BACHELORS OF PLANNING

B.PLAN

TEACHING AND EXAMINATION SCHEME

WITH

DETAILED SYLLABUS

Visvesvaraya Technological University
"Jnana Sangama"
Belagavi : 590018
Karnataka, India.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF I SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 1.1	Fundamentals of Urban and Regional Planning	3	-	-	3	3	100	50	-	-	150	3
2	17 PLN 1.2	Planning Techniques - I	3	-	-	3	3	100	50	-	-	150	3
3	17 PLN 1.3	Culture and cities	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 1.4	Computer Applications	1	-	2	3	-	-	50	-	-	50	2
5	17 PLN 1.5	Planning Communication - I	-	2	2	4	-	-	50	-	-	50	2
6	17 PLN 1.6	Quantitative Methods for Planners	2		1	3	3	100	50	-	-	150	3
7	17 PLN 1.7	Planning Studio - I	-	12	-	12	-	-	300	150	-	450	8
8	17 HUM 1.8	Language (Kannada)	2	-	-	2	-	-	50	-	-	50	2
		TOTAL	14	14	5	33		400	650	150	-	1200	26
PLA = Planning Subjects HUM = Humanities Subjects.													
No. of Subjects/Heads = 8 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF II SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 2.1	Cities in History	3	-	-	3	3	100	50	-	-	150	3
2	17 PLN 2.2	Introduction to Social Sciences	3	-	-	3	3	100	50	-	-	150	3
3	17 PLN 2.3	Economics for Planners	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 2.4	Site and Land Development	3	-	-	3	3	100	50	-	-	150	3
5	17 PLN 2.5	Planning Communication II	-	4	-	4	-	-	50	-	-	50	2
6	17 PLN 2.6	Geo Informatics for Planning I	1	-	2	3	3	100	50	-	-	150	3
7	17 PLN 2.7	Planning Studio II	-	12	-	12	-	-	300	200	-	500	8
		Total	13	16	2	31	-	500	600	200	-	1300	25
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF III SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 3.1	Planning Theory I	3	-	-	3	3	100	50	-	-	150	3
2	17 PLN 3.2	Planning Techniques II	4	-	-	4	3	100	50	-	-	150	3
3	17 PLN 3.3	Transportation Planning I	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 3.4	Infrastructure Planning I	3	-	-	3	3	100	50	-	-	150	3
5	17 PLN 3.5	Ecology and Resource Planning	3	-	-	3	3	100	50	-	-	150	3
6	17 PLN 3.6	Geo Informatics for Planning II	1	-	2	3	-	-	50	-	-	50	2
7	17 PLN 3.7	Planning Studio-Land Use and Transport	-	12	-	12	-	-	250	200	-	450	8
		Total	17	12	2	31	-	500	550	200	-	1250	25
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF IV SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 4.1	Planning Theory II	2	-	-	2	3	100	50	-	-	150	3
2	17 PLN 4.2	Planning Indian Cities	3	-	-	3	3	100	50	-	-	150	3
3	17 PLN 4.3	Demography & Urbanization	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 4.4	Landscape Planning & Design	3	-	-	3	3	100	50	-	-	150	3
5	17 PLN 4.5	Planning Communication III	-	4	-	4	-	-	50	-	-	50	2
6	17 PLN 4.6	Urban Design & Conservation	4	-	-	4	3	100	50	-	-	150	3
7	17 PLN 4.7	Planning Studio – Site Planning	-	12	-	12	-	-	250	-	200	450	8
8	17 HUM 4.8	Constitution of India, Professional Ethics and Human Rights	2		-	2	-	-	50	-		50	2
		Total	17	16	-	33	-	500	600	-	200	1300	27
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF V SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 5.1	Housing	3	-	-	3	3	100	50	-	-	150	3
2	17 PLN 5.2	Infrastructure Planning II	3	-	-	3	3	100	50	-	-	150	3
3	17 PLN 5.3	Transportation Planning II	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 5.4	Project Formulation, Appraisal and Management	4	-	-	4	3	100	50	-	-	150	3
5	17 PLN 5.5	-Elective 1 a) Settlement Sociology b) Contemporary Urban Planning Practices c) Planning for Special Areas	3	-	-	3	3	100	50	-	-	150	3
6	17 PLN 5.6	Planning Practice I (50% weight age of internal marks for training seminar)	3	-	-	3	-	-	50	-	-	50	2
7	17 PLN 5.7	Planning Studio-Sub City Plan	-	12	-	12	-	-	250	-	200	450	8
		Total	19	12	-	31	-	500	550	-	200	1250	25
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF VI SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 6.1	Urban Governance and Management	3	-	-	3	3	100	50	-	-	150	3
2	17 PLN 6.2	Planning for Informal Sector and Urban Poor	3	-	-	3	3	100	50	-	-	150	3
3	17 PLN 6.3	Environment Planning	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 6.4	Urban Finance	3	-	-	3	3	100	50	-	-	150	3
5	17 PLN 6.5	Elective 2 a.) Land Economics & Locational Theory b.) Real Estate Planning and Management c.) PPP in Urban Development	3	-	-	3	3	100	50	-	-	150	3
6	17 PLN 6.6	Development Planning	3	-	-	3	3	100	50	-	-	150	3
7	17 PLN 6.7	Planning Studio – Development Plan	-	12	-	12	-	-	250	-	200	450	8
		Total	18	12	-	30	-	600	550	-	200	1350	26
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF VII SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 7.1	Planning for Regions	4		-	4	3	100	50	-	-	150	3
2	17 PLN 7.2	Planning Legislation I	3		-	3	3	100	50	-	-	150	3
3	17 PLN 7.3	Electives 3 a.)Planning for Rural Settlements b.) Water Resources Management c.) Sustainable Urban Development	3	-	-	3	3	100	50	-	-	150	3
4	17 PLN 7.4	Politics, Planning and Development	3	-	-	3	3	100	50	-	-	150	3
5	17 PLN 7.5	Planning Communication IV		3	-	3		-	50	-	-	50	2
6	17 PLN 7.6	Dissertation and Training seminar	-	3	-	3	-	-	150	-	-	150	3
7	17 PLN 7.7	Planning Studio-Regional Plan	-	12	-	12	-	-	250	-	250	500	8
		TOTAL	13	18	-	31	-	400	650	-	250	1300	25
PLA = 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													

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION OF VIII SEM B.PLANNING (CBCS SCHEME) W.E.F. 2017_18

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	17 PLN 8.1	Planning Practice II	4	-	-	4	3	100	50	-	-	150	3
2	17 PLN 8.2	Planning Legislation II	4	-	-	4	3	100	50	-	-	150	3
3	17 PLN 8.3	Electives 4 a) Urban Renewal & Redevelopment b) Disaster Risk Management c) Climate Change and Human Settlements	4	-	-	4	3	100	50	-	-	150	3
4	17 PLN 8.4	Terminal Project/Thesis	-	18	-	18	-	-	400	-	400	800	12
		TOTAL	12	18	-	30	-	300	550	-	400	1250	21
PLA = 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 200Credits

17PLN 1.1 – FUNDAMENTALS OF URBAN AND REGIONAL PLANNING

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

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

17PLN 1.2: PLANNING TECHNIQUES- I
CONTACT PERIODS: 3 (Lecture) per week
THEORY MARKS: 100
PROGRESSIVE MARKS : 50
DURATION OF EXAM : 3 HRS

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 eg. 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. Using 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.

Module 5: 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)

17PLN 1.3: CULTURE AND CITIES
CONTACT PERIODS: 3 (Lecture) per week
THEORY MARKS: 100
PROGRESSIVE MARKS : 50
DURATION OF EXAM : 3 HRS

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.

Module 5: 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.

17PLN 1.4: COMPUTER APPLICATIONS
CONTACT PERIODS: 3 (1 Lecture + 2 Studio) per week
PROGRESSIVE MARKS : 50

Module 1: Introduction

Introduction to Computer Application in Planning; Various Software packages, Utility, of computers in planning assignments, Current trends in Planning Profession with respect to usage of computer application.

Module 2: Advanced Features of MS-Word

Usage of MS Word in report preparation, Adding and Updating Table of Content, Spell Check, Thesaurus, Working with Columns, Tabs & Indents, Creation & Working with Tables, Margins & Space management in Document, Adding References and Graphics, Importing and exporting to and from various formats, Creating questionnaires using macros

Module 3: Advanced Features of MS-Excel

Defining Data and Database Management, Working with Census Data, Data analysis using various Functions and tools, creating formulas, using formulas, cell references, replication, sorting, filtering, Functions, Preparation of charts and graphs, Creating trend lines, Simple Macros.

Module 4: Introduction to AutoCAD

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.

17 PLN 1.5: PLANNING COMMUNICATION - I

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

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

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.
Techniques of preparation of base map at local level, Choice of appropriate scale for different level of plan, graphical scale, linear scale, areal scale, contents of base maps at different levels

Module 3: Visual communication - model making, photography and videography

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,

Module 4: Intrapersonal Communication, Listening Skills, Self Awareness

Ego states, defense mechanisms and identification of individual blocks in communication, emotional intelligence

17PLN 1.6: QUANTITATIVE METHODS FOR PLANNERS

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

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

17 PLN 1.7: PLANNING STUDIO – I
CONTACT PERIODS: 12 (Studio) per week
PROGRESSIVE MARKS : 300
TERM WORK MARKS: 150

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.

17HUM 1.8: KANNADA

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

Lesson 1 : Introducing each other – 1. Personal Pronouns, Possessive forms, Interrogative words.

Lesson 2 : Introducing each other – 2. Personal Pronouns, Possessive forms, Yes/No Type Interrogation

Lesson 3 : About Ramayana. Possessive forms of nouns, dubitive question, Relative nouns

Lesson 4 : Enquiring about a room for rent. Qualitative and quantitative adjectives.

Lesson 5 : Enquiring about the college. Predicative forms, locative case.

Lesson 6 : In a hotel Dative case defective verbs.

Lesson 7 : Vegetable market. Numeral, plurals.

Lesson 8 : Planning for a picnic. Imperative, Permissive, hortative.

Lesson 9 : Conversation between Doctor and the patient. Verb- iru, negation – illa, non – pasttense.

Lesson 10: Doctors advise to Patient. Potential forms, no – past continuous.

Lesson 11: Discussing about a film. Past tense, negation.

Lesson 12: About Brindavan Garden. Past tense negation.

Lesson 13: About routine activities of a student. Verbal Participle, reflexive form, negation. Lesson 14: Telephone conversation. Past and present perfect past continuous and their negation. Lesson 15: About Halebid, Belur. Relative participle, negation.

Lesson 16: Discussing about examination and future plan. Simple conditional and negative Lesson 17: Karnataka (Lesson for reading)

Lesson 18: Kannada Bhaashe (Lesson for reading)

Lesson 19: Mana taruvaSangatialla (Lesson for reading)

Lesson 20: Bekubedagalu (lesson for reading)

17PLN 2.1 – CITIES IN HISTORY

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

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 labour; 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

Module 4: 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.,

Module 5: 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.

17PLN 2.2 – INTRODUCTION TO SOCIAL SCIENCES

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

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.

17PLN 2.3 – ECONOMICS FOR PLANNERS

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

Module 1: Definition and Scope of Economics

Central problems of economics; micro and macroeconomic decisions, 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

17PLN 2.4 – SITE AND LAND DEVELOPMENT

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

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

17PLN 2.5 – PLANNING COMMUNICATION - II

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

Module 1: Verbal and Written Communication

Elements of a good presentation, essay writing, developing an argument, how to undertake a literature study, developing your own interpretations

Module 2: Creativity

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

Module 3: Visual Communication – drawings and presentations

Visual studies of use of line, shape, form, texture, color, composition, scale, in cities and buildings, streets, cities, with special emphasis on rhythm, balance, harmony and proportion etc., sketching as a tool for communication. Techniques of preparation of base map at city and regional level, presentation of planning information through maps, thematic maps
Preparing power point presentations
Data visualization and development of info graphics.

Module 4: Visual communication - model making and photography

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 5: Intrapersonal Communication, Listening Skills, Self Awareness

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

17PLN 2.6 – GEO-INFORMATICS FOR PLANNING I

CONTACT PERIODS : 3 (1Lecture + 2 Studio) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM : 3 HRS

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.

17PLN 2.7 – PLANNING STUDIO - II

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS : 300
TERM WORK MARKS : 200

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 settlements 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.

17PLN 3.1 – PLANNING THEORY - I

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

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

17PLN 3.2 – PLANNING TECHNIQUES - II

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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

17PLN 3.3 – TRANSPORTATION PLANNING - I

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

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, pedestrianisation, 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

17PLN 3.4 – INFRASTRUCTURE PLANNING - I

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

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
Telecommunication Services- Locational criteria for mobile phone towers. Gas and oil pipelines.

17PLN 3.5 – ECOLOGY AND RESOURCE PLANNING

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

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.

17PLN 3.6 – GEO-INFORMATICS FOR PLANNING - II

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

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

Symbiology; 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

17PLN 3.7 – PLANNING STUDIO- LAND USE AND TRANSPORT ASPECTS

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS : 250
TERM WORK MARKS : 200

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 modeling 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 analyzing 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.

17PLN 4.1 – PLANNING THEORY - II

CONTACT PERIODS : 2 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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

17PLN 4.2 – PLANNING INDIAN CITIES

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

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.

17PLN 4.3 – DEMOGRAPHY & URBANISATION

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

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 2: 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.

17PLN 4.4 – LANDSCAPE PLANNING AND DESIGN

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

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.

Module 5: 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).

17PLN 4.5 – PLANNING COMMUNICATION - III

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

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,

17PLN 4.6 – URBAN DESIGN AND CONSERVATION

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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, colour, 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.

17PLN 4.7 – PLANNING STUDIO- SITE PLANNING

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS : 250
VIVA MARKS: 200

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

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

3. 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.

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

5. 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.

6. 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.

17HUM 4.8 – CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS

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

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, 42 nd, 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, Panchyats and Co - Operative Societies.

MODULE 5: Scope & Aims of Engineering Ethics, Responsibility of Engineers

Impediments to Responsibility. Risks, Safety and liability of Engineers, Honesty, Integrity & Reliability in Engineering.

17PLN 5.1 – HOUSING

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

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.

Module 4: 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

Module 5: 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.

17PLN 5.2 – INFRASTRUCTURE PLANNING- II

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

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.

17PLN 5.3 – TRANSPORTATION PLANNING II

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

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.

17PLN 5.4 – PROJECT FORMULATION, APPRAISAL AND MANAGEMENT

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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.

17PLN 5.5 – ELECTIVE 1

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

a) SETTLEMENT SOCIOLOGY

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 labour and migrant laborers

b) CONTEMPORARY URBAN PLANNING PRACTICES

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

C) PLANNING 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

17PLN 5.6 – PLANNING PRACTICE - I

CONTACT PERIODS : 3 (Lecture) per week
PROGRESSIVE MARKS : 50

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.

17PLN 5.7 – PLANNING STUDIO- SUB CITY PLAN

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS : 250
VIVA MARKS : 200

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.

17PLN 6.1 – URBAN GOVERNANCE AND MANAGEMENT

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

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.

17PLN 6.2 – PLANNING FOR INFORMAL SECTOR AND URBAN POOR

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

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

17PLN 6.3 – ENVIRONMENTAL PLANNING

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

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.).

17PLN 6.4 – URBAN FINANCE

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

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 centre 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.

17PLN 6.5 – ELECTIVES II

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

a) LAND ECONOMICS & LOCATIONAL THEORY

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

b) REAL ESTATE PLANNING AND MANAGEMENT

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 capitalisation 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

c) PPP IN URBAN DEVELOPMENT

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

Module 4 : 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

Module 5 : Financing PPP projects

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

17PLN 6.6 – DEVELOPMENT PLANNING

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

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 labour; 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.

17PLN 6.7 – PLANNING STUDIO- DEVELOPMENT PLAN

CONTACT PERIODS : 12 (Studio) per week
PROGRESSIVE MARKS : 250
VIVA MARKS : 200

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.

17PLN 7.1 – PLANNING FOR REGIONS

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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

17PLN 7.2 – PLANNING LEGISLATION - I

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

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

17PLN 7.3 – ELECTIVES III

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

1. Detailed structure for electives will be developed periodically depending on the interest of the students. In this semester this will cover subject areas of finance and environment. However, elective can be offered by the faculty on other areas of interest too with the approval of the Board of Studies.

2. Feasibility Studies and detail project reports/Financial Analysis of Development Projects/ Impact

3. Assessment Studies (SIA and EIA)

a) PLANNING FOR RURAL SETTLEMENTS

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 gaon sabhas and gaon panchayat; Mapping rural development schemes

b) WATER RESOURCES MANAGEMENT

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

c) SUSTAINABLE URBAN 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 behavioural 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.

17PLN 7.4 – POLITICS, PLANNING AND DEVELOPMENT

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

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.

Module 5: 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.

17PLN 7.5 PLANNING COMMUNICATION - IV

CONTACT PERIODS : 3 (Studio) per week
PROGRESSIVE MARKS : 50

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,

17PLN 7.6– DISSERTATION AND TRAINING SEMINAR

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

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.

17PLN 7.7 – PLANNING STUDIO- REGIONAL PLAN

CONTACT PERIODS : 12 (Studio) per week

PROGRESSIVE MARKS : 250
VIVA MARKS : 250

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.

17PLN 8.1 – PLANNING PRACTICE - II
CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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

Module 3: 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

17PLN 8.2 – PLANNING LEGISLATION - II

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

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 eg. 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.

17PLN 8.3 – ELECTIVES IV

CONTACT PERIODS : 4 (Lecture) per week
PROGRESSIVE MARKS : 50
THEORY MARKS : 100
DURATION OF EXAM: 3 Hrs

Electives in this semester may cover any of these; Public Policy and Analysis/Real Estate Fundamentals for Planning/Cities and Technology 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

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

b) DISASTER RISK MANAGEMENT

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

c) CLIMATE CHANGE AND HUMAN SETTLEMENTS

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.

17PLN 8.4 – TERMINAL PROJECT/ THESIS

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

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.