., IIED and UNFPA, London, 2011.*
3. *Urbanization and Urban Systems in India, Ramachandran, R., Oxford University Press, New Delhi.*
4. *Urbanization in India: Challenges and Opportunities, Misra, R.P., ICSSR, Shillong, 1998.*
5. *India's Demography: Changing Demographic Scenario in India, P. K. Majumdar, Rawat Publications, 2013*
6. *Handbook of Population and Development in India, A.K Shiva Kumar and Others, Oxford University Press, 2013*
7. *Demography and Population Studies, O. Srivastava, Vikas Publishing House, 1994*
8. *Introductory Methods in Population Analysis, R.B.Mandal and Others, Concept Publishing Company, 2007*

18 PLN4.4 – LANDSCAPE PLANNING AND DESIGN

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the Principles and Techniques of Landscape Design, Open Spaces, etc. and develop their ability to evaluate the built environment in an urban setting.*
- *To state the significance of landscape planning as component of urban and regional development, ecology and elements of landscape.*

Module 1: Introduction to Landscape

Landscape as an outcome of natural processes; Humans' evolving relationship with Nature and its expression in the designed landscape; a comparative study of the major traditions of landscape design in the East and West with regards to principles and techniques of design with landform, water and vegetation. Utopias: a new vision based on equitable distribution of open spaces.

Module 2: Place Making

Evolution of Public places: their typology, size, nature, distribution in the urban realm; Relevance of Heritage districts and precincts in the modern city; Design of Urban streetscape; Transformation of nature of community recreation and its impact on form of cities.

Module 3: Landscape Planning (Regional level, Urban and Zonal scale)

Classification of green spaces at each of planning level; distinguishing the components of landscape at each of these levels. *Assessment: exercise related to the current studio problem to better address the landscape component.*

Module 4: Site Planning

Principles of analysis and assessment of existing landscape; Design proposals to respond to constraints and opportunities offered by the site; study about open space structure as a basic component of the site plan, process of arriving at a landscape concept.

Module5: Landscape Design Aspects

Landscape Engineering (levels and grading including principles of cut and fill alignment, drainage); Plants and design (environmental benefits of planting, functional requirements, aesthetic considerations; typical situations and criteria for design with plants and selection of species).

References:

1. *Landscape Analysis and Planning: Geographical Perspectives, M. Luc, U. Somorowskaand J.B.Szmanda, Springer, 2015*
2. *Landscape and Urban Design for Health and Well-Being, Gayle Souter Brown, Routledge, 2014*
3. *Landscape Ecology in Theory and Practice: Pattern and Process, Monica G. Turner, Springer*
4. *Landscape Planning: Environmental Applications, William M. Marsh, 5th Edition, John Wiley & Sons*
5. *Landscape Architecture: A Manual of Site Planning and Design, John O. Simonds, New/latest Edition, Mcgraw-hill Professional*
6. *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning, Wenche E. Dramstad, David M. Gillilan, James D. Olson, New/latest Edition, Island Press*

18 PLN4.5 – HOUSING

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS: 100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to components for allocating residential land at city and area level, assessment of need, demand of supply through various sub-systems and the policy framework and housing standards.*

Module 1: Introduction

Housing - definition, housing as a verb and noun; Housing in relation to planning component; Concepts of housing stock, need demand, shortage, An overview of housing situation; Urban and Rural housing scenario in India.

Module 2: Housing development process

Understanding of factors affecting residential location, theoretical knowledge of ecological, neo-classical, 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. Role of different institutions in housing. International agencies, NGOs, State financing organizations, private developers, cooperatives.

Module 3: Area Level, Housing Studies Standards and Design

Housing, project formulation: feasibility studies, determinants of housing form: physical, social, economic, technical and aesthetic and housing in tropical climate. Development options and housing, costs, standards. Housing for special groups: slums, inner city housing, and disaster affected areas. Concept of residential density, ground coverage, FAR and other related development control, Evaluation of housing areas.

Module4: City Level Housing Studies

Components of housing, housing subsystems, Administrative, legal and financial framework for housing development, Process of housing development Analysis of housing stress, Concept of affordability and target identification. Housing Market and Real Estate Development.

Module5: Policy and Legislative Framework

Components of housing policy at national and state level; Financial plans and housing legislation. Understanding and evaluation of housing policy and programmes in India. Five-year plans and Central government policy. Policy framework for urban and rural housing. Comparative policy analysis. Housing for the low-income groups. Cooperative housing, its objectives and principles. Management and financing of housing projects. Investment in housing in public and private sectors.

References:

1. *Housing and Urbanisation: A Study of India, Cedric Pugh, Sage, 1990*
2. *Housing:Changing Needs and New Directions, V. Gandotra and Others, Authors Press, 2009*
3. *Housing, Markets and Policy, Peter Malpass and Rob Rowlands, Routledge, 2010*
4. *Housing Laws in India- Problems and Remedies, P.K. Sarkar, Eastern Law House Private Ltd.*
5. *Global Strategy for Housing in the Third Millennium, W. A. Allen, Taylor & Francis*
6. *Urban Development and Housing in India- 1947 To 2007, Rishi Muni Dwivedi, New Century Publications, 2007*

18HUM 4.6– CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS

CONTACT PERIODS : 2 (Lecture) per week
PROGRESSIVE MARKS: 50

Objectives: *To introduce students to the fundamentals, Directive Principles, State Executives, Special Provisions of Indian Constitution and ethics and Responsibility of Planners as per the constitution.*

MODULE 1: Introduction to the Constitution of India.

The Making of the Constitution and Salient features of the Constitution. Preamble to the Indian Constitution Fundamental Rights & its limitations.

MODULE 2: Directive Principles

Directive Principles of State Policy & Relevance of Directive Principles State Policy Fundamental Duties Union Executives – President, Prime Minister Parliament Supreme Court of India.

MODULE 3: State Executives

State Executives – Governor Chief Minister, State Legislature High Court of State. Electoral Process in India, Amendment Procedures, 42nd, 44th, 74th, 76th, 86th & 91st Amendments.

MODULE 4: Special Provisions

Special Provision for SC & ST Special Provision for Women, Children & Backward Classes Emergency Provisions. Human Rights –Meaning and Definitions, Legislation Specific Themes in Human Rights-Working of National Human Rights Commission in India, Powers and functions of Municipalities, Panchayats and Co - Operative Societies.

MODULE 5: Scope & Aims of Planning Ethics, Responsibility of Planners

Impediments to Responsibility. Risks, Safety and liability of Planners, Honesty, Integrity & Reliability in Planning.

18 PLN4.7- PLANNING STUDIO- SITE PLANNING

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS: 200
VIVA MARKS: 200

Objectives:

- *To familiarize students with the* spatial organization of housing units, group housing design, section and elevation of low rise and high-rise apartments.
- To develop ability of the students to conduct site visits, site analysis and prepare site layout with services, housing, circulation and basic infrastructure.

This studio introduces students to spatial organization of housing units for a site to be planned in the larger context.

1. Site context, sector/ward/sub zonal contexts in which the site is planned,

2. Group Housing Design, Design and preparation of plan, sections and elevation of low rise and high-rise apartments taking into account the building byelaws and zoning regulations; preparation of presentation drawings.

3. Site Layout, Site analysis, development standards, and preparation of the design brief,

4. Various considerations for site layout, conceptual approach to site planning preparation of preliminary layout and area analysis, Final layout showing the circulation and basic infrastructure. Planning of utility networks including rainwater harvesting system. (Use of AutoCAD and GIS for final drawings), Rough costing of the scheme.

5. Following the closure of the 4th semester academic session, each student would be required to undertake a six-week professional training, during summer vacations, in an organization duly approved by the training coordinator of the Department of Physical Planning. The work undertaken during this training shall be presented by the students in the training seminar organized as part of the 'Planning Practice I' course in the 5th semester.

References:

1. *Site Surveying and Levelling, John Clancy, Routledge, 2013*
2. *Community Analysis and Planning Techniques, Richard E. Klosterman, Second Rowman& Littlefield*
3. *Traffic and Transport Planning, Khanna Publisher, L.R. Kardiyali, 2011*
4. *Spatial Analysis – Modelling in GIS Environment, Paul Longley and Michael Betty, John Wiley Publications, 1996*

18 PLN5.1 – URBAN DESIGN AND CONSERVATION

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To develop the ability of students to conceptualize and contextualize the urban design imperatives, list the urban design parameters for specific places and propose design interventions for shaping public realm.*
- *To introduce students to the basic concept, principles and aspects of urban conservation.*

Module 1: Introduction to Urban Design Theory

Relationship between architecture, urban design and planning; city as a three-dimensional entity; study of volumes and open spaces at all levels; a brief historic review of the development of the urban design discipline and principles.

Module 2: Elements of Urban Design

Urban form as determined by inter-play of masses, voids, building typology; scale, harmony, symmetry, color, texture, light and shade; dominance, height, urban signage and graphics; organization of spaces and their articulation in the form of squares, streets, vistas and focal points; image of the city and its components such as edges, paths, landmarks, street features, sky-line, etc.; urban transportation.

Module 3: Physical and Non-Physical Determinants of Urban Forms

Activity and the morphology of places; form, size and structure of cities and the related geometry co-related with their determinants; case studies of urban design characteristics of cities in India and abroad; related issues for public intervention.

Module 4: Basic Principles of Conservation

Overview and introduction of the basic concepts of conservation values, attitudes and principles for judging the conservation importance of sites, areas and related typology; scope and basic technique of urban conservation.

Module 5: Aspects of Urban Conservation

Legal and administrative aspects, archaeological acts/charters pertaining to conservation, development and conservation; case studies of proposals for urban conservation of sites/areas in India and abroad.

References:

1. *Urban Design as Public Policy: Practical Methods for Improving Cities, Jonathan Barnett, Architectural Record*
2. *Urban Design Futures, Malcolm Moor (Ed.), Routledge*
3. *Urban Design Management: A Guide to Good Practice, Antti Ahalva (Ed.), Taylor and Francis*
4. *Urban Design: Method and Techniques, Cliff Moughtin, Architectural Press*
5. *Landscape Ecology in Theory and Practice: Pattern and Process, Monica G. Turner, Springer*
6. *Landscape Analysis and Planning: Geographical Perspectives, M. Luc, U. SomorowskaandJ.B.Szmanda, Springer, 2015*

18 PLN5.2 – INFRASTRUCTURE PLANNING- II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To familiarize students with the infrastructure development policy, infrastructure pricing, financing.*
- *To develop ability of the students to plan for physical and social infrastructure of urban and regional areas*.

Module 1: Infrastructure Development Policy

Meaning, components, contents, constitutional provisions, national policy and legal framework, Five year plan related with infrastructure and current policies.

Module 2: Infrastructure Pricing, Financing

Mechanisms for financing infrastructure, Mechanisms for pricing different kinds of infrastructure, case studies related to infrastructure finance.

Module 3: Planning for Physical Infrastructure

Understanding of different infrastructure systems, design considerations, Sources, distribution, networks, storage, disposal. Physical infrastructure at city and regional level.

Module 4: Planning for Social Infrastructure

Various types and levels of social infrastructure- education, health, safety, security and other public services. Policy context- existing norms and standards for various Indian cities and by various international agencies. Different indicators of quality of life. Social infrastructure at city and regional level.

Module 5: Regional infrastructure planning and Issues

Regional poverty and basic needs. Basic needs approach to the provision of infrastructure and networks. Physical (roads, irrigation system, water supply, sanitation, drainage, watershed management, fire services, telecommunication, energy, electricity, solid waste disposal, etc.). Social health and education. Economics including banking, marketing and public distribution systems. Diagnosis of issues, methodology and role of regional planner. 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 regional infrastructure and network systems. Economic costing of regional networks and services. Pricing and cost recovery for district networks and services.

References:

1. *Infrastructure Management, W.R. Hudson, R.C.G. Hass, W. Uddin, Mcgraw Hill, 1997*
2. *Infrastructure Planning and Management, J.W. Gifford, D.R. Uzarski and S. McNeil, American Society of Civil Engineers, 1993*
3. *Infrastructure Planning, J. Parkin and D. Sharma Thomas Jelford Publishing, London, 1999*
4. *Infrastructure Planning Handbook, A. Goodman and M. Hartak, ASCE Press, 2000*

18 PLN5.3 – TRANSPORTATION PLANNING II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the transport policies, Urban and regional Transport System.*
- *To enhance the skills of students to carry out economic appraisal of transport projects, find pricing of transport services and systems and list various technology options to deal with the issues.*

Module 1: Transport Policy

Current Transport Policy in India, Evolution of transport policy in India, European, American and Asian Perspective on Transport Policy, Interactions between transport and other policy areas, Land-use transport policy- Translation of National Policy to City and local level plans. Problems of car use and policies to reduce usage. Policy, Strategy and Measures.

Module 2: Urban Transport System

Urban form and Transport Systems, Impact of land use on transport and vice versa, Transport and Quality of Life. Planning for transport in cities and towns, data requirements and planning techniques, travel behavior and its determinants, choice modeling, influencing travel behavior, land use-transport models for cities like Transit Oriented Development, provision of new mass transit in cities and its upkeep, specific challenges of small towns and big cities, roles and responsibilities of various agencies, Provisions for freight transport.

Module 3: Regional Transport System

Planning for regional transport systems, data requirements and planning techniques, Importance of accessibility in regional transport planning, indicators of accessibility to basic services, planning parameters for road, rail, air and water transport systems, locational parameters for regional transport nodes, roles and responsibilities of various agencies.

Module 4: Transport Economics

Pricing and funding of transport service and systems, socio-economic appraisal of transport projects; techniques for estimating direct and indirect road user costs benefits, Monetization of costs and benefits, Investment criteria and PPP in Transport.

Module 5 : Technology and Transportation

Intelligent Transportation System; Big data analysis; Smart parking; smart ticketing; SCADA, automated transportation options, etc.

References:

1. *The Economics of Transport: A Theoretical and Applied Perspective, Jonathan Cowie, Routledge*
2. *Public Transport: Its Planning, Management and Operations, Peter White, Routledge, 2011*
3. *Modelling Transport, Juan De Dios Ortuzar and Luis G. Willumsen, John Wiley & Sons, 2011*
4. *Integrated Land Use and Transport Modelling, Tomas De La Barra, Cambridge University Press*
5. *Transport Planning and Traffic Engineering, Coleman O'Flaherty, Elsevier, 1997*
6. *Transport Systems, Policy and Planning: A Geographical Approach, Rodney Tolley, Brian John Turton, Routledge, 2013*
7. *Urban Transportation and Logistics: Health, Safety and Security Concerns, Eiichi Taniguchi and Others CRC Press, 2014*

18 PLN5.4 – PROJECT FORMULATION, APPRAISAL AND MANAGEMENT

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce the Basic Concepts / Principles of Project Formulation.*
- *To familiarize students with Methodologies to Appraise and Manage Projects.*

Module 1: Introduction to Project Formulation, Appraisal and Management

The concept of projects, Importance of project formulation, appraisal and management; reasons for shortfall in its performance; scientific management, lifecycle of project; detailed project report, and feasibility studies; techniques of financial appraisal, payback period, IRR, DCF, NPV, CBR.

Module 2: Project Formulations

Project formulation: definition, objectives; Stages of project formulation and their significance; Methodology for project identification and formulation; Feasibility studies, input analysis, financial cost-benefit analysis, social-cost benefit analysis; Project appraisal and report.

Module 3: Project Appraisals

Project formulation: definition, objectives; 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 4: Project Implementation and Monitoring

Project implementation, stages of implementation, Teamwork, actors in project implementation; Project monitoring: meaning objectives and significance; Monitoring techniques: integrated reporting, Milestones, time and cost overrun and under runs, unit index techniques.

Module 5: Project Evaluations

Project evaluation: meaning, objectives, scope, stages, approach and steps, Life of a project; Techniques of project evaluation: input analysis, financial cost-benefit analysis, social-cost benefit analysis; case studies in urban and regional development projects.

References:

1. *Projects: Planning, Analysis, Selection, Financing, Implementation and Review, Prasanna Chandra, TMH*
2. *Project Management Simplified: A Step-By Step Process, Barbara Karten, CRC Press*
3. *Project Management in Construction, Anthony Walker, Wiley Blackwell*
4. *Project Management, S. Choudhury, Tata Macgraw Hill, 2011*
5. *Project Management: A Managerial Approach, Jack R. Meredith and Samuel J. Mantel, Wiley India, 2013*
6. *Project Management: Theory and Practices, Gary L. Richardson, CRC Press, 2011*
7. *Project Planning, Scheduling and Control, James P. Lewis, Tata Mcgraw Hill, 2011*

18 PLN5.5 – PLANNING PRACTICE - I

CONTACT PERIODS : 3 (1 Lecture +2 Pract/Tutorials) per week
PROGRESSIVE MARKS: 50

Objectives:

- *To familiarize students with the planner's institutional responsibility, accountability towards clients.*
- *To develop critical reasoning and communication skills of students to formulate project proposals, document the cases and issues related to projects, negotiate and resolve conflicts and accomplish consensual decision making.*

Module 1: Training Seminar

Each student shall undertake Training in a planning (or related) office during summer vacation between the Fourth and Fifth semester. The period of Training will be six weeks. The exact period and place of Training will be decided in consultation with the Coordinator-in-charge of training. The objective of Training is to expose the students to live planning projects and working environment of planning offices.

Module 2: Nature of Planning Practice

Planning as a profession and Role of a Planner, Definition of profession, planning as a profession, role of planner in the society, different roles of planner in practice; Nature of planning practice in general and in Indian context, global context and planning practice. legal framework for planning in India, planning and development organizations, current planning practices, study of selected projects.

Module 3: Understanding Reflective Practice

The espoused-theory and theory-in-use, the reflection in and on action, approach and methods of reflective practice, concept of reframing, reflective practice in the Indian context

Module 4: Planning Practice Cases

This unit would focus on developing a critical reasoning and communication skills through study planning cases including planning permissions, court cases, attending public meetings etc., application of concepts of previous unit through study of planning practice, documentation of cases.

References:

1. *The Pragmatic Planner: Social Change and The Role of Town Planning, Gary Peacock, University of New South Wales, 1979*
2. *Professional Practice, K.G. Krishnamurthy and S.V. Ravindra, PHI Learning Pvt. Ltd., 2014*
3. *Urban and Regional Planning InIndia: A Handbook for Professional Practice, S. K. Kulshreshtha, New Delhi, Sage, 2012*
4. *Planning Ethics: A Reader in Planning Theory, Practice and Education, Sue Hendler, Center for Urban Policy Research, 1995*
5. *Investigating Town Planning: Changing Perspectives and Agendas, Clara Greed, Routledge, 1996*

18 PLN5.6 – ELECTIVE 1

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

a) SETTLEMENT SOCIOLOGY

Objectives: *To introduce students to the concept and principles of sociology including information about the foundations of Social thought, Society, Culture, Social Change, Social Exclusion and related Planning aspects.*

Module1: Foundation of Social Thought

Positivism, functionalism; conflict and interactionism; alternate development thought-feminism, environmentalism etc.

Module2: Society, Culture and Social Change

Processes of Social Change: industrialization, modernization, globalization etc. social stratification concepts and basis; caste, class, power and gender. Social mobility. Social Problems in India.

Module 3: Social Exclusion and Planning

Concept of social exclusion and its relevance for planning. Agents of social exclusion in Indian cities and rural areas; spatial segregation. Sociology of displacement, migration and resettlement. Gender and Development.

Module 4: Urban Sociology

Culture of cities, social environment of urban areas, social and urban fragmentation and gated communities, neighborhood as a sociological concept, process of urbanization, industrialization, globalization and their social implication on Indian cities.

Module 5: Rural Sociology

Social environment of rural areas, processes of rural change -westernization, sanskritization and modernization. Sociological barriers to rural change. rural problems: poverty, unemployment, bonded labor and migrant laborers.

References:

1. *Sociology: Understanding and Changing the Social World, Steve Barkan, Flat World Knowledge, 2010*
2. *Introduction to Sociology, Ryan T. Cragun, Deborah Cragun, Wikibooks, 2006*
3. *Sociology, T.K.Oomenand C.N Venugopal, 2004*
4. *Basic concepts in Sociology, D.P.Mukerji, Rupa Publications India Pvt Ltd, 2004*
5. *Addressing Gender Concern in India's Urban Renewal Mission, Renu Khosla, UNDP, 2010*

b) CONTEMPORARY URBAN PLANNING PRACTICES

Objectives: *To develop ability of the students to select the most viable planning approach(es), list the steps in scheme mapping and programme implementation, refer to the relevant clause of global urban agenda, appreciate ICT application in urban planning.*

Module 1: Structure and Practice of Contemporary Urban Planning

Contemporary urban planning: the reform agenda, planning and politics, and social issues; Tools of land use planning; Smart growth; Energy planning.

Module 2: Urban Planning Approaches

Approaches to land regularization and management; Green field development; Brownfield development; Compact city development; Land pooling / Town Planning scheme; Inner city development; Participatory process and partnerships; New urban forms and new urbanism.

Module 3: Urban Planning Programmes and Schemes in India

Programmes and schemes in urban sectors in India: Smart Cities, AMRUT, HRIDAY, Housing for All, Total Sanitation Programme, RuRBAN Mission etc.

Module 4: Future Global Agenda

New Urban Agenda, Sustainable Development Goals, Future cities.

Module 5: Technology and Urban Planning

Need for ICT and big data in urban planning; Intelligent cities and people: Case studies.

References:

1. *Contemporary Urban Planning, John M. Levy, Pearson, 2013*
2. *The Oxford Handbook of Urban Planning, Randall Crane and Rachel Weber, Oxford University Press, 2015*
3. *Contemporary Urban Planning, John M. Levy, Routledge, 2012*
4. *Urban Planning: Theory and Practice, M.P. Rao, CBS Publishers*
5. *Urban Planning Methods: Research and Policy Analysis, Ian Bracken, Routledge, 2007*
6. *Making Strategic Spatial Plans: Innovation in Europe, Patsy Healey, Routledge, 1997*
7. *Understanding Cities, A.R. Cuthbert, Routledge, 2011*
8. *Smart Cities, A. Picon, John Wiley & Sons, 2015*
9. *Creating Smart-er Cities, Mark Deakin (Ed.), Routledge, 2013*
10. *Urban Development Debates in the New Millennium (Vol. 1 & 2), K.R. Gupta, Atlantic, 2005*
11. *Urban Planning and the Development Process, David Adams, Routledge, 2005*

C) PLANNING FOR SPECIAL AREAS

Objectives: *To develop the skills of students to delineate the functional domain of special areas, collate and tabulate the information on socio economic, geo historic, physical and political features of special areas, analyze the land management system in special areas, identify planning issues for special areas and refer to the relevant acts, standards, programme and policies for special areas.*

Module 1: Classification of Special Areas

Need for Special Area Planning; Defining special areas; Typology of formal and functional special areas: boarder area, hill area, coastal area, desert area, extremist affected area, Special Economic Zones, port City, aerotropolis, medi-City, knowledge City, defence area etc.; Contemporary approaches for Special Area Planning.

Module 2: Characteristics of Special Area

Socio economic, physiographic, geographic and political features of special areas.

Module 3: Governance of Special Areas

Governance framework of special areas; Land management in special areas; Survey of statutes governing special areas.

Module 4: Infrastructure for Special Areas

Unique infrastructural needs of special areas; Planning standards for special areas.

Module 5: Programmes and Projects for Special Areas

Survey of programmes and projects for special areas; Best practices of Special Area Planning.

References:

1. *Boarder Area Development Pragramme Guidelines, Ministry of Home Affairs, 2008*
2. *Special Economic Zones in India, P. K. Manoj, Deep Publications Pvt. Ltd., New Delhi, 2001*
3. *Development of Hill Areas, G.L. Dhobal, Concept Publishing, 2005*
4. *Integrated Development of Hill Districts in India: Issues and Approaches, R.C. Gupta, Space*
5. *Environmental Problems of Coastal Areas in India, Vinod Sharma, Bookwell*
6. *Aerotropolis: The Way We'll Live Next, John Kasarda and Greg Lindsay, Allen Lane, 2011*
7. *Knowledge and the City, Francisco J. Carrillo and Others, Routledge, 2014*
8. *Environmental Act in India, Ruma Chatterjee, Oxford University Press*
9. *Market Towns, Neil Powe and Others (Eds.), Routledge, 2014*
10. *CRZ Regulations, 2011, MoEF, Govt. of India*
11. *The Cantonments Act, 2006, Ministry of Law & Justice, Govt. of India*
12. *URDPFI Guidelines (Volume I and II), Ministry of Urban Development, Government of India, 2015*

18 PLN5.7 – PLANNING STUDIO- SUB CITY PLAN

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS: 200
VIVA MARKS:200

Objectives:

- *To introduce the plan preparation and its relationship of higher order plan with lower order plans such as Master Plan with Zonal Plan and Area Plan.*
- *To develop the ability of students to prepare the lower order plan within the framework of Master Plan.*

1. This studio provides a link between the site level and city level plans. This level is details out the land allocations and planning proposals at the city level. Purpose of this studio is to understand the relationship between different hierarchies of plan. Studio exercises should be so developed to enable students to apply the concepts learnt in theory so far. It should help students to see the interrelations amongst different sectors at the city level and how these need to be translated through detail plans so as to achieve master plan objectives.

2. The different approaches to plan making; the concepts of master plan, comprehensive development plan – the structure plan, the sector plan, the zonal plan, and other types of plan making processes, the approach to developing the lower hierarchy plan, eg. zonal plan/ward/town planning scheme in the framework of a given master plan and the relevant town planning or development act; The study and development of the relevant planning standards for different land uses; Detailing of specific sites in the proposed zonal plans, covering different land uses; preparation of detailed project reports.

References:

1. *Town Planning Regeneration of Cities, Ashutosh Joshi, New India Publishing, 2008*
2. *The Urban Pattern Sixth Edition, Simon Eisher Arthur Gallion, Stanky Eisner, Wiley Publications*
3. *Better Way to Zone: Ten Principles to create More Livable Cities, Donal L Elliot A, Island Press Washington DC, 2008*

18 PLN6.1 – URBAN GOVERNANCE AND MANAGEMENT

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce Concepts of Urban Management, Institutional framework, decentralization and local government to the students.*
- *To develop ability of students to refer the municipal organogram and relate the municipal functions with functionaries, relate any urban service to the concerned parastatal bodies, measure the governance index, benchmark municipal services, draft a citizens' charter, list the steps in corporatizing a municipal service and list the steps in selecting a municipal service provider.*

Module 1: Introduction to Concepts of Management and Urban Management

Definition of management, Decision Making: definition, features, factors, theories of decision making, essentials and hindrances in sound decision-making; decision makers and decision-making bodies related to urban and regional planning at national, state and local level, Coordination, Importance of communications; elements, types, features and essentials of effective communications; Difference between public administration and urban management.

Module 2: Institutional framework

Existing institutional and organizational framework for urban management in India; distribution of responsibilities and activities among different levels as government and their special purpose bodies in the urban field.

Module 3: Decentralization and local government

74th CAA; concept of political, administrative and fiscal devolution; types of local governments in India, organization (deliberative and executive wings), powers and functions, resources, state supervision control and conditions of their working. Improvement trusts, city and metropolitan development authorities: organization, scope of their powers and functions, and operational arrangements. Roles and responsibilities of other parastatal bodies (water and sewerage boards, slum authorities, public transport corporations, etc.).

Module 4: Urban Governance

Shift from urban management to urban governance; concepts and definitions; principles of good urban governance – participation, equity, efficiency, transparency and accountability, responsiveness, security, etc.; Indicators of good urban governance; good governance and planning. First and Second-Generation Reforms.
Innovation in Urban Management, Good Governance Index, Citizens' Charter, Service Level Benchmarking, Report Card System, Social Audit, Corporatization of Municipal Services etc.

Module 5: Land Assembly and Administration

Models of land assembly- national and international cases, bulk acquisition, land reconstitution, land administration, methods of land records in rural and urban areas, organizations responsible for land records and land assembly. Examples from different parts of the country.

References:

1. *Urban Governance and Management: Indian initiatives, P.S.N. Rao (Ed.), Kanishka Publishers, 2006*
2. *Local Governance in India – Niraja Gopal and Others, Oxford University Press, 2001*
3. *India: The Challenges of Urban Governance, O.P. Mathur, National Institute of Public Finance & Policy, New Delhi, 1999*
4. *Governance and Planning of Mega-City Regions: An International Comparative Perspective, Jiang Xu, Routledge, 2011*
5. *Urban Management: Challenge of Growth, Kenneth Davey, Avebury*
6. *Urban Local Self-Government in India, R. N. Prasad, Mittal Publication, 2006*
7. *New Forms of Urban Governance in India: Shifts, Models, Networks and Contestations, I.S.A. Baud, (Ed.), New Delhi,Sage, 2008*
8. *Fiscal Decentralisation and Governance in India: A Cross Country Analysis, De Mello, IMF Working Paper, 2001*
9. *Cities and Public Policy, P.K. Mohanty, Sage, 2014*

18 PLN6.2 – PLANNING FOR INFORMAL SECTOR AND URBAN POOR

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To develop ability of students to differentiate between different variants of urban informal activity, map the hotspots of urban poverty, carry out skill mapping, list the crucial infrastructural and institutional support for urban informal sector rationalize space for street vending and understand the economics of location of informal settlements.*

Module 1: Urban Poverty

Dimensions of urban poverty, measurement of poverty, magnitude of problem, MDGs and SDGs, defining the poverty line, urban vs. rural poverty, causes and consequences of urban poverty, slums, urban poverty alleviation programmes.

Module 2: Approaches for Alleviation of urban poverty

Community planning approach, low cost alternatives and institutional reforms approach, critical review of five-year plans and current policy framework.

Module 3: Concept, causes and consequences of Informal Sector

Concept of informal sector, informal sector and informality, Types of informal sector, Role of Informal Sector in Cities, Spatial Focus on Informal Sector, Characteristics of migrants and their association with growth of informal sector; socio-economic deprivation and informal sector; poverty and informality in historic areas; Informal sector – basic concepts; Policies and practices in dealing with the informal sector in India and abroad (e.g. National Policy on Urban Street Vendors, NCEUS, others), relationship between informal economy and housing, home-based economic activities.

Module 4: Planning for Informal sector

Policy framework for addressing the challenges of informal economy, planning provisions and norms, policy for household industry, street vending etc. and its implications for norms and standards at city level.

Module 5: Land and Informality

Spatial justice to urban informal economy – statutory allocation of urban land to urban informal activity; Identification of hot spots of urban poverty- ghettoisation; The economics of location of informal settlements.

References:

1. *Infrastructure for Poor People – Public Policy for Private Participation, Penelope J. Brooke*
2. *Informal Sector in Indian Economy: The Way Ahead, Dipa Mukherjee, Rawat Publications, 2009*
3. *Urban Informal Sector in A Developing Economy, T. S. Papola, Vikas, 1981*
4. *Urban Poor and Urban Informal Sector, Abdul Aziz, Ashish Publishing House, 1984*
5. *The Urban Informal Sector in Developing Countries: Employment, Poverty and Environment, S. V. Sethuraman, International Labour Office Geneva, 1992*

18 PLN6.3 – ENVIRONMENTAL PLANNING

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives: *To introduce students to the concept of sustainable development, land use planning and management from environmental perspective, Community-based environmental planning, Environmental justice and issues related to the local and Global environmental planning.*

Module 1: Sustainable development

Origin of the term 'sustainable development' - its diverse meanings/interpretations; the role of different actors - bottom-up (environmental movements) and top-down (greening of the State), 'weak' versus 'strong' sustainability, the participatory challenge (green democracy versus participatory managerialism), mainstreaming of sustainable development and its integration within sectors. Sustainable development agenda and different models of planning: Features and implications of three key models of planning from the perspective of their relation to sustainability – planning models which emphasize delivery against sustainability targets (linear rational model); those which emphasize collaboration (integration of different forms of knowledge and expertise); and those which see planning as arena for debate and emphasize learning for sustainability.

Module 2: Environmental land use planning and management

The relationship between land-use, infrastructure and the natural environment; land use and environmental protection; community-based environmental protection; ecosystem management; integrated water resource management; hazard mitigation; ecological restoration; land conservation.

Module 3: Community-based environmental planning

Bottom-up approach; responsive and context-sensitive plans; incorporate local knowledge; enhance local ownership; how to define the 'community'; inequality within the community; capacity of the community; relationships with other scales of environmental planning.

Module 4: Environmental justice and land use planning

Origins of environmental justice movement in USA – location of polluting industry in ethnic minority neighborhoods; distribution of environmental ills and benefits; using GIS mapping; issue of scale; recognition of diversity of actors; procedural justice and participation; economic, social and political processes of urban development; urban poor in developing countries and environmental justice issues. EIA in India. Introduction to strategic environment assessment.

Module 5: Global environmental problems and local planning

Debates over climate change, forest and biodiversity depletion, water scarcity and food scarcity; international environmental negotiations and treaties (1987 Montreal Protocol, 1992 Rio Convention on Biological Diversity, 1997 Kyoto Protocol etc); local environmental planning issues (Green building certification, non-motorized transportation infrastructure, rainwater harvesting, grey water recycling, urban agriculture etc.).

References:

1. *Sustainable Cities: Urban Planning Challenges and Policy, Kimberly Etingoff, Apple Academic Press*
2. *Sustainable Development Handbook, A Roosa Stephen, Fairmont Press*
3. *Sustainable Cities, David Satterthwaite, Earthscan, 2009*
4. *Environment and Development: China and India, Pachauri, R. K., TERI*
5. *Preventive Environmental Management: An Indian Perspective, Shyam R Asolekar, Centre for Environment Education*
6. *Environment and Economy, Cato Molly Scott, Routledge*
7. *Environment and Sustainable Development, Arvind Kumar, Shree Publishers*
8. *Ecology and Equity, Gadgil M. and Guha R, Oxford University Press, 2013*
9. *Environmental Law and Policy in India - Cases Materials and Statutes, S. Divan and A. Rosencranz, Oxford University Publications, 2013*

18 PLN6.4 – URBAN FINANCE

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To develop the ability of students to analyse multiple sources of urban finance for urban development.*
- *Introduce urban reforms and their implications on liquidity and application of urban finance.*

Module 1: Multiple Finance

Nature and composition of income and expenditure, limitations and need for revenue enhancements; Expenditure control methods and mechanisms; Budgetary allocation from Central and State Governments for urban development; Assistance from foreign donors and Multi National agencies; Market access; Pool finance and prerequisite conditions for accessing nontraditional funds. Multilateral and bilateral funding from international organizations. an overview of Plan and Non Plan Financing (Planning Commission and Finance Commission); Categorization of Municipal Sources of Revenue: Internal Vs. External Revenue, Capital Vs. Revenue Receipt; Municipal Finance Assessment Framework; Reforms in Municipal Finance, Rationalization of User Charges; Ring fencing; Streamlining Municipal Tax Administration • Monetary Exaction, Land Exactions, Debt Financing, PPP, Role of Financial Intermediaries, Municipal Bond, Municipal Budget - Performance Budget, Gender Budget, Fiscal Indicators – RDR, FAR and EDR, Municipal Accounting and Auditing (overview only).

Module 2: Additional Funding sources

Types of partnership approaches; Privatization of civic services; public private partnership mechanisms; Types of contracts and ownerships; Emerging cost effect technology interventions; User charged projects; Pricing of services.

Module 3: Resources Based on Achievement of Urban Reforms

Role of state government and urban local bodies; City's challenge fund; Urban reforms; Implications on resources, incentive fund and state level pooled finance development fund.

Module 4: Institutional Capacity Enhancement

Better finance management, management process; Accounting and budgeting, asset management, receivables management, cost center approach; Computerization as tool for resource enhancement; Role of Management Information Systems.

Module 5: Plan forms and Indices

Financial operating plan, city corporate plan; Development of urban indicators; Infrastructure pricing and financing – financing mechanisms in addition to tax and grants; private public partnerships like BOT, BOOT, BOLT etc.; Impact fee, subsidies.

References:

1. *Financing Cities in India: Municipal Reforms, Fiscal Accountability and Urban Infrastructure, Prasanna K. Mohanty, Sage, 2016*
2. *Municipal Finances and Service Delivery in India, ASCI, Hyderabad, 2014*
3. *Urban Public Finance in Developing Countries, Roy W. Bahl and J. Linn, Oxford University Press, 1992*
4. *Fundamentals of Municipal Finance, Joel A. Mintz and Larry A. Bakken, ABA Publishing, 2010*
5. *Municipal Finances: A Handbook for Local Governments, Catherine D. Farvacque-Vitkovic and Mihaly Kopanyi (Eds.), World Bank Publications, 2014*

18 PLN6.5 – DEVELOPMENT PLANNING

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives: *To familiarize students with the concepts, theories and models of development planning. To build upon the previous covered topics of development and develop an understanding of the issues, growth and economics of developed, developing and under-developed economies.*

Module 1: Developed, Developing and Under-Developed Economics

Characteristics, indicators and phases of development; obstacles to development; business cycles; levels of development; series of development and planning relevance of economic development in physical planning.

Module 2: Classical Theories of Development

Introduction to Adam Smith's theory, specialization and division of labor; Ricardian theory of rent; land value and quasi-rent.

Module 3: Modern Theories of Development

Keynesian revolution – innovation theory, backwash and spread effect; critical minimum effort and stages of economic growth.

Module 4: Models of Development

Balanced vs. unbalanced – dualistic approach in development; derived development; Lewis model; Harrod - Domar model; Sen's model, etc.; development models in Indian planning – first to eighth five-year plan; effectiveness of the models in Indian planning.

Module 5: Issues in Growth and Development

Planning in India – goals and objectives; targets and achievements impact, types of planning – regional disparities, population and poverty, unemployment, savings, balance of trade and payments, resource transfers and regional development, sectoral priorities and development; structural reform and its impact on growth; financing five-year plans.

References:

1. *Urban Development and Housing in India- 1947 To 2007, Rishi Muni Dwivedi, New Century Publications, 2007*
2. *Urban Development Debates in the New Millennium (Vol. 1 & 2), K.R. Gupta, Atlantic, 2005*
3. *Regional Planning – Concepts, Techniques, Policies and Case Studies, R.P. Misra, , Concept Publishing Company, 2010*
4. *Regional Planning and Development, R.C. Chandana, Kalyani Publishers, 2015*
5. *Regional Planning in India, Mahesh Chand and V.K. Puri, Allied Publishers Pvt. Limited, 2010*
6. *Regional Planning, J.G.M. Hilhorst, Rotterdam University Press, 1971*
7. *Readers' Volume on Regional Planning and Development, Abdul Qaiyum, ITPI, New Delhi, 2010*
8. *The Role of Intermediate Towns in Regional Development: A Case Study, National Institute of Urban Affairs (NIUA), NIUA, New Delhi, 2004*

18 PLN6.6 – ELECTIVES II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

a) LAND ECONOMICS & LOCATIONAL THEORY

Objectives:

- *To introduce students to the basic concepts of land economics, land and real property development, real property markets and factors that influence the locational decisions for any real property.*
- *To enable students to take decision based on the economic analysis and scenario of the real property in the markets.*

Module 1: Introduction to Land Economics

Economics concepts of land, objectives and scope of land economics; relevance for spatial planning; economic principles of land uses; economic rent, land use and land values, market mechanism and land use pattern.

Module 2: Development of Land and Real Property

Process, cost of development, source of finance, financial calculation for private developer.

Module 3: Real Property Markets

Heterogeneity and imperfections, valuation of real property – principles and practices; private ownership and social control of land; disposal of land; land development charges and betterment levy; land use restrictions, compensation and requisition taxation of capital gain on land versus public ownerships, economic aspects of land policies at various levels of decision making.

Module 4: Factors Influencing Locational Decisions

Analysis of location of specific uses like residential, industrial, commercial and institutional in the light of location theories in intra-regional and inter-regional context.

Module 5: Economic Analysis

Techniques of cost benefit analysis of urban development programme, social costs and benefits, monetization of various costs and benefits, difference between financial and economic analysis.

References:

1. *Urban Land Economics, Jack Harvey and Ernie Jowsey, Palgrave Mcmillan, 2004*
2. *Economics of Urban Property Markets: An Institutional Economics Analysis, Arvanitidis Paschalis, Routledge*
3. *Urban Economics and Real Estate Markets, Denise Di Pasquale and William C. Wheaton, Prentice Hall, 1995*
4. *Urban Planning and Real Estate Development, John Ratcliffe, Routledge, 2009*
5. *Real Estate Management, Howard L. Bliss, Charles H. Sill, Prentice-Hall, 1953*

b) REAL ESTATE PLANNING AND MANAGEMENT

Objectives: *To introduce students to the basic definitions and concepts of real estate planning and management and to provide a basic understanding of real estate markets.*

Module 1: Land as Resource

Land economics: definition, objectives and scope; Economic rent, land use and land values; Impact of economic forces on urban structure and land use pattern; Bid rent theory; Cities without land markets - use of land in socialist contexts; Regulatory frameworks determining land values and land uses.

Module 2: Real Estate Planning - Concepts and Techniques

Basis of real estate planning; Overview of real estate sectors- residential, commercial, retail, hospitality etc.; Real estate market analysis; Demand assessment and supply mapping; Competitive benchmarking.

Module 3: Financial Feasibility: Concepts and Computation

Time value of money; Concepts of cost inflation and price escalation; Components of project cost and basis of pricing of products; Compounding and discounting rates; Financial appraisal of real estate project; Rent capitalization method; Product mix derivation; Phasing of construction and sales.

Module 4: Land & Property Valuations

Valuation of real property - principles and practices; Methods of context specific valuation: depreciation/ comparative / discounted cash flow/ development method; Private ownership and social control of land.

Module 5: Policies, Programmes and Statutory Interventions

Real estate development: regulatory provisions, Government policies and programmes; Land development charges and betterment levy; Land use restrictions and compensations; Urban land management and marketing techniques: bidding, reserve price, land reservation, land price subsidies.

References:

1. *Real Estate Principles, Charles J. Jacobus, Oncourse Learning, 2013*
2. *Urban Land Economics, Jack Harvey and Ernie Jowsey, Palgrave Mcmillan, 2004*
3. *Economics of Urban Property Markets: An Institutional Economics Analysis, Arvanitidis Paschalis, Routledge*
4. *Real Estate Finance: Theory and Practice, Terrence M. Clauretie and Others, Oncourse Learning, 2009*
5. *Real Estate: Property Markets and Sustainable Behavior, Dent Peter and Others, Routledge, 2012*
6. *Urban Economics and Real Estate Markets, Denise Di Pasquale and William C. Wheaton, Prentice Hall, 1995*
7. *Real Estate Economics: A Point-to-Point Handbook, Nicholas G Pirounakis, Routledge, 2012*
8. *Urban Planning and Real Estate Development, John Ratcliffe, Routledge, 2009*

c) PPP IN URBAN DEVELOPMENT

Objectives: *To develop the ability of the students to profile the risk, constraints and preconditions of PPP projects, evaluate a PPP project, list the steps in the development and implementation of PPP projects and workout the bankability of a PPP project.*

Module 1: PPP in Urban Development

Salient features of urban services; PPP – indispensability; PPP – risk profile, constraints and preconditions; Overview of best PPP practices in urban development.

Module 2: PPP – Various Forms

Various forms of PPP – management contract, service contract, lease, divestiture and concessions; Strengths and weaknesses of each form of PPP.

Module 3: Promoting PPP

Advantages of collaboration; Methods of promoting effective participation.

Module4: PPP – Principles and Guidelines

Cardinal principles in PPP; Regulations and guidelines for PPP; Development of project proposal; Due diligence process; Competitive bidding process and documentation (EOI, RFQ, PIM, DCA, RFP); Regulatory authority; Transaction Adviser; Survey of PPP policies.

Module5: Financing PPP projects

Bankability of PPP project; Equity investment; Refinancing; Sources of PPP funding.

References:

1. *Public Private Partnership in Infrastructure: Perspectives, Principles, Practices, R. N. Joshi, Vision Books*
2. *Public-Private Partnership Projects in Infrastructure: An Essential Guide for Policy Makers, Jeffreyrs Delmon, Cambridge University Press*
3. *Public-Private Partnerships, G. Ramesh (Ed.), Routledge*
4. *Public Private Partnerships Approach, Rakesh Ranjan, Adhyayan Publishers*
5. *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries, Philippe Marin, World Bank*
6. *PPP in Urban Infrastructure: Case Studies, Ministry of Urban Development, Ernst & Young Pvt. Ltd. 2010*
7. *Policy, Management and Finance for PPP, Akintola Akintoye and Others, John Wiley & Sons, 2012*
8. *Public-Private Partnership in Urban Development, Girish Kumar and Guru Charan Mathur, Intellectual Book Corner, 1997*
9. *Urban Models and Public-Private Partnership, Remo Dalla Longa (Ed.), Springer-Verlag Berlin Heidelberg, 2011*
10. *Public Private Partnerships: A Global Review, Akintola Akintoye and Others (Eds.), Routledge, 2015*

18 PLN6.7 – PLANNING STUDIO- DEVELOPMENT PLAN

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS: 200
VIVA MARKS:200

Objectives:

- *To develop an understanding of students about the various types and hierarchy of urban plans, their characteristics and contents.*
- *To develop an ability of students to prepare base map of the planning area featuring all physical elements, undertake demographic and economic projection, carry out envisioning exercise with the stake holders and to evolve with development policies; land use plan, priorities and implementation mechanism for a selected urban area.*

1. The study for this studio exercise shall be limited to the preparation of a comprehensive development plan of a small town; the programme may carry a predetermined focus such as planning for tourism, energy conservation, heritage conservation etc. The studio programme is designed to expose the student to:

    i. Study and establish appropriate planning standards, techniques of population projection, Identification of the data to be collected and the sources thereof, organizing surveys and collecting socio-economic, traffic and other data.

    ii. Projecting the future with different scenarios and identification of 'action areas' (i.e., specific problems related with housing, services, circulation, etc.).

    iii. Preparation and presentation of all relevant drawings and reports of complete comprehensive development plan proposal.

NOTE:

Following the closure of the 6th semester academic session, each student would be required to undertake a Six-week professional training, during summer vacations, in an organization duly approved by the training coordinator of the Department of Physical Planning. The work undertaken during this training shall be presented by the students in the training seminar organized as part of the 'Dissertation and Training seminar' course in the 7th semester.

References:

1. *Urbanisation in India: Challenges, Opportunities and the Way Forward, Isher Judge Ahluwalia and Others (Ed.), Sage India, 2014*
2. *Urbanisation and Urban Systems in India, R. Ramchandran, Oxford University Press, 2012*
3. *Spatial Planning and Urban Development: Critical Perspectives, Palermo Pier Carlo, Springer, 2010*
4. *Urban Pattern: City Planning and Design, Gallion, Arthur B., New Delhi CBS Publishers, 2005*
5. *URDPFI Guidelines (Volume I and II), Ministry of Urban Development, Government of India, 2015*
6. *Urban Planning, T. B. Levent, (Ed.), Cheltenham Edward Elgar Publishers, 2008*
7. *Concept Mapping for Planning and Evaluation, Mary KaneWilliam and M. K. Trochim, Sage Publications, 2007*
8. *Land Use Planning: Techniques of Implementation, Theodore William Patterson, Van Nostrand Reinhold, 1979*
9. *Environmental Consciousness and Urban Planning, Mahesh N. Buch, Stosius Inc/Advent Books Division,1993*

18 PLN7.1 – PLANNING FOR REGIONS

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To develop an understanding of the students about the regions, regionalization, growth of regions and their nature, types and structure using case studies.*
- *To introduce students to the regional planning process and manner of preparation of regional plans*.

Module 1: Regions

Types of regions, delineation of regions, city region, structure of city region, area of influence and dominance, shadow regions, Trickle down effects, rural – urban fringe, its structure and growth.

Module 2: Spatial Distribution of Settlements

Settlement in regional; context; spatial models of location, size and spacing of settlements; Central Place Theory; Characteristic of rural – urban fringe; rural– urban continuum; inter – urban inequalities; Regional interaction: Rank Size Rule, Settlement patterns and analysis; Loschian theory; Regional networks.; Gravity model, classification of settlements. Delineation of Regions, institutional scalogram.

Module 3: Regional Developments

Regional development; Balanced and unbalanced development; Underdevelopment; Regional multiplier, input-output model; Cumulative causation theory; Core-periphery model; Growth poles and centers.

Module 4: Planning Processes

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, plan implementation, etc. Selected case studies in regional development.

Module 5: Rural Planning

Village as an organic entity; physical, social, and economic structure of village; village problems. Transhumane, accessibility of village, inter-village communication, delivery of social services, rural reconstruction and related programmes, improvement of rural sanitation, hygiene and drainage; panchayati raj institutions; district, block and village administration, Rural Planning in Relation to National and Regional Policies.

References:

1. *Regional Planning, David A. Plane, (Ed.), Cheltenham Edward Elgar, 2008*
2. *Research Methods in Urban and Regional Planning, Xinhao Wang and Rainer Hofe, Springer, 2007*
3. *Regional Planning – Concepts, Techniques, Policies and Case Studies, R.P. Misra, , Concept Publishing Company, 2010*
4. *An Introduction to Regional Planning, John Glasson and Tim Marshall, Routledge, 2007*
5. *Regional Planning and Development, R.C. Chandana, Kalyani Publishers, 2015*
6. *Regional Planning in India, Mahesh Chand and V.K. Puri, Allied Publishers Pvt. Limited, 2010*
7. *Regional Planning, J.G.M. Hilhorst, Rotterdam University Press, 1971*
8. *Geography: Realms, Regions and Concepts, Harm J. De Blij and Others, Hoboken, 2014*
9. *Readers' Volume on Regional Planning and Development, Abdul Qaiyum, ITPI, New Delhi, 2010*

18 PLN7.2 – PLANNING LEGISLATION - I

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives: *To enable students to distinguish between ordinance and Act, bill and Act, relate an urban affair to the relevant statute and refer to the legislative provisions for different aspects of urban planning.*

Module1: Concept of Law

Sources of law (custom, legislation and precedent); meaning of the term of law, legislation, ordinance, bill, act, regulations and bye-laws; significance of law and its relationship to urban planning; benefits of statutory backing for planning schemes;(Subject specific legislation, e.g., Environmental Protection Act, National Disaster Management Authority Act etc. shall be taught under the respective subjects).

Module2: Indian Constitution

Concepts and contents of Indian Constitution; Rights and their implication on planning; Fundamental provisions regarding property rights; evolution of planning legislation and overview of legal tools connected with urban planning and development; model town planning laws.

Module 3: Statutory Framework for Planning and Development Law

Evolution of town planning legislation, town planning laws, town planning as a state subject, 73rd and 74th amendment and its implications for planning law, current amendments in planning and development laws.

Module 4: Statutory Framework for Land Acquisition and Assembly

Laws related to land assembly by public and private parties. Land acquisition legislations, eminent domain, police powers and concept of public purpose. Case studies highlighting nature of contention, parties in dispute and the decisions in specific planning disputes.

Module 5: Legislation: Urban Planning

Model Town and Country Planning Acts, Urban Development Authority Acts, Housing Board Acts, Slum Improvement Acts etc. Inventory of different statutes pertinent to urban affairs; Cataloguing of urban statutes across different aspects of urban planning.

References:

1. *Introduction to the Constitution of India, DurgadasBasu, Lexis Nexis, 2015*
2. *Model Municipal Act, Ministry of Urban Development, Government of India*
3. *Model Town and Country Planning Act, TCPO, Govt. of India*
4. *Planning Legislation, U.C Shah, Suvidha Law House Pvt. Ltd., 2015*

18 PLN7.3 – POLITICS, PLANNING AND DEVELOPMENT

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives: *To develop an understanding of students about the Political Systems and Social Systems in India, governance arrangement and policies in India and abroad, issues and conflicts related to implementation of plans and projects and examples of cases of resolving the conflicts.*

Module 1: Political Systems, Social Systems and Planning

Democracy and planning, socialism and planning, fascism and planning; tribal society, peasant society, industrial society, spatial segregation in India.

Module 2: Governance Arrangements

Politics and governance arrangements that enable and constrain effective urban planning action, governance structures (centralized versus decentralized states, local versus regional versus national authorities, participatory budgeting, etc.) and political conditions (democracy versus authoritarianism, neoliberal versus corporatist versus leftist party politics, social movements), implications of governance arrangements in different political contexts to achieve social justice and equity.

Module 3: Politics of Policies

Politics of policy formulation, examples from transportation, housing, informal vending, economic and other policies drawn from Latin America, South Asia, and East Asia.

Module 4: Politics of Projects

Politics of Infrastructural Provision, Political Competition for infrastructure provision and politics in project spending, issues related to project politics- examples and case studies of projects of different sectors in India.

Module5: Conflicts and contestations

Nature and mode of resolution of conflicts; public participation in planning as an aid to better understanding planning and implementation; political nature of planning and implementation problems in India; examples from the other parts of the world highlighting situations where such problems have been minimized.

References:

1. *Indian Government and Politics, Dr. B. L. Fadia, Sahitya Bhawan Publications*
2. *New forms of Urban Governance in India, I.S.A Baud and JoopdeWit, SAGE India, 2009*
3. *The Politics of Urban Redevelopment, Ajay K. Mehta, SagePublications, 1991*
4. *Cityscapes and Capital: The Politics of Urban Development, Michael A. Pagano, John Hopkins University Press, 1997*

18 PLN7.4 PLANNING COMMUNICATION - III

CONTACT PERIODS : 3 (1 Lecture+ 2Pract/Tutorials) per week
PROGRESSIVE MARKS: 50

Objectives: *To introduce students to the advanced writing skills, leadership qualities and methods and ways of mediation and conflict resolution.*

Module 1: Written Communication – Report Writing

Writing Skills; Selection of topic, thesis statement, developing the thesis; introductory, developmental, transitional and concluding paragraphs, linguistic unity, coherence and cohesion, descriptive, narrative, expository and argumentative writing. Report writing, Type; Types of reports, difference between technical, scientific, legal and other types of communication; specific characteristics of writing technical reports. Format of Reports Preface, acknowledgements, contents, indexing, key word indexing, introduction, body terminal section, appendices, references.

Module 2: Written communication - Other writing requirements

articles and manuals; Planning and preparation of technical articles for publications; Popular articles; Formal letters and specifications: Business and official letters, styles and formats; Requests for specifications and other types of business enquiries; Replies to bidding for tenders and conduct of meetings; Agendas and minutes of official records and meetings.

Module 3: Leadership

Meaning, Nature and Functions, Leadership styles in organization, Decision Making Decision-making; definition, features, factors, essentials and hindrances in sound decision-making; structure of decisions and types of decisions; approaches to study leadership; trait-approach, behavioral approach and situational approach; Leadership in Teams, Meaning and Nature, Types of power, Relevance in organization and Society. This unit could be covered in workshop format.

Module 4: Mediation and Conflict Resolution

Nature of conflict, conflict management and resolution techniques.

References:

1. *Guide to Report Writing, Netzley, Pearson Education India, 2010*
2. *How to Write Reports and Proposals, Patrick Forsyth, Kogan Page, 2013*
3. *Report Writing, Joan Van Emden and Jennifer Easteal, Nelson Thornes Ltd., 1993*
4. *The Handbook of Communication Skills, Owen Hargie, Routledge, 2006*
5. *Technical Writing, Presentational Skills and Online Communication, Greenlaw, Raymond, Idea Group, U.S., 2012*
6. *Leadership: Theory and Practice, Peter Guy Northouse, Sage Publication, 2012*

18 PLN7.5– DISSERTATION AND TRAINING SEMINAR

CONTACT PERIODS : 3 (Studio) per week
PROGRESSIVE MARKS: 150

Objectives:

- *To introduce students to the research methods and process of formulating a dissertation, upon completion of the course the students should know the process to review literature, find research gap, be able to formulate aims and objectives, frame the research questions, define the scope and limitations, finalize the data requirement, and write a write the synopsis with aim, objectives, methodology, scope and limitations.*
- *To review the work taken up by the students during their training.*

Module 1: Dissertation

Purpose of Dissertation is to introduce to the students to research methods and to develop competencies to critically examine a topic of their interest and present it. This will be a preparatory stage for the terminal /thesis Project. The purpose is to take students from a point at which they have general ideas about their topic for terminal/thesis project and develop research questions, structure, research strategy and present critical analysis of existing literature review on the topic.

Module 2: Training

Each student shall undertake Training in a planning (or related) office during summer vacation between the Sixth and Seventh semester. The period of Training will be six weeks. The exact period and place of training will be decided in consultation with the Coordinator-in-charge of training. The objective of Training is to expose the students to live planning projects and working environment in planning offices.

Module 3: Training Seminar

Detail guidelines for the training seminar presentation will be provided by the Training coordinator.

References:

1. *Research Methods in Urban and Regional Planning, Xinhao Wang and Rainer Hofe, Springer, 2008*
2. *Researching the City: A Guide for Students, Kevin Ward, Sage, 2014*
3. *Research Methods in the Social Sciences, B. Somekh and C. Lewin, Vistaar, 2009*
4. *Research Methods, John Adams and Others, Sage, 2012*
5. *Research Methodology: Methods and Techniques, D.R. Kapoor, Regal Publishers, 2013*
6. *Research Methods: The Basics, Nicholas Walliman, Routledge, 2015*

18 PLN7.6– ELECTIVES III

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS: 100
DURATION OF EXAM: 3 Hrs.

Detailed structure for electives will be developed periodically depending on the interest of the students. In this semester this will cover subject areas of planning for rural settlements/ water resources management/ sustainable urban development. However, elective can be offered by the faculty on other areas of interest too with the approval of the Board of Studies.

a) PLANNING FOR RURAL SETTLEMENTS

Objectives: *To develop the ability of students to profile different features of a rural settlement, to analyze the economic profile of a rural settlement, explain methods for natural resource management and plan for rural infrastructures.*

Module 1: Understanding the Rural Settlement

Demography, physiography and the socio - economic structure of rural settlements; Infrastructural profile of rural settlements; Constraints for rural development.

Module 2: Rural Economy

Rural livelihood and its diversification; Profiling rural economy; Increasing shift to rural non-farm sector; Developmental challenges.

Module 3: Natural Resource Management

Soil conservation, wet land management flood plain zoning; Water management: rain water harvesting, watershed development; Integrated energy management- harnessing renewable energy; Forest resource management.

Module 4: Infrastructural Intervention

Community driven rights-based development; Rural marketing and mobility: the last mile distribution; Development of market and warehouse; Rural housing and sanitation.

Module 5: Rural Governance and Resource Envelope

Structure of rural governance; Powers and functions of gaonsabhas and gaon panchayat; Mapping rural development schemes.

References:

1. *Rural Development: Concept and Recent Approaches, Sujit Kumar Paul, Concept Publishing, 2015*
2. *Rural Infrastructure, S.B. Verma and Others (Eds.), Sarup and Sons, 2008*
3. *Village Information System for Development Planning, H.R. Yadav (Ed.), Concept Publishing, 2013*
4. *Rural Development in the Era of Globalization, B. Suresh Lal, Serial Publications*
5. *Rural Housing: Policies and Practices, Bhaskar Majumder, Rawat Publications, 2007*
6. *Rural Resource Management, Paul J. Cloke (Eds.), Routledge, 2014*
7. *Rural Development, Principles, Policies and Management, Katar Singh, Sage Publication, 2010*

b) WATER RESOURCES MANAGEMENT

Objectives: *To develop the ability of the students to profile the scenario of water critical urban habitat, refer to the statutory provisions of preventing water pollution, assess the techno - environmental and socio-economic aspects of surface and ground water management, list the demand and supply side management of urban water and interpret the dynamics of water trading and water pricing.*

Module 1: Introduction

Sources and Uses of water (primary, secondary and tertiary sector uses); Concept of virtual water; Health and environmental concerns of availability and quality of water resources.

Module 2: Crisis in Water Resources

Water crisis and water stress; Protection of aquifers; Water rights and its legal implications; Politics of water sharing.

Module 3: Legislation on Water

Statutes governing water resources; Legislation for preventing water pollution; Institutions managing water resources.

Module 4: Water Resource Augmentation

Infrastructure for annual and multi-year flow regulation, multi-purpose storage; Protection of water quality and water source; An overview of dam projects; desalination techniques; modern water augmentation techniques.

Module 5: Water Management Strategies

Integrated surface and ground water management from socio – economic and techno – environmental perspectives; An overview of inter territorial water sharing; Water demand management, Water conservation measures; An overview of water trading, security, auditing and pricing.

References:

1. *Water Resources Planning and Management, R. Quenth Grafton and Karen Hussey, Cambridge University Press, 2011*
2. *Geography of Water Resources, R.K. Gurjar, Rawat Publications,*
3. *Water Resource System Planning and Management, Sharad Kumar Jain and Vijay Pratap Singh, Elsevier, 2012*
4. *Water Resources Management: Principles, Regulations, and Cases, Neil S. Grigg*
5. *Water Resources and Development, Clive Agnew and Philip Woodhouse, Routledge, 2011*
6. *Role of Technology in Water Resources Planning and Management, Perez, Elizabeth M. (Ed.), Virginia ASCE, 2009*
7. *Integrated Water Resources Management, Miguel A. Marino, International Association of Hydrological Sciences, 2001*
8. *Water Law, Poverty and Development: Water Sector Reforms in India, Cullet Philippe, Oxford University Press*

c) SUSTAINABLE URBAN DEVELOPMENT

Objectives:

- *To develop an understanding of the students about the concept sustainable development, need of sustainable development, methods and techniques for sustainable development.*
- *To develop ability of students to apply better means to conserve land and energy resources, manage water, air and waste for sustainable development.*

Module 1: Concept and Issues

Changing perspectives in man-environment relationship with focus on issues of population, urbanization, resource depletion and pollution; Limits to growth vis-a-vis sustainable economy; Growth and environmental imperatives of developing vs. developed countries; Definitions, concepts and parameters in sustainable development with particular reference to Brundtland Commission, Agenda 21, Eco-City approach, etc.

Module 2: Methods and Techniques

Application of ecological principles in sustainability energy and resource cycles, food webs, ecological pyramids and evolution and succession of natural ecosystems; Carrying Capacity based planning: concept, parameters and indicator measures, models and case studies in urban and regional development; Environmental impact and strategic environmental assessment for urban areas; Ecological footprint analysis of cities; Sustainable lifestyle assessment and behavioral modifications at household levels.

Module 3: Land, and Energy Resources

Land capability and suitability analysis in location and planning of urban land uses; Implications of urban form, density, land use pattern and transportation system in land and energy conservation.

Module 4: Role of Water

Urban interference in hydrological cycle, with particular reference to water pollution, water resources, drainage and natural ecosystems; Urban water treatment, recycling and harvesting; Use of non-conventional energy sources in urban development.

Module 5: Air Quality & Solid Waste Management

Sources, types and effects of air pollution and solid waste disposal in cavities, urban industrial processes and land use and transportation implications in air and solid waste pollution; Norms, standards, laws, organizations and policies in urban air quality control and solid waste management; Examples of best practices.

References:

1. *Sustainable Cities for the Third Millennium: The Odyssey of Urban Excellence, Mega Voula, Springer*
2. *Sustainable Cities: Urban Planning Challenges and Policy, Kimberly Etingoff, Apple Academic Press*
3. *Sustainable Development Handbook, A Roosa Stephen, Fairmont Press*
4. *Sustainable Cities, David Satterthwaite, Earthscan, 2009*
5. *Sustainable Energy Management, Golusin Mirjana, Elsevier*
6. *Environment and Sustainable Development, Arvind Kumar, Shree Publishers*
7. *Environmental Concerns and Sustainable Development: Some Perspectives from India, SakaramaSomayaji, TERI Press*
8. *Sustainable Practices in the Built Environment, Craig Langston (Ed.), Butterworth-Heinemann, 2001*

18 PLN7.7 – PLANNING STUDIO- REGIONAL PLAN

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS: 200
VIVA MARKS:200

Objectives:

- *To develop an understanding of the students about the Role and Relevance of Regional Planning.*
- *To study District / Metropolitan Area / Regional Development Policies and Land Utilization Plan along with Phasing, Monitoring Mechanism, and Governance Structure for Implementation and prepare a plan for the regional development.*

1. Understanding the role and relevance of regional planning; state of art, role of planning at district and sub district level, critical appraisal of district/ sub district plans.

2. Formulation of goals, objectives, methodology, identification of data sources, analysis of data available, survey and preparation of schedules. Field work: visit to the field study area; conducting surveys, collection of data from secondary sources, sectorally and block wise.

3. Detailed data analysis, identification of potential thrust areas and development issues, both sectorally and block wise.

4. Appropriate alternate strategy planning, settlement development strategy and programmes.

5. Formulation of sectoral prioritization and financial allocation (block wise); final recommendations for a district/sub district development plan.

References:

1. *Regional Planning, David A. Plane, (Ed.), Cheltenham Edward Elgar, 2008*
2. *Research Methods in Urban and Regional Planning, Xinhao Wang and Rainer Hofe, Springer, 2007*
3. *Regional Planning – Concepts, Techniques, Policies and Case Studies, R.P. Misra, , Concept Publishing Company, 2010*
4. *An Introduction to Regional Planning, John Glasson and Tim Marshall, Routledge, 2007*
5. *Regional Planning and Development, R.C. Chandana, Kalyani Publishers, 2015*
6. *Regional Planning in India, Mahesh Chand and V.K. Puri, Allied Publishers Pvt. Limited, 2010*
7. *Regional Planning, J.G.M. Hilhorst, Rotterdam University Press, 1971*
8. *Geography: Realms, Regions and Concepts, Harm J. De Blij and Others, Hoboken, 2014*
9. *Readers' Volume on Regional Planning and Development, Abdul Qaiyum, ITPI, New Delhi, 2010*

18 PLN8.1 – PLANNING PRACTICE - II

CONTACT PERIODS : 4 (2Lecture + 2 Pract/Tutorials) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives:

- *To introduce students to the planner's institutional responsibility and accountability towards clients.*
- *To enable them to formulate project proposals, initiate and execute the bidding process, negotiate and resolve conflicts, accomplish consensual decision making and follow the code of professional conduct.*

Module 1: Ethical Planning Practice

Human values and moral reasoning, Planning practice and ethical dilemmas, resolution of ethical dilemmas, code of professional conduct, public sector planner and conduct rules.

Module 2: Professional Bodies and Responsibilities

Aims and objectives of professional institutes, sister bodies; Responsibilities towards clients, fellow professionals and general public.

Module3: Professional Engagement and Office Administration

Tenders, Contracts, Formulation of Project Proposals, Acquaintance with bidding process, Professional fees for different types of planning practice, setting up of planning firms, official correspondence, office management practices.

Module 4: Deliberative Practice

Conflicts Resolution: Nature of conflicts, pre-empting conflicts and conflict resolution measures; Instruments of negotiation: Information Based and principal-based negotiation Learning from stories, listening, argumentation, power, politics and planning, deliberative and participatory planning.

Module 5: Planning Engagement

Study of decision making, role of different interest groups, deliberation and negotiation large planning project or policy modification requiring approvals, Relationship with client, developers, institutions and other professionals.

References:

1. *Planning Support Systems: Best Practice and New Methods, S. Geertman, Springer*
2. *Applying Leadership and Management in Planning: Theory and Practice, Janet Morphet, Policy Press, 2015*
3. *The Pragmatic Planner: Social Change and The Role of Town Planning, Gary Peacock, University of New South Wales, 1979*
4. *Professional Practice, K.G. Krishnamurthy and S.V. Ravindra, PHI Learning Pvt. Ltd., 2014*
5. *Planning Ethics: A Reader in Planning Theory, Practice and Education, Sue Hendler, Center for Urban Policy Research, 1995*
6. *Investigating Town Planning: Changing Perspectives and Agendas, Clara Greed, Routledge, 1996.*

18 PLN8.2 – PLANNING LEGISLATION - II

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Objectives: *To develop an understanding among students about the comprehensive plan, Planning Law and its interface with other laws affecting development, authorities and organizations which implements plan and case studies related to laws implemented in India and abroad.*

Module 1: Comprehensive Plan as a Law

Statutory nature of comprehensive plan and its implications, Modifications, Case laws related to matters related to plan preparation, implementation and enforcement. Laws related to plan participation, Concept of Arbitration, Betterment levy, development charges and public participation in Statutory planning process.

Module 2: Planning Law and its interface with other laws affecting development

Current laws related to environment, conservation, heritage, housing, real estate, property law and their interaction with planning law. Other Acts at a particular time for e.g. Special investment region acts, model community participation law.

Module 3: Organizations for Plan Implementation

Special purpose bodies for plan implementation such urban/metropolitan development authorities, improvement trusts, water and sewerage boards, housing boards, slum improvement/clearance boards, transport undertakings; regional development boards.

Module 4: Case Law related to Change of Use

Case laws related with Zoning, Planning Permissions and Building Permission. Identification of land use conflict and methods of resolution- Examples and Case Studies.

Module 5: Legal and administrative aspects: National and international experience

National and international experience implementing urban programs. Legal and administrative aspects of all sectors. Case studies of proposals for acts concerned with urban development in India and abroad.

References:

1. *Planning Legislation, U.C Shah, Suvidha Law House Pvt. Ltd., 2015*
2. *Planning Legislation and Professional Practice, ITPI, New Delhi*
3. *UDPFI Guidelines Volume – 2A, GoI, ITPI, New Delhi, 1996*
4. *Law and Urban Land Bijlani, H.U. and Balachandran*
5. *Constitution of India:Constitution (73rd and 74thAmendment) Acts 1992, GoI*
6. *Model Rect Control Legislation, GoI*
7. *Indian Contract Act; The Arbitration and Conciliation* Act 1996, GoI
8. *Land Acquisition Act 1894 and Amendments thereof, GoI*

18 PLN8.3 – ELECTIVES IV

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS: 50
THEORY MARKS:100
DURATION OF EXAM: 3 Hrs.

Electives in this semester may cover any of these; urban renewal & redevelopment/ disaster risk management/climate change and human settlements depending on the interests of the students. Other electives can also be offered by the faculty with approval of the Board of Studies. Detailed subject contents will be separately developed periodically.

a) URBAN RENEWAL & REDEVELOPMENT

Objectives: *To develop the ability of the students to identify the built forms, land parcels and historic neighbourhoods for redevelopment, assess the form, extent and direction of planning interventions for redevelopment, workout a planned layout for the existing slums and refer to the statutory provisions for redevelopment.*

Module 1: Introduction

Urban redevelopment / renewal /reconstruction / regeneration – definitions and distinctions; Urban redevelopment as a part of urban plan; Identification of areas to be redeveloped; Conservation, rehabilitation and redevelopment – the interrelationship.

Module 2: Economic, Financial and Management Aspects

Economic and spatial implications of urban renewal programs; Mobilization of resources; Urban renewal through Incentive zoning.

Module 3: Urban Conservation and Development

Understanding the context of both built heritage and historic neighbourhoods; Conservation: socio-economic and traffic management aspects; Redevelopment of brown fields; Heritage conservation - case studies.

Module 4: Housing Redevelopment

Issues of old, dilapidated, vacant stock; Infrastructure inserts in old city area and augmentation of services; land management; FSI utilisation and re-densification/de-densification issues; socio- economic issues; gentrification and de-gentrification; public participation; Convergence of government schemes.

Module 5: Legal and Administrative Aspects

Implementation of urban renewal programs – an overview of national and international experiences; Legal and administrative aspects: archaeological acts/ charters and institutional mechanism in urban redevelopment and conservation in India.

References:

1. *Re-visioning Indian Cities: The Urban Renewal Mission, K. C. Sivaramakrishnan, Sage, 2011*
2. *Urban Renewal: Theory and Practice, Chris Coch, Palgrave Macmillan, 1990*
3. *Urban Redevelopment, N. Balakrishna Reddy, Concept Publishing Company, 1996*
4. *Reclaiming the Urbanism of Mumbai, Kelly,Shannon (Ed.), Super Books, 2009*
5. *Urban Redevelopment: Past and Present, Kevin Fox Gotham, Volume 6, Elsevier Science Ltd., 2001*
6. *Urban Redevelopment: A Study of High-rise Buildings, K. Narayan Reddy, Concept Publishing Co., 1996*

b) DISASTER RISK MANAGEMENT

Objectives: *To develop the ability of the students to refer to and relate with the clauses of NDM Act, propose disaster sensitive land use plan, recommend disaster compliant building bye laws, create resource / social / vulnerability / opportunity map, prepare disaster vulnerability index.*

Module 1: Disaster Management: Definition, Types and Policy Intervention

Disaster: definition and types; Disaster risk, vulnerability, hazards; National Disaster Management Act 2005; National Disaster Management Policy 2009; Sendai Framework for Disaster Risk Reduction 2015.

Module 2: Disaster Management: Institutional Mechanisms

Disaster management: select global practices; Institutional set up for disaster management in India: NDMA, NIDM, and state / district level agencies; Agencies engaged in disaster management: NGOs / CBOs, NDRF; Community Based Disaster Preparedness (CBDP).

Module 3: Disaster Risk Mitigation

Disaster risk mitigation and management practices: for cyclones, floods, earthquakes, landslides etc.; Disaster mitigation and management practices: for industrial, chemical and biological disasters; Disaster risk mitigation and management practices: land use planning, building bye laws and disaster compliant building design.

Module 4: Disaster Preparedness

Forecasting and early warning systems for various types of disasters; Communication and information technology in disaster management; Disaster education and awareness; Documentation of disasters; Mapping in disaster management: resource map, social map, vulnerability map and opportunity map**.**

Module 5: Post Disaster Management and Cross Cutting Issues

Rehabilitation and reconstruction of disaster affected areas; Natural resource management for disaster prone areas.

References:

1. *Displaced by Disaster: Recovery and Resilience in A Globalizing World, Ann-Margaret Esnard, Routledge*
2. *Disaster Recovery, Brenda D. Phillips, CRC Press*
3. *Cities, Disaster Risk and Adaptation, C. Wamsler, Routledge, 2014*
4. *National Disaster Management Plan, Govt. of India, 2016*
5. *National Policy on Disaster Management, Govt. of India, 2009*
6. *Disaster Management, Vinod K. Sharma (Ed.), Scientific International, New Delhi*
7. *Disaster Management Through Panchayati Raj, Kamal Tayori, Concept Publishing Company, New Delhi*
8. *Disaster Management Handbook, Jack Pinkowski, (Ed.), CRC Press, 2008*
9. *Disaster Risk Management: Conflict and Cooperation, Suman Ranjan Sensharma and Atanu Sarkar, Concept Publishing Company, 2013*
10. *Learning from Disaster: Risk Management After Bhopal, Sheila Jasanoff, University of Pennsylvania Press, 1991*

c) CLIMATE CHANGE AND HUMAN SETTLEMENTS

Objectives: *To develop the skills of students to appreciate the role of settlements in climate change mitigation, understand and address the impacts of climate change through application of adaptation strategies to contribute in planning for climate resilient development.*

Module 1: Understanding Climate Change

Greenhouse Gases, Anthropogenic causes, Carbon Cycle, Global Warming, Inventory of GHGs, Urban Heat Islands.

Module 2: International and National Efforts

United Nations Framework Convention on Climate Change, Conference of Parties, Kyoto Protocol, Intergovernmental Panel on Climate Change, National Communication Process, Indian Network of Climate Change Assessment, Global Environment Facility, Clean Development Mechanism.

Module 3: Role of Human settlements

Contribution to GHGs, Sectoral Contributions, Mitigation Possibilities, Low Carbon Settlements.

Module 4: Impacts of Climate Change

Climate as forcing Variable, Locational Attributes, Sensitivity and Vulnerability of different sectors, Extreme events and their effects.

Module 5: Adaptation Strategies

Resilience, Threshold variables, Risk Avoidance, Risk Mitigation, Risk Coverage, Mitigation and Adaptation Linkage, Case studies of Adaptation approaches.

References:

1. *Climate Change – Causes, Effects and Solutions, Hardy T John, Wiley, 2003*
2. *Climate Change - An Indian Perspective, Sushil Kumar Dash, CEE, 2007*
3. *Adapting Cities to Climate Change, Jane Bicknell and Others, Earthscan, 2010*
4. *Climate Change and Global Sustainability: A Holistic Approach, Akimasa Sumi and Others (Eds.), UNU 2011*
5. *Climate Change and Sustainable Cities, Priemus Hugo and SiminDavoudi, Routledge, 2014*
6. *Climate Change and New Challenges: Society, Environment and Development, Vir Singh and G. S. Kushwaha, Concept Publishing Company ,2012*
7. *Climate Change in Asia and The Pacific: How Can Countries Adapt? Venkatachalam Anbumozhi (Ed.), Sage*
8. *Resilient Cities: Cities and Adaptation to Climate Change, Konrad Otto-Zimmermann (Ed.), Springer, 2012*
9. *Climate Resilient Development, Astrid Carapatoso and Edith Kurzinger, Routledge, 2014*
10. *Spatial Planning and Climate Change, Elizabeth Wilson and Jake Piper, Routledge, 2010*

18 PLN8.4 – TERMINAL PROJECT/ THESIS

CONTACT PERIODS : 18 (Studio) per week
PROGRESSIVE MARKS: 400
VIVA MARKS:400

Objectives: *To develop skills of students to write a thesis identifying and analyzing the issues following research principles and suggest planning imperatives.*

Each student of Bachelor of Planning is required to prepare terminal project on a subject concerning urban, rural or regional development on an approved topic finalized through discussion within the department. The terminal project will provide an opportunity to the student to synthesize the knowledge and skills acquired through the learning of various theories and practices during the course. The students will be required to present their work orally, graphically and through written report. The student will also be required to present her thesis before the external jury appointed by the concerned University / Institute / School.

References:

1. *Research Methods in Spatial Planning: A Case-Based Guide to Research Design, Elisabete Silva and Others (Ed.) Routledge, 2014*
2. *Research Methods in Urban and Regional Planning, Xinhao Wang and Rainer Hofe, Springer, 2008*
3. *Researching the City: A Guide for Students, Kevin Ward, Sage, 2014*
4. *Research Methods in the Social Sciences, B. Somekh and C. Lewin, Vistaar, 2009*
5. *Research Methods, John Adams and Others, Sage, 2012*
6. *Research Methodology: Methods and Techniques, D.R. Kapoor, Regal Publishers, 2013*
7. *Research Methods: The Basics, Nicholas Walliman, Routledge, 2015*