



# COLLEGE OF ENGINEERING PUNE(COEP)

## DEPARTMENT OF CIVIL ENGINEERING

### CURRICULAM STRUCTURE FOR B.TECH-PLANNING

<b>FIRST YEAR -Ist SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	PH101	Basic Physics	3	--	--	3
02	CE102	Fundamentals of Building Structures	3	--	--	3
03	CE103	Materials and Principles of Construction	2	--	2	3
04	MA104	Mathematics and Statistics I for planners	3	--	--	3
05	CH105	Basic Chemistry	3	--	--	3
06	BP106	Basic Architectural Design	--	--	4	2
07	BP107	Planning and Design Lab I (Graphical and Presentation Techniques)	--	--	10	5
<b>TOTAL</b>			<b>14</b>	<b>--</b>	<b>16</b>	<b>22</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>30</b>			
<b>FIRST YEAR-IIInd SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP111	Fundamentals of Urban and Regional Planning	3	--	--	3
02	CE112	Surveying and Photogrammetry	2	--	--	2
03	CE113	Specifications, Estimation and Valuation	2	1	--	3
04	MA114	Mathematics and Statistics II for planners	3	--	--	3
05	HU115	Evolution of Aesthetic, Culture and Technology	1	1	--	2
06	BP116	Techniques of Planning -I	3	--	--	3
07	CE117	Applied Geology and Hydrology	2	--	--	2
08	CE118	Surveying and Photogrammetry Lab	--	--	2	1
09	BP119	Planning and Design Lab -II (Graphics and Presentation Techniques)	--	--	10	5
<b>TOTAL</b>			<b>16</b>	<b>2</b>	<b>12</b>	<b>24</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>30</b>			

<b>SECOND YEAR-IIIrd SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	MA201	Mathematics and Statistics III for planners	3	--	--	3
02	BP202	Planning Theory -I	3	--	--	3
03	HU203	Settlement Geography and Urbanization	3	--	--	3
04	BP204	Techniques of Planning -II	3	--	--	3
05	BP205	Computer Aided Design in Planning	1	--	2	2
06	BP206	Traffic and Transportation Planning -I	3	--	--	3
07	BP207	Planning and Design Lab - III (Neighborhoods and Site Planning)	--	--	10	5
08		Institute Level Subject (LLC)				1
<b>TOTAL</b>			<b>16</b>	<b>--</b>	<b>12</b>	<b>23</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>28</b>			
<b>SECOND YEAR- IVth SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP211	Planning Theory -II	3	--	--	3
02	BP212	Planning Practice -I	3	--	--	3
03	BP213	Traffic and Transportation Planning -II	3	--	--	3
04	HU214	Ecology, Environment and Resource development and Management	3	--	--	3
05	BP215	Housing and Community Planning	3	--	--	3
06	HU216	Settlement sociology	3	--	--	3
07	BP218	Technical Report writing	1	1	--	1
08	BP217	Planning and Design Lab -IV (Transportation Planning)	--	--	10	5
<b>TOTAL</b>			<b>19</b>	<b>1</b>	<b>10</b>	<b>24</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>30</b>			
<b>THIRD YEAR- Vth SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP301	Introduction to Economics	2	--	--	2
02	BP302	Planning and Management of Utilities and Services	3	--	--	3
03	BP303	Planning Legislation	3	--	--	3
04	BP304	Landscape Planning and Design	2	--	--	2
05	BP305	Geo-Informatics for Planning	2	--	--	2
06	BP306 EI	<b>ELECTIVE I</b> Infrastructure Planning, Development and Management	2	--	--	2
	BP306 EI	<b>ELECTIVE I</b> Rural Development and Management				
07	BP307	Training Seminar - I	--	--	2	1
08	BP308	Planning and Design Lab -V (Area Planning)	--	--	10	5
09		Audit Course				
<b>TOTAL</b>			<b>14</b>	<b>--</b>	<b>12</b>	<b>20</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>26</b>			

<b>THIRD YEAR- VIth SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP311	Urban Management	3	--	--	3
02	BP312	Urban Renewal and Conservation	2	--	2	3
03	BP313	Project Formulation, Appraisal and Management	3	--	--	3
04	BP314	Introduction to Urban Design	3	--	--	3
05	BP315	Planning and Management of Informal Sector	1	2	--	3
06	BP316	GIS for Planning	1	2	--	2
07	BP317 E II	<b>ELECTIVE II</b> Urban Energy Systems	2	--	--	2
	BP317 EII	<b>ELECTIVE II</b> Energy Efficient Planning				
08	BP318	Planning and Design Lab - VI (Urban Development Plan)	--	--	10	5
<b>TOTAL</b>			<b>15</b>	<b>4</b>	<b>12</b>	<b>24</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>31</b>			
<b>FOURTH YEAR-VIIth SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP401	Introduction to Regional Planning	3	--	--	3
02	BP402	Urban Finance	3	--	--	3
03	BP403	Disaster Risk Mitigation and Management	2	--	--	2
04	BP404	Sustainable Urban Development	3	--	--	3
05	BP405 E III	<b>ELECTIVE III</b> Metropolitan Planning, Development and Management	2	--	--	2
	BP405 EIII	<b>ELECTIVE III</b> Real Estate Planning and Management				
06	BP406	Planning Thesis I		3		3
07	BP407	Training Seminar - II			2	1
08	BP408	Planning and Design Lab - VII (Regional Plan)	--	--	10	5
<b>TOTAL</b>			<b>13</b>	<b>3</b>	<b>12</b>	<b>22</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>28</b>			
<b>FOURTH YEAR-VIIIth SEMESTER</b>						
S.No.	Course Code	Subject Title	Contact Hours			Credits
			L	T	P/Stu.	
01	BP411	Urban Governance and Management	3	--	--	3
02	BP412	Planning Practice -II	3	--	--	3
03	HU413	Human Values in Planning	2	--	--	2
04	BP414 E1	<b>ELECTIVE IV</b> Environmental Impact Assessment (EIA)	2	--	2	3
	BP414 E2	<b>ELECTIVE IV</b> PPP in Urban Environmental Services				
05	BP415	Planning Thesis-II	--	8	--	10
<b>TOTAL</b>			<b>10</b>	<b>8</b>	<b>2</b>	<b>21</b>
<b>TOTAL CONTACT HOURS PER WEEK</b>			<b>20</b>			

**CREDIT OFFERED:**

**SEM I (22)+SEM II (24)+SEM III(23)+SEM IV(24)+SEM V  
(20)+SEM VI (24)+SEM VII (22)+SEM VIII(21)=180**

**TOTAL CREDITS FOR B.TECH PLANNING - 180**

## FIRST YEAR: FIRST SEMESTER

### PH101- BASICS PHYSICS

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Fundamentals of Physics in understanding Architectural and Planning subjects

#### Objective:

1. To understand basic principles in Electrostatics, Magnetostatics, and Thermodynamics
2. To relate concepts of Physics in Architecture and Urban Planning

#### Pre-requisites:

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#### Unit 1: General Mechanics(5)

- i) Concept of force field,potential energy,work done;
- ii) work energy theorem,types of equilibrium,
- iii) motion in central force field ,properties of central force field ,its equation of motion ,
- iv) Planetary motion in solar system.

#### Unit 2: Waves motion & Optics(6)

- i) Types of waves,general equation of traveling wave
- ii)Superposition principle ,formation of stationary waves (with derivation).
- iii)Light as an EM wave,graphical representation of EM wave,Superposition principle in case of light wave,
- iv)Huygen's Principle, Young's double slit experiment,
- v)interference of light due to thin film( uniform thickness) ,condition for darkness and brightness.

#### Unit 3: Electrostatics (6)

- i)Coulomb's law in vector form ,the electric field ,
- ii)Continuous charge distribution( Line,Surface&Volume)
- iii)Divergence of E ,application of Gauss 's law ( simple 2 D problems )
- iv)The curl of E(Faraday's Law) , the concept of electric potential V,
- v)Potential(V) due to continuous charge distribution

#### Unit 4: Magnetostatics(4)

- i)Steady currents( line current ,surface current,volume current)& current densities
- ii)Magnetic field due to steady currents (Biot-Savert's law),
- iii)divergence and curl of B,
- iv)Statement of Ampere's Law(with simple examples)

#### Unit 5: Thermodynamics(4)

- i)Heat as a form of energy (Joule's constant),Types of Systems.
- ii)Zeroth's law , first law & its mathematical statement
- iii)Second law and concept of entropy,third law,
- iv)Reversible and irreversible processes with examples

#### Unit 6: Modern physics(5)

- i)Drawbacks of classical mechanics,Plank's quantum hypothesis.
- ii)Dual nature of matter,De-broglies hypothesis,light as a particle(Compton's experiment)
- iii)De-Broglies wavelegth, Heisenberg's uncertainty principle(position and momentum).
- iv)Wave function ,its properties,conditions and its physical significance.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	P.V. Panat, Verma, H.C., Halliday- Resnicki	Classical Mechanics	6th Edition	
2	Halliday-Resnicki		6th Edition	
3	Brij Lal	Optics		
4	David Griffith	Classical Electrodynamics		Pearson India limited

## CE102- FUNDAMENTALS OF BUILDING STRUCTURES

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Fundamentals of Building Structures

### Objective:

1. To introduce the Definitions of Basic Terms of Building Structure.
2. To understand Structural Components in detail.

### Pre-requisites:

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#### Unit 1: Compression and Tension

Forces of compression and tension, concept of equilibrium forces and conditions of equilibrium, concept of elasticity and plasticity, Hooke's law, stress – strain relationship of tension and compression

#### Unit 2: Components

Different types of foundation, Analysis of Trusses soil structure interaction and columns and struts, short and long columns

#### Unit 3: Beams

Beams and bending, various types of beams and their behavior

#### Unit 4: Design Principles

Design principles of RCC beams and slabs. Construction system: reinforced concrete, pre-stressed concrete and prefab system and modular co-ordination

#### Unit 5: High Rise Structures

Load action and high rise buildings, various structural systems for high rise buildings

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	James Ambrose	Building Structures	Second	Wiley
2.	Edward Allen, Joseph Ians	Fundamentals of Building Construction: Materials and Methods	2008	John Wiley & Sons
3.	Michael Montoya	Green Building Fundamentals	2008	Prentice Hall

### List of Exercises / Practical:

1	Field visit to the large building construction site and submit the Report.
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## CE103-MATERIALS AND PRINCIPLES OF CONSTRUCTION

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 2 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Building Materials and Principles of Construction of Buildings and Site Development.

**Objective:**

1. To study Building Materials and understand about the Principles of Construction.
2. To study Principles of Site Development and Services Network.

**Pre-requisites:**

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**Unit 1: Introduction to Building Materials and Finishes**

Brick, timber, stone, cement, lime, glass, R.C.C., asbestos, paints and varnishes, Fiber Reinforced Plastic (FRP)

**Unit 2: Structural Uses of Timber**

Timber used as lintels, post and trusses.

**Unit 3: Principles of Construction and Building Elements**

Foundations, Footings, D.P.C., flooring, sills, lintel, roofing, parapets, coping, cladding expansion joints, waterproofing of roofs, external wall sections with details, beams, columns, slabs, retaining walls, etc.

**Unit 4: Site Development**

Principles and components of site-development, setting out of buildings on site

**Unit 5: Principles on of Service Lines and Networks**

Layout and construction of roads, culverts, flyovers, sewer and storm water drain, water supply lines, service duct under the road.

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	R. N. Khanna	Handbook of Civil Engineering		Engineer Publisher, New Delhi.
2.	Sushil Kumar	Building Construction		Standard Publisher Distributer, NaiSarak.
3.	W.B. McKay	Building Construction		Orient Longman Pvt. Ltd., Mumbai.
4.	G.A. Mitchell, and A.M. Mitchell	Building Construction: Structure and Fabric		The Perfect Used Book Store, London, UK
5.	M.G. Shah and C.M. Kale	Principles of Building Drawing		MacMillan, India Ltd.

**List of Exercises / Practical:**

1	Visit to construction site of a large project and submit Report
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## MA104- MATHEMATICS AND STATISTICS I FOR PLANNERS

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Scheme

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Basic Statistical and Quantitative Methods and Applications in Planning.

### Objective:

- 1.To study the Data Collection Process and Methods for Data Presentation.
- 2.To study Time Series Analysis and Probability Distributions.

### Pre-requisites:

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#### Unit 1: Data Collection

Statistical data and methods; collection of data, record, file, sources of data; questionnaire design, design of sample surveys; simple random sampling, stratified sampling, systematic samples, etc.; data coding, data verification

#### Unit 2: Basic Data Presentation

Statistical tables; types of tables, comparisons, methods of presentation, graphic presentation; types of charts; plotting a curve, rules for drawing curves; bar charts, pictography, pie charts, histograms

#### Unit 3: Statistical Methods

Raw data, frequency distribution, selecting number of classes, class limits, curves, cumulative frequency distribution and ogives, measures of central tendency; arithmetic mean, median, mode, geometric mean and harmonic mean; measures of absolute dispersion, range, quartile deviation, average deviation, standard deviation, skewness and kurtosis. Statistical Programme for Social Sciences (SPSS) genstat and statisticia and its application for statistical methods.

#### Unit 4: Time Series Analysis

Variation in time series, trend analysis, cyclical variation, seasonal variation, irregular variation, time series analysis forecasting; Applications in planning.

#### Unit 5: Probability Theory and Probability Distribution

Introduction, addition rule, conditional probability, multiplication rule, random variables and probability distribution, mathematical expectation; Binomial distribution, poisson distribution; and normal distribution

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	V.K. Kapoor, S.C. Gupta	Problems and Solutions in Statistics	--	Sultan Chand
2.	V.K. Kapoor	Applied Statistics	--	Sultan Chand
3.	M.R. Spiesel	Theory and Problems of Statistics – Schaun Series	--	McGram Hill
4.	S.K. Gupta	Fundamental of Statistics	--	Himalaya Publications
5.	Levin, Rubin	Statistics for Management	--	Prentice Hall
6.	McCuen	Statistical Methods for Engineers	--	Prentice Hall

## CH105- BASIC CHEMISTRY

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Fundamentals of Chemistry in understanding Architectural and Planning subjects

### Objective:

1. To understand basic principles in Atomic Structure, Metals, Non-Metals, and related Environment effects
2. To relate concepts of Chemistry in Architecture and Urban Planning

### Pre-requisites:

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#### Unit 1: Atomic Structure

Definition of Atom, Atom-mass, charge, location, Atomic number, Atomic mass number, Isotopes and Isobars, Bohr's theory, Hund's rule, Definition and types of Valency, Octet rule, Duplet rule

#### Unit2: Electrochemistry

Definition of ion, Ionization and electrolytic dissociation, Arrhenius theory of ionization, Electrolysis-Conductors, insulators dielectrics, electrolyte, non-electrolyte, electrolytic cell, electrodes.

Mechanism of Electrolysis- Cathode and Anode, concept of reduction potential and oxidation potential. Electrochemical cells and batteries

#### Unit 3: Metals and Alloys

3.1 Metals: Occurrence of Metals, Definition of metallurgy, Mineral, Ore, Gangue, Flux and Slag, Mechanical properties of metal such as Hardness, Toughness, Ductility, Malleability, Tensile strength, Machinability, Weldability, Forging, Soldering, Castability. Stages of extraction of metals from its ores. Physical properties and applications of commonly used metals

3.2 Alloys: Definition and purpose of Alloys. Preparation methods, Ferrous and Non-ferrous alloys, Composition, properties and Applications of Alnico, Duralumin, Dutch metal, German Silver/Nickel Silver, Gun Metal, Monel metal, Wood's metal

#### Unit 4: Non-Metallic materials

4.1 Plastics: Definition of Plastics, Formation of plastics by addition and condensation polymerization by giving example of polyethylene and Bakelite plastic respectively, Types of plastic, Thermosoftening and thermosetting plastics.

4.2 Rubber: Natural rubber- Processing and drawbacks, Vulcanization. Synthetic Rubber

4.3 Thermal Insulating materials: Definition and characteristics of thermal insulators. Preparation, properties and application of thermocole and glasswool. Properties and applications of asbestos, cork

#### Unit 5: Environmental Effects

5.1 Pollution and Air pollution: Definition of pollution and pollutant, Types of pollution-Air and Water pollution

Pollution: Types of pollutants, sources and effects such as Gases, Particulates, Radioactive gases, Control of various Pollution. Deforestation and their effects and control measures, Ozone depletion and Green House Effects

5.2 Types of waste such as Domestic waste, Industrial waste (Physical and Biological characters). Concept and Significance of BOD, COD and their treatment; biomedical waste and treatment.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Shashi Chawla	Text book of Engineering Chemistry	--	Dhanpat Rai and Company
2.	Dr. SS Dara and Dr. SS Umare	Text book of Engineering Chemistry	--	S. Chand & Company

## BP106- BASIC ARCHITECTURAL DESIGN

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 4 hrs/week

### Examination Schemes

Internal Jury-100 Marks

**Aim:** To study Spatial Aspect at Building Level.

### Objective:

1. To study Anthropometrics and its Relationship with Building.
2. To study various Space Standards, Expression of Built Mass through Plan.

### Pre-requisites:

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#### Unit 1: Anthropometrics, Layouts of Rooms and Circulations

Anthropometrics, Human Activity and Space Use; Furniture Layout of a room; Building circulation/ flow diagrams;

#### Unit 2: Concepts of Space, Building Design and Space Utilization

Concepts of Space, Form and Function; Factors and concepts related to building design - Climate, Site Characteristics, Land Form, Visual Elements, Behavioral Factors, Space Utilization;

#### Unit 3: Architectural Space Standards

Introduction to Architectural Space Standards, Preparation of Design Briefs; Design of simple Residential, Commercial, Institutional Buildings;

#### Unit 4: Architectural Drawings

Architectural Drawings - Plans, Elevations, Sections; Measure Drawings of Simple Monumental / Contemporary Buildings; Appreciation of simple Buildings and Drawings;

#### Unit 5: Rendering and Project Presentation

Rendering of Architectural Drawings; Project presentation modes through physical models, oral, digital and manual sketches.

#### Unit 6: Workshop

Materials and techniques used in physical models, use of hand tools, making scale models of a residential house and a site layout using appropriate materials and techniques.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Joseph De Chiara	Time Save Standards for Building Types	2 <sup>nd</sup> (Latest)	McGraw Hill
2	D K Ching	Architecture : Form, Space and Order	3 <sup>rd</sup>	John Wiley and Sons Inc, Hoboken, New Jersey.
3	Michael Crosbie, Donald Watson	Time Saver Standards for Architectural Design	8 <sup>th</sup>	Mc-Graw Hill
4	Mike W Lin	Architectural Rendering Techniques: A Colour Reference	1985	John Wiley and Sons Inc, Hoboken, New Jersey.

### List of Exercises / Practicals:

- 1 | Visit to office of PMC/PCMC or Leading Architectural / Engineering Firm and submit Report.

## BP107-PLANNING AND DESIGN LAB- I (GRAPHICS AND PRESENTATION TECHNIQUES)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Jury-100 Marks  
External Jury-100 Marks

**Aim:** To study Skills of Graphical Presentation and Drafting.

### Objective:

1. To study various Equipments for Graphical and Visual Presentation.
2. To study Scales, and various Projections such as Orthographic, Isometric, and Perspective.

### Pre-requisites:

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#### Unit 1: Drawing Equipments and Mediums

Introduction to drawing equipments and mediums, Importance of graphics and visual presentations;

#### Unit 2: Shapes and Forms

Use of points, lines, polygons; Horizontal, vertical, diagonal, curved lines; Line thicknesses and intensities; Texture, color and tone in materials and graphics; Shapes and forms;

#### Unit 3: Concepts of Scales and Proportions

Sketching of human figures, activities, natural and man-made elements; Concept of scales and proportions; Graphic scales; Free hand lettering; Jali patterns;

#### Unit 4: Perspective Projections

Orthographic, isometric and perspective projections of one, two and three dimensional objects;

#### Unit 5: Appreciation and Presentation

Appreciation and design of Logo and Insignia of geometric merits and format of presentation drawings

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Alan Jeffris and David A Madsen	Architectural Drafting and Design	5th Edition	Thomson Delmar Learnig, New York
2.	Robert W. Gill	Rendering with Pen and Ink	Revised Edition	Thames and Hudson
3.	Robert W. Gill	Creative Perspective	1979	Thames and Hudson
4.	Bally Meeda, Neil Parkyn and David Stuart Walton	Graphics for Urban Design	2007	Thomas Telford Publishing London

## FIRST YEAR: SECOND SEMESTER

### BP111- FUNDAMENTALS OF URBAN AND REGIONAL PLANNING

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Concepts and Principles of Urban and Regional Planning.

#### Objective:

1. To understand the Rationales and Foundations of Planning.
2. To introduce the Hierarchy of Development Plans and Planning Process; and Theories of Urbanization.

#### Pre-requisites:

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#### Unit 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

#### Unit 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

#### Unit 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 the UDPFI 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, LULU and NIMBY

#### Unit 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;

#### Unit 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

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Faludi, A.	A Reader in Planning Theory	-	Pergamon Press, Oxford.
2.	Faludi, A.	Planning Theory	-	Pergamon Press, Oxford.
3.	Keeble, L.	Principles and Practice of Town and Country Planning	-	The Estate Gazette, London.
4.	McLoughlin, J.B.	Urban and Regional Planning: A System Approach	-	Faber and Faber, London.
5.	McLoughlin, J.B.	Control and Urban Planning	-	Faber and Faber, London.
6.	Hall, P.	Urban and Regional Planning	Fourth	Routledge, London.
7.	Freidmann, J.	Planning in the Public Domain	-	Princeton University Press, Princeton.
8.	Fainstein, S.S. and Campbell, S.	Readings in Planning Theory	-	Mackwell.

## CE112- SURVEYNG AND PHOTOGRAMMETRY

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Preparation of Base Map from data obtained through Field Survey.

### Objective:

1. To learn the Methods of Techniques of Physical Survey and Preparation of Base Maps and Planning.
2. To study the Techniques and use of Aerial Photography and GIS for Preparation of Maps and Plans.

**Pre-requisites:** Materials and Principles of Construction and Planning and Design Lab I

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### Unit 1: Fundamentals of Surveying

Definitions, classifications, use, objectives and basic principles of surveying; Classifications of measurements and units, concepts of scales, maps and plan and use of conventional symbols; Stages in surveying works - field works, office works, care and adjustment of the instruments; Errors in surveying - sources and kinds.

### Unit 2: Chain Surveying and Compass Surveying

Definition, application, advantages and disadvantages, principles; Instruments used, steps in chain survey; Definition of framework of survey, survey lines, survey stations, base line, tie line, check line; Ranging and chaining a survey line, off-sets - use and types; Errors and obstacles in chaining; Plotting chain survey to prepare a plan with practical examples. Definition of compass surveying, traversing, types of traversing, applications, advantages and disadvantages, principles and instruments used in compass surveying; Concept of bearings, meridian and angles, designation of bearing, fore bearing and back bearing, local attraction; Plotting of compass survey data to prepare a plan of a small area

### Unit 3: Plain Table Surveying and Computations of Areas

Definition, application, advantages and disadvantages of plane table survey; Instruments used, working operation, methods of plane table survey; Preparation of map of a small area with plane table survey. General methods of determining area; Instrument used and their principles for computing area; Determination of area from the plotted map with different methods and comparing them; Use of Digital Planimeter

### Unit 4: Levelling and Contouring

Definition, principle, methods and application of levelling; Instruments used and the principles of their work; Concepts of level surface, level line, horizontal plane, horizontal line, vertical line, datum, bench marks; Theory of direct levelling, differential levelling and reduction of levels, classification of levelling and errors in levelling. Definition and application of contouring; Characteristics and interpretation of contour lines; Methods of locating contours

### Unit 5: Photogrammetry

Photogrammetry as an Alternative Tool for Surveying; Introduction to Aerial Remote Sensing and Aerial Photographs, Classification; Principles of Stereoscopic Vision; Basic instruments - Stereopair, Pocket and Mirror Stereoscopes, Parallax Bars; Principles of Photogrammetry, Measurement of Heights and Depths; Introduction to Digital Photogrammetry; Introduction to GPS; Introduction to Total Stations; Applications in urban and regional planning; Laboratory Exercises



**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	B.C. Purnia and A.K. Jain	Surveying (Volume I and II)	2005	Laxmi Publication, Delhi
2.	SatheeshGopi	Advanced Surveying: Total Station, GIS and Remote Sensing	2007	Pearson
3.	Wilfried Linder	Digital Photogrammetry	2008	Sringer

## CE113- SPECIFICATIONS, ESTIMATION AND VALUATION

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Specifications, Estimations and Valuation of Development Works.

### Objective:

1. To learn the Methods of Estimation of Cost for Development.
2. To learn the Types of Specifications for any Project and its associated Impact on Development.

**Pre-requisites:** Materials and Principles of Construction

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### Unit 1: Introduction

Why the knowledge of quantity surveying and specifications is necessary for planners? Significance and methods of writing specifications, classifications of specifications, sources of specifications; Types and methods of cost estimation for different types of projects, rates and sources of rates for different components of planning projects; Cost Index

### Unit 2: General Specifications

General specifications for common building materials and building trades, earthwork, structure (framing), flooring, stonework, plasters, waterproofing of basements and terraces, roofing, doors and windows, elevators

### Unit 3: Detailed Specifications

Site development and earth works; Water supply net work and distribution systems; Sewer systems; Electrical and telephone networks; Landscaping, roads, pathways, boundary wall, pools, lighting

### Unit 4: Estimation

Cost estimation and determination of rates for different types of housing; Cost estimation and determination of rates of works involved in the infrastructure services (roads, water supply, sewer systems, etc.); Costing procedure for different land use categories, development works, interest on investment, and phasing; Preparation of detailed Development Costs of a Planning Schemes for an approximate population of 5,000 as per Norms and standards

### Unit 5: Valuation

Value and purpose of valuation; Definition and importance of valuation of land and buildings; Factors affecting property and land value at a city and clarity level; Legal, fiscal and administrative measures of land value; Betterment; Scrap value, salvage value, outgoings; Capitalized value of buildings; appreciation, methods of calculating depreciation

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	B.N. Dutta	Estimation and Costing and Valuation	Second	Sagam Books
2.	W. Frank Bower	Specification: A Practical System of Writing Specifications	2012	Hand press Publishing
3.	M. Chakraborti	Estimation, Specification in Civil Engineering	2010	M. Chakraborti
4.	P.K. Gupta	Quantity Survey	2008	Khanna Publisher

## MA114- MATHEMATICS AND STATISTICS II FOR PLANNERS

### Teaching Scheme

Lectures: 3hrs/week

Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks

End Sem 50 Marks

**Aim:** To study Advanced Statistical and Quantitative Methods and Applications in Planning.

### Objective:

1. To study essential Concepts of Correlation and Regression Analysis and Statistical Inference besides ch-square, Anova tests
2. To study Mathematical Programming Techniques and Decision Theory.

**Pre-requisites:** Mathematics and Statistics for Planners I

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### Unit 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

### Unit 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.

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

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

### Unit 4: Mathematical Programming Techniques

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

### Unit 5: Decision Theory

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

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	S.C. Gupta, V.K. Kapoor	Applied Statistics	--	Sultan Chand
2.	V.K. Kapoor	Problems and Solutions in Statistics	--	Sultan Chand
3.	M.R. Spiegel	Theory and Problems	--	McGran Hill
4.	S.C. Gupta	Fundamental of Statistics	--	Himalaya Publications
5.	K.A. Yeomans	Statistical Methods for Social Scientists	--	Penguin Education Series
6.	McGuen	Statistical Methods for Engineers	--	Prentice Hall
7.	Levin, Rubin	Statistics for Management	--	Prentice Hall

## HU115- EVOLUTION OF AESTHETICS, CULTURE AND TECHNOLOGY

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Evolution of Culture and Aesthetics in India and Abroad.

### Objective:

1. To study the Fundamentals and Theory of Aesthetics and Culture.
2. To know the Evolution of Culture in India and Abroad.

**Pre-requisites:** Basic Architectural Design

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### Unit 1: Fundamentals of Arts and Aesthetics

Importance of creative and visual arts; Art as a medium of communication; Art as a means of social expression; Human habitat as an artistic expression

### Unit 2: Fundamentals of Aesthetics

Concepts of beauty and ugliness; Classical theories of aesthetics; Relationship of aesthetics with other cultural values; Concepts of scale, space, form and structure; Concepts of time as a dimension of built form; Role of climate in evolution of settlement form

### Unit 3: Role of Culture and Technology in Planning

Definition and symbols of culture; 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

### Unit 4: Aesthetics, Culture and Technology in India

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

### Unit 5: Asian, European and American Aesthetics, Culture and Technology

Evolution of aesthetics, culture and technology in Europe and North America and their impact on city planning principles; Greek cities, Roman cities, European medieval cities; Planning during Renaissance and Baroque period. Evolution of aesthetics, culture and technology and their impact on city planning principles in America, Africa, Asia, the Middle East

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1	Javier Monclus	Culture Urbanism and Planning	2006	Ashgate Publishing Limited, England
2	Lewis Mumford	The Culture of Cities	2006	Routledge, New York
3	James Fergusson	History of Architecture in all Countries	2010	
4	LalaHardayal	Hints for Self Culture	1960	Javes Publication

## BP116-TECHNIQUES OF PLANNING I

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Basic Techniques of Planning.

### Objective:

1. To learn the Methods and Contents of Preparation of Base Maps and Basics of Town Planning.
2. To learn different Database required for Planning and Socio-economic Survey Techniques.

**Pre-requisites:** Materials and Principles of Construction

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### Unit 1: Techniques of Preparing Base Maps

Choice of appropriate scale for region and settlement level plans; town development plans, zonal development plans, layout plans; graphical, linear and areal scales; contents of base maps at various scales, notations - basic disciplines of maps; Measurement of Areas.

### Unit 2: Data Base for Planning and Socio - Economic Surveys

Data requirements for urban and regional planning; sources of primary and secondary data; questionnaire design, measurement scale and their application, sampling techniques, types of socio-economic surveys; self surveys, interviews, mailed questionnaires and observer participation.

### Unit 3: Physical Surveys

Techniques of conducting surveys for land use, building use, density, structural condition of buildings, heights of building, land utilization and physical features of land; Data requirement for various types of regional plans; Techniques for conducting regional surveys.

### Unit 4: Techniques of Graphic Presentation of Statistical Data

Tabulation of data, graphical presentation of data; pie diagrams, histograms, bar charts, normal, semi-log and double log graphs and their uses; colour, black and white presentation techniques; basis disciplines of illustration and tables.

### Unit 5: Techniques of Graphic Presentation of Spatial Data

Land use classification, coding and analysis; residential and non-residential density patterns and analysis; colour, black and white presentation techniques; basis disciplines of illustration; Presentation of spatial data, analysis and proposals.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	James Ambrose	Building Structures	Second	Wiley
2.	R.P. Mishra	Regional Planning: Concepts, Techniques Policies	1992	Concept Publishing
3.	Richard E. Klasterman	Community Analysis and Planning Techniques	1990	Rowman&Littlefield Publisher
4.	ShenZhesujiang	Geospatial Techniques in Urban Planning	2011	Springer

## CE117-APPLIED GEOLOGY AND HYDROLOGY

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Basics of Geology and Hydrology related to Planning.

### Objective:

1. To learn Earth Science and Meteorology and their Components.
2. To provide knowledge on Geological Structures, Land Form, Land Slide, Ground Water Characteristics, etc.

### Pre-requisites:

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#### Unit 1: Introductory Earth Science and Meteorology

Earth as a planet, the solar system, movement of the earth, atmosphere and its composition, composition of the earth; the earth processes, geological cycles, igneous activities, volcanoes, minerals and their properties; rock types and their character; bedding, outcrop and strikes; rock cycle; geological and time scale; Indian stratigraphy.

#### Unit 2: Geological Structure, Land Forms, Weathering, Landslides and Mass Wasting

Description and classification of folds, faults, joints, unconformities, fault planes, geometrical destruction, etc; land form types; erosional, depositional fluvial, glacial, deolian and marine; rock weathering and climate; mechanical and chemical processes, soil formation, landslides, sources and causes of crystal displacements, soil formation, landslides, sources and causes of crystal displacements, types, characters and effects, instability of hill slopes, prevention.

#### Unit 3: Earthquakes

Historical account, tectonic behavior and seismic belts; causes, intensity and magnitude of earthquakes, seismic zoning in India, earthquake waves and their character, particle motion and behavior in various geological formations; seismography, accelerograms and their interpretation, prediction and prevention; earthquake resistant structures.

General considerations, sources of preliminary geological data particularly related to Indian stratigraphic sequences and the types of foundations, nature and preparation of foundation for road, bridge, building and other geo-technical structures; geophysical explorations.

#### Unit 4: Selection of Site and Foundations

General considerations, sources of preliminary geological data particularly related to Indian stratigraphic sequences and the types of foundations; nature and preparation of foundations for roads and bridges, buildings and other geo-technical structures; geophysical explorations.

#### Unit 5: Ground Water

Concept and role in town planning of different types of terrain, hydrologic cycle, vertical distribution of groundwater, interstices; Groundwater bearing properties of different lithological formations, porosity, permeability, specific yield, specific retention, transmissivity and storage coefficient; ground water in igneous, sedimentary and metamorphic rocks; aquifers; types and classification (geological), aquiclude, aquitard; aquifuge, water table and piezometric surface; 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.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	D.V. Reddy	Applied Geology	2010	Vikas Publishing House
2.	M.T.M. Reddy	Applied Engineering Geology	2007	New Age International
3.	Institution of Civil Engineers	Applied Geology for Engineers	1976	Institute of Civil Engineers

## CE118- SURVEYNG AND PHOTOGRAMMETRY (LAB)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 2 hrs/week

### Examination Schemes

Internal Jury-50 Marks

**Aim:** To study Preparation of Base Map from data obtained through Field Survey.

#### **Objective:**

1. To learn the Methods of Techniques of Physical Survey and Preparation of Base Maps and Planning.
2. To study the Techniques and use of Aerial Photography and GIS for Preparation of Maps and Plans.

**Pre-requisites:** Materials and Principles of Construction and Planning and Design Lab I

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#### **Unit 1: Fundamentals of Surveying**

Definitions, classifications, use, objectives and basic principles of surveying; Classifications of measurements and units, concepts of scales, maps and plan and use of conventional symbols; Stages in surveying works - field works, office works, care and adjustment of the instruments; Errors in surveying - sources and kinds.

#### **Unit 2: Chain Surveying and Compass Surveying**

Definition, application, advantages and disadvantages, principles; Instruments used, steps in chain survey; Definition of framework of survey, survey lines, survey stations, base line, tie line, check line; Ranging and chaining a survey line, off-sets - use and types; Errors and obstacles in chaining; Plotting chain survey to prepare a plan with practical examples. Definition of compass surveying, traversing, types of traversing, applications, advantages and disadvantages, principles and instruments used in compass surveying; Concept of bearings, meridian and angles, designation of bearing, fore bearing and back bearing, local attraction; Plotting of compass survey data to prepare a plan of a small area

#### **Unit 3: Plain Table Surveying and Computations of Areas**

Definition, application, advantages and disadvantages of plane table survey; Instruments used, working operation, methods of plane table survey; Preparation of map of a small area with plane table survey. General methods of determining area; Instrument used and their principles for computing area; Determination of area from the plotted map with different methods and comparing them; Use of Digital Planimeter

#### **Unit 4: Levelling and Contouring**

Definition, principle, methods and application of levelling; Instruments used and the principles of their work; Concepts of level surface, level line, horizontal plane, horizontal line, vertical line, datum, bench marks; Theory of direct levelling, differential levelling and reduction of levels, classification of levelling and errors in levelling. Definition and application of contouring; Characteristics and interpretation of contour lines; Methods of locating contours

#### **Unit 5: Photogrammetry**

Photogrammetry as an Alternative Tool for Surveying; Introduction to Aerial Remote Sensing and Aerial Photographs, Classification; Principles of Stereoscopic Vision; Basic instruments - Stereopair, Pocket and Mirror Stereoscopes, Parallax Bars; Principles of Photogrammetry, Measurement of Heights and Depths; Introduction to Digital Photogrammetry; Introduction to GPS; Introduction to Total Stations; Applications in urban and regional planning; Laboratory Exercises



**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	B.C. Purnia and A.K. Jain	Surveying (Volume I and II)	2005	Laxmi Publication, Delhi
2.	SatheeshGopi	Advanced Surveying: Total Station, GIS and Remote Sensing	2007	Pearson
3.	Wilfried Linder	Digital Photogrammetry	2008	Sringer

## BP119- PLANNING AND DESIGN LAB II (GRAPHICS AND PRESENTATION TECHNIQUES)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Assessment: 100 Marks  
External Jury: 100 Marks

**Aim:** To study Graphics Presentation Techniques and learn Communication Skills through Planning exercises.

### Objective:

1. To do area Appreciation of a Neighborhood and make Graphical Presentation of the Data.
2. To learn about the Communication Skills Verbal as well as Non-verbal.

**Pre-requisites:** Planning and Design Lab I, Materials and Principles of Construction

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### Unit 1: Graphic Presentation

Graphic presentation of statistical data

### Unit 2: Base Maps and Key Maps

Preparation of Base Maps at the levels of Site, Area, Zone, City, Region, etc; Preparation of Key Maps;

### Unit 3: Composition of Drawings and Photographs

Composition of Drawings, Proportions of Lettering and Line thickness, Standard symbols, Linestyles, Colour-coding; Legend, Drawing Formats; Appreciation of Thematic Maps of various levels of Planning; Introduction to Photography, Basic Principles, Composition for Architectural Building Photographs and Planning / Site Photographs;

### Unit 4: Communication Skills

Graphic presentation and communication skills; Use of Power Point and Multi-Media Projections;

### Unit 5: Appreciation Studies

Appreciation studies of Residential, Commercial, Institutional areas in small urban and / or rural Settlements

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	John Gaber and Sharon Gaber	Qualitative Analysis for Planning and Policy	2007	Planners Press, American Planning Association
2.	David Johnson PE	Fundamentals of Land Development	2008	John Wiley & Sons
3	Richard E Closterman	Community Analysis and Planning Techniques	1990	Rowman and Littlefield, UK

## SECOND YEAR: THIRD SEMESTER

### MA-201 MATHEMATICS AND STATISTICS III FOR PLANNERS

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Advanced Statistical and Quantitative Methods and Applications in Planning.

#### Objective:

1. To study essential Concepts of Correlation and Regression Analysis and Statistical Inference besides ch-square, Anova tests
2. To study Probability and Data Sampling and Hypothesis .

**Pre-requisites:** Mathematics and Statistics I for Planners and Mathematics and Statistics II for Planners

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#### **Unit 1: Probability and Data Sampling**

Probability: Types of Probability, Random Variable, Probability Function, Sample space. Events, elementary events, algebra of events. Axioms of probability. Inclusion-Exclusion formula.  
Sampling: Purpose and Principle of Sampling, Methods of Sampling, Size of Sample, Merits and Limitations of sampling, Sampling Distribution, stratified sampling, systematic sampling, sampling and non-sampling errors, planning and organization of sample surveys.

#### **Unit 2: Bays Theorem and Design of Experiments**

Bay's theorem (statement); Binomial, Poisson and Normal distribution.

Design of experiments-Analysis of variance for one way, two and three way classifications, Principles of experimental designs, completely randomized design, Randomized block design, Latin square design, missing plot techniques (one missing observation)

#### **Unit 3: Univariate, Bivariate and Multivariate data analysis**

Types of data and statistical analysis procedures: Univariate, Bivariate and Multivariate (only overview); Hypothesis Testing procedure based on Z, t, x2 and F-test and one-way ANOVA.

#### **Unit 4**

Coefficient of determination; Development of confidence intervals; Estimation of simple and exponential growth rates; Forecasting with OLS; Estimation of Cobb Douglas production function

#### **Unit 5: Linear Programming & Hypothesis Testing**

Linear Programming: methods for maximizing, methods for minimizing, etc., Input-Output Analysis, Hypothesis Testing: The Chi ( $\chi^2$ ) Test, The Z-Score Test, The T-Test, Test for Proportion

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	S.C. Gupta, V.K. Kapoor	Applied Statistics	--	Sultan Chand
2.	V.K. Kapoor	Problems and Solutions in Statistics	--	Sultan Chand
3.	M.R. Spiegel	Theory and Problems	--	McGran Hill
4.	S.C. Gupta	Fundamental of Statistics	--	Himalaya Publications
5.	K.A. Yeomans	Statistical Methods for Social Scientists	--	Penguin Education Series
6.	McGuen	Statistical Methods for Engineers	--	Prentice Hall
7.	Levin, Rubin	Statistics for Management	--	Prentice Hall

## BP202- PLANNING THEORY I

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Theoretical Foundations of Planning Theory.

**Objective:**

1. To Comprehend Theorization Process in Planning and Centrality of Participation in Planning Theory.
2. To understand Sustainability, Rationality and Globalization.

**Pre-requisites:** Techniques of Planning I, Fundamentals of Urban and Regional Planning

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**Unit 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

**Unit 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

**Unit 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

**Unit 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

**Unit 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

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Faludi, A.	Planning Theory	-	Pergamon Press, Oxford.
2.	Arnstein, S.	A Ladder of Public Participation	-	JAIP, Vol.35, No.4, pp.216-224.
3.	Jenks, M. and Burgers, R. (Eds.)	Compact Cities: Sustainable Urban Forms for Developing Countries	-	Spon Press, New York.
4.	Pacione, M.	Urban Geography – A Global Perspective	-	Routledge, London.
5.	Khakee, A.	Evaluation and Planning: Inseparable Concepts	-	Town Planning Review, Vol. 69, No.4, pp.359 – 374.
6.	Archibugi, F.	Planning Theory: From Political Debate to the Methodological Reconstruction	-	Springer.
7.	Cambia, M.	Planning Theory and Philosophy	-	Taylor and Francis.
8.	Taylor, N.	Urban Planning Theory since 1945	-	Sage, London.

## HU203- SETTLEMENT GEOGRAPHY AND URBANIZATION

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Extent, Location, Spatial Distribution and Internal Structure of Human Settlements.

### Objective:

1. To comprehend analytically the Settlement Hierarchy and Settlement Patterns.
2. To understand the Internal Structures of Cities, Land Value and Land Use Theory.
3. To develop the ability to Critically Analyze Settlement Systems embedded in the Urban and Regional Planning.

**Pre-requisites:** Fundamentals of Urban and Regional Planning, Evolution of Aesthetic, Culture and Technology

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### Unit: 1 Introduction

Need for study of settlement geography; definition of settlement; ranking of towns; site and situation patterns; settlement morphology.

### Unit: 2 Spatial Distributions 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; Interaction among settlements; Gravity model, classification of settlements. Types of regions, delineation of regions, city region, structure of city region, area of influence and dominance, shadow regions Trickle-down effect and Trickle down effects, rural – urban fringe, its structure and growth.

### Unit: 3 Urban Land Use Studies

Classification of land use in urban area; analysis of location and structure and models of growth patterns of CBD, industrial areas and residential areas; intra – urban inequalities. 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.

### Unit 4: Urbanization in India

A 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, standard urban area metropolis, megalopolis, etc; functional classification of urban places.

### Unit 5: Settlement Systems and Role of Urban Area

Settlement system, senses classification of settlements, primate city, rank-size rule, central place concept, concepts of complementary area, central goods and services, range, threshold, etc; city-region relationship; structure of city regions, area of influence, dominance; rural-urban fringes; 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.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Pacione, M.	Urban Geography: A Global Perspective	--	Taylor and Francis.
2.	Lynch, K.	The Image of the City	--	MIT Press.
3.	Glasson, J.	An Introduction to Regional Planning: Concepts, Theory and Practice	--	Taylor and Francis.
4.	Hall, P.G.	The Theory and Practice of Regional Planning	--	Penberton, London.



## BP204- TECHNIQUES OF PLANNING II

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Advanced Planning Techniques.

**Objective:**

1. To understand Advanced Planning Techniques.
2. To develop the ability to professionally examine the Urban and Regional Planning Issues.

**Pre-requisites:** Techniques of Planning I

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**Unit 1: Methods of Analysis**

Methods of analysis of Socio-Economic and Physical data; Use of techniques of Location Quotient, Coefficient of Localization; Locational attributes of activity and population; Techniques for understanding structure of urban areas, land values and density patterns;

**Unit 2: Spatial Standards**

Formulation of spatial standards for residential, industrial, commercial and recreational areas, space standards for facility areas, utilities and networks; Population, Distance criteria; Performance standards; Case studies.

**Unit 3: Regional Surveys**

Concept and need for Regional Planning, Region, Fact or Fallacy; Formal, Functional, Planning Regions; Regional delineation techniques, Factor analysis, Cluster analysis; Flow analysis; Case studies in regional delineation.

**Unit 4: Plan Preparation Techniques**

Setting of Goals and Objectives; Methodologies for preparation of urban/ regional development plans, master plans, structure plan and strategy plan techniques; plan implementation techniques; public participation and plan implementation; techniques of urban renewal and central area redevelopment; Contents of a Master Plan, Regional Plan, etc.

**Unit 5 Introduction to Advanced Techniques**

Thresholds analysis, retail location and industrial location analysis; intervening opportunity models; Linear programming; Simulation, Gravity Models; Applications in planning.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Glasson, J.	An Introduction to Regional Planning: Concepts, Theory and Practice	--	Taylor and Francis.
2.	Field, B.G. and MacGregor, B.D.	Forecasting Techniques for Urban and Regional Planning	1992	UCL Press, London
3.	Bracken, I.	Urban Planning Methods: Research and Policy Analysis	1999	Methuen, London
4.	Hughes, J.T. and Kozlowski, J.	Threshold Analysis – An Economic Tool for Town and Regional Planning, Urban Studies, Vol No.5, No.2, pp. 132-143.	1968	
5.	Wilson, A.G.	Models in Urban Planning: A Synoptic Review of Recent Literature, Urban Studies, Vol. 5, No.3, pp. 249-276.	1973	
6.	Rondinelli, D.A.	Urban Planning as Policy Analysis Management of Urban Change	1973	Journal of the American Institute of Planners, Vol. 39, No. 1, pp. 13 – 22.

## BP205- COMPUTER AIDED DESIGNING (CAD) IN PLANNING

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Fundamentals of Utilizing CAD Tools in Layout Plans and Regional Plans.

### Objective:

1. To study the basic Tools of Automated Design and Drafting in CAD.
2. To study the Application of CAD in Layout Plans and Regional Plans and its Limitations.

**Pre-requisites:** Planning and Design Lab II

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### Unit 1: Drafting in CAD

Need for Computer Applications in Planning; Need for automated design and drafting; Tools for automated designs and drafting; Elements of spatial data in CAD - Arcs, lines, rectangles, polylines, points, circles, donuts, layers, grids, snaps and object snaps, etc.

### Unit 2: Editing and Controlling Display in CAD

Move, scale, copy, offset, change, trim, extend, mirror, divide, measure, array, break, hatch, block, zoom, regen, view, pan, fonts, etc.

### Unit 3: Case Studies of Lay-out Plans

Paper maps, digital layout maps, on screen digitization; 2D and 3D conversion, perspective view, walk through of layout.

### Unit 4: Case Study of a Regional Plan

Base map evaluation, scanning the maps, digitization, scale conversion, symbolization, layer control, plotting.

### Unit 5: Limitations

Limitations of Computer Aided Design and Drafting in Planning; Non-linking of spatial and attribute data; Need for GIS packages for handling spatial and attribute data.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Richard M. Luepton	Graphics Concepts for CAD	2 <sup>nd</sup> , 2007	Prentice Hall
2.	P.N. Rao	CAD / CAM Principles and Applications	2002	Tata McGraw Hill
3.	Solmon Rod	Computer Graphic System and Concepts	1989	Addison Wesley Publishing Co.
4.	Suining Ding	Modelling and Visualization with AutoCAD	2009	--
5.	Linda Holtzschne, Edward Norjega	Design Fundamentals for Digital Age	1 <sup>st</sup> , 1997	Wiley
6.	CAD D Centre	Foundation Course	--	CADD Centre

## BP206- TRAFFIC AND TRANSPORTATION PLANNING I

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study essential Components of Traffic and Transportation Planning including Field Surveys, Facility Design and Traffic Management.

### Objective:

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

**Pre-requisites:** Techniques of Planning I, Fundamentals of Urban and Regional Planning

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### Unit 1: Transport System and its Development

Role and importance of transport, characteristics and role of various forms of transport systems - road, rail, air, water; evolution of mass transport development in India, urbanization and transport demand, motorization trends

### Unit 2: Road Capacity

Concept of PCU and level of service, capacity of uninterrupted flow conditions, factors affecting capacity and level of service; capacity of rural and urban roads, capacity at intersections.

### Unit 3: Traffic Survey and Studies

Traffic Volume Count, origin destination survey, speed and delay study, parking surveys, road network inventory, accident study - need, design of survey proforma, methods of conducting surveys, analysis and interpretation

### Unit 4: Transport Facility Design

Roads: Road hierarchy, design control and criteria, geometric design elements, sight distance and control of access; at grade and grade separated intersections

Parking: Parking space norms and standards, design standards for on-street and off-street parking facilities. Pedestrian Facilities: Capacity guidelines for at-grade and grade separated facilities, design considerations. Cycling Facilities: Capacity guidelines and design considerations for cycle tracks  
Public Transport / Para Transit Facilities: Design standards for bus stops, auto rickshaw, taxi, cycle-rickshaw stands

### Unit 5: Traffic Management and Control

Traffic Management measures; Arterial Management; Traffic Signs - principles, types and design considerations, road markings; Traffic Signals - types, optimal cycle length and signal settings, warrants; Regulation of Traffic - speed regulation, regulation of vehicle, parking regulations, Case Studies.

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	L.R. Kadiyali	Traffic Engineering and Transport Planning	--	Khanna Publishers
2.		Highway Capacity Manual (HCM)	--	
3.	Subhash C.	Traffic and Design	--	Dhanpat Rai and Sons
4.	M. Taylor, W. Young, Bansall	Understanding Traffic Systems: Data Analysis and Presentation	--	Avebury
5.	C. Buchanan	Traffic in Towns	--	HMSO
6.	OECD	Better Towns with Less Traffic	--	OECD
7.	IRC	Publications on Standards and Guidelines	--	Indian Roads Congress (IRC)
8.	UDPFI	Standards and Guidelines: Guidelines on Transportation		ITPI

## BP207- PLANNING AND DESIGN LAB III (NEIGHBORHOOD AND SITE PLANNING)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Jury: 100  
External Jury: 100

**Aim:** To provide practical experience of Neighborhood Planning and preparation of Site Plans.

### Objective:

1. To introduce the Fundamentals of preparation of Site Plans and Neighborhood Plans.
2. To familiarize the students about Standards and Space requirement of different Land Uses and Facilities for a Target Population for preparation of a Site Plans.

**Pre-requisites:** Specification, Estimation and Valuation, Planning and Design Lab I and II

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### Unit 1: Designing, Preparation and Presentation of Drawings

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;

### Unit 2: Planning Working Drawings

Introduction to the working drawings; Preparation of plans, sections, elevations and important details of an apartment unit

### Unit 3: Site Analysis and Conceptual Approach to Site Planning

Site analysis, development standards and preparation of the design brief; various considerations for site layout, conceptual approach to site planning;

### Unit 4: Layouts and Area Analysis

Preparation of preliminary layout and area analysis; Final layout showing the circulation and basic infrastructure;

### Unit 5: Costing and Preparation of Model

Rough costing of the scheme, and preparation of the model to an appropriate scale

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Richard E. Klosterman	Community Analysis and Planning Techniques	Second	Rowman& Littlefield
2.	L.R. Kardiyali	Traffic and Transport Planning	2011	Khanna Publisher
3.	O'Flaherty	Transport Planning and Traffic Engineering	2006	Elsevier India
4.	S.K. Khanna	Highway Engineering	2011	Nem Chand and Brothers

## SECOND YEAR: FOURTH SEMESTER

### BP211- PLANNING THEORY II

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Advanced Planning Theory.

#### Objective:

1. To understand Rational Planning Model.
2. To understand Advocacy Planning and Equity Planning and Collaborative Planning Theory.

**Pre-requisites:** Planning Theory I

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#### Unit 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

#### Unit 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

#### Unit 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

#### Unit 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

#### Unit 5: Capabilities, Race, Gender, Religion and Caste

Defining functioning 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

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Allmendinger, P.	Planning Theory	Second	Palgrave Macmillan, London.
2.	Finche, R. and Iveson, K.	Planning for Diversity	First	Palgrave Macmillan, London.
3.	Fainstein, S.S. and Campbell, S. (eds.)	Readings in Planning Theory	Second	Blackwell, London.
4.	Brooks, M.P.	Planning Theory for Practitioners	--	American Planning Association, Washington.

## BP212- PLANNING PRACTICE I

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Advanced Planning Theory.

### Objective:

1. To understand Rational Planning Model.
2. To understand Advocacy Planning and Equity Planning and Collaborative Planning Theory.

**Pre-requisites:** Fundamentals of Urban and Regional planning

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### Unit 1: Framing Planning Policies

Role of Town and country planning organization at central level and town and country planning department at state level. Actors framing public planning policies; Influences of various stakeholders on policy formulation; Implementation of public policies

### Unit 2: Development Authorities

Types, functions and spatial jurisdictions of development authorities; Reasons for the establishment of development authorities; Place of development authorities in local government

### Unit 3: Development and Development Regulations

Working of building bye-laws in planning practice; Requirements for grant of building permissions; Streamlining the development control regulations; Making development control regulations work for the poor; UDPFI Guidelines; National Building Code and its implementation

### Unit 4: Coordination in Planning Practice

Meaning and types of co-ordination; Mechanisms of coordination; Case examples of coordination from planning practice

### Unit 5: Privatization of Planning Practice

History of privatization of planning; Special Economic Zones; Retail sector developments; Infrastructure development by the private sector such as Metro, etc.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	ITPI	Planning Legislation and Professional Practice		ITPI, New Delhi
2.	Kulshrestha, S.K.	Urban and Regional Planning in India: Handbook for Professional Practice	2012	Sage Publications, New Delhi.
3.	GoI	UDPFI Guidelines Volume – 2A	1996	ITPI, New Delhi
4.	GoI	Indian Contract Act 1972		
5.	GoI	The Arbitration and Conciliation Act, 1996		

Note: This course will be delivered by practitioners having considerable experience in planning practice



## BP213- TRAFFIC AND TRANSPORTATION PLANNING II

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Advanced Planning Theory.

**Objective:**

1. To understand Rational Planning Model.
2. To understand Advocacy Planning and Equity Planning and Collaborative Planning Theory.

**Pre-requisites:** Traffic and Transportation Planning I

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**Unit 1: Urban Structure and Transport System**

Types of Urban Form and Structure, Impact of urban form and structure on transport system development, urban structure and mobility levels, concept of accessibility, land use - Transport Cycle, Transit Oriented Development (TOD), Case Studies.

**Unit 2: Comprehensive Transport Planning**

Study area definitions, surveys and studies, survey techniques; and transport planning process – trip generation, trip distribution, modal split, trip assignment; land use transport models, Scenario development, Comprehensive Mobility Plan (CMP) Components, Case studies.

**Unit 3: Economic Evaluation**

Economic appraisal of transport projects, techniques for estimating direct and indirect road user costs and benefits, value of travel time.

**Unit 4: Transport and Environment**

Traffic noise - factors affecting noise, noise abatement measures, standards; air pollution – factors affecting air pollution levels, abatement measures, standards; Traffic Safety- accident reporting and recording systems, factors affecting road safety; Transport Planning for Target groups - Children, adults, handicapped and women; Norms and Guidelines for highway landscape; Street lighting type - standards and design considerations.

**Unit 5: Transport Policy and Management**

Review of national, state and local level transport policies and their relevance in spatial and economic planning; pricing and funding of transport systems; energy and environment implications in transport; existing organizational and legal framework, transport co-ordination; Transport System Management (TSM) Plans

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	L.R. Kadiyali	Traffic Engineering and Transport Planning	--	Khanna Publishers
2.	J. Khisty and Lal	Transportation Engineering	--	Prentice Hall
3.	M. Bruton	Transport Planning	--	Prentice Hall
4.	C. Buchanan	Traffic in Towns	--	HMSO, V.K.
5.	OECD	Better Towns with Less Traffic	--	OECD
6.	Salter	Analytical Transport Planning	--	OECD

## HU214- ECOLOGY, ENVIRONMENT AND RESOURCE DEVELOPMENT AND MANAGEMENT

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study concepts of Ecology, Ecosystems and Approach towards Resource Management.

### Objective:

1. Significance and Relevance of Ecology, Ecosystems for Settlement Planning.
2. Significance and Role of Environmental Impact Assessment and Overview of Global, National Efforts with relation to Environmental Planning.

**Pre-requisites:** Fundamentals of Urban and Regional planning, Planning Theory I

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### Unit 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, adaptation, tropic levels, food chain, food web, ecological pyramids; Environmental zones.

### Unit 2: Ecosystem and its Relevance to Environment

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 solar, biomass, wind, hydro energy resources; settlement planning and energy conservation; development and management

### Unit 3: 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. Planning for environmentally sensitive areas.

### Unit 4: Environmental Impact Studies

EIA - meaning, significance and framework; Methodologies - checklist, matrices, network and social cost-benefit analysis; sources and acquisition of environmental information; Environmental land use classification; Environment impact studies of development projects.

### Unit 5: Environmental Policies

Global and national policies on environment; Five year plans in relation to environmental aspects; Legal measure for protection of environment; Environmental awareness and education in India; Agencies involved in environment protection; Public participation; Role of planners in shaping the future environment

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	R. K. Agrawal	Environment and Ecology	7th Edition	Krishna Prakashan Media (p) Ltd.
2.	Adrian X. Esparza, Guy Mcpherson	The Planner's Guide to Natural Resource Conservation: The Science of Land Development	1st Edition	Springer
		Beyond the Metropolitan Fringe		
3.	J S Singh, S P Singh, S R Gupta	Ecology, Environment and resource Conservation	2008	Anamaya Publishers
4.	Dash M C	Fundamentals Of Ecology	3 <sup>rd</sup> Edition	Tata Mcgraw Hill Education Private Limited

## BP215- HOUSING AND COMMUNITY PLANNING

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Housing and Community Planning

**Objective:**

1. To understand the Components for allocating Residential Land at City and Area Level; assessment of need, Demand of Supply through various Sub-system.
2. To study Policy Framework and Housing Standards.

**Pre-requisites:** Planning Theory I, Fundamentals of Urban and Regional Planning

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### Unit 1: Introduction

Significance of housing in National Development Goals; Equity and efficiency parameters of housing; Current issues in housing

### Unit 2: Assessing Housing

Existing Housing Statistics; definitions; urban and rural housing statistics; Introduction to concepts of Housing Shortage, Housing Need, quantitative and qualitative aspects of housing; Housing Demand - Understanding current methods of demand assessment; Knowledge of data sources and their use and interpretation; census, NSSO and other data; Limitations of existing methods of assessments.

### Unit 3: Housing Development Process

Understanding of factors affecting residential location, theoretical knowledge of ecological, neoclassical, institutional approach to housing; Housing subsystems and their characteristics: formal and non-formal housing; Process of Public and private sector housing development process; policy context, actors and their interrelationships; Inner city housing, Slums, Squatter housing, Unauthorized Housing; Role of different institutions in housing; International agencies, NGOs, State, Financing Organizations, Private developers, co-operatives.

### Unit 4: Housing Standards and Design

Factors determining residential densities; Densities, costs and development control regulations; Housing designs parameters and their relationship to costs; Housing design and climate; Housing for disaster prone areas. Communities; its characteristics and housing; socio-economic implication of slums, clearance/ improvement of slum; sites and services schemes, squatter upgrading, incremental approach

### Unit 5: Housing Policy Analyses

Understanding and evaluation of Housing Policy and programmes in India; five year plans, Central government policy; Policy framework for urban and rural housing; Comparative policy analysis; Housing for the low income groups; Co-operative housing, objectives and principles; management and financing of housing projects; investment in housing in public and private sectors.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Phil Heywood	Community Planning Integrating Social and Physical Environment	2011	Weley – Blackwell
2.	GoI	National Housing and Habitat Policy	2007	Government of India
3.	Lall V.D.	Assessment of Housing Need	1996	Society for Dev. Studies, New Delhi
4.	Aldrich B.C. and Sandhu R.S.	Housing in Asia Problems and Perspectives	1990	Rawat Publication.

## HU216- SETTLEMENT SOCIOLOGY

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study the Social Aspects of Human Settlements.

#### Objective:

1. To understand the Principles of Sociology.
2. To sensitize on Community Development

**Pre-requisites:** Settlement Geography and Urbanization, Planning Theory I

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#### Unit 1: Understanding Sociology

Sociology as a science; Sociological imagination and rethinking; Applied sociology

#### Unit 2: Sociological Perspective and Organizing Social Life

Functionalist perspective, Conflict perspective, Internationalist perspective; Culture of space and cultural ecology; Social structure and social control; Stratification and social inequality; Social mobility and Social defiance

#### Unit 3: Social Institutions

Family, kinship pattern and authority; Religion as social work and significance in planning; Voluntary associations (identifying NGOs and involving them as partners of development, operational issues); Groups (primary, secondary and reference groups)

#### Unit 4: Community Development

Development induced displacement (anthrop-social considerations); Resettlement and rehabilitation; Neighborhood pattern and development strategy; Rural and urban issues; Community based and workshop based methods; Qualitative data Analysis; Report writing

#### Unit 5: Gender and Development

Gender and sex; Gender Sensitivity; Gender and development planning; Gender implications on spatial planning

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1	Steve Barkan	Sociology: Understanding and Changing the Social World	2010	Flat World Knowledge
2	Ryan T. Cragun, Deborah Cragun	Introduction to Sociology	2006	Wikibooks
3	T.K.Oomenand C.N Venugopal	Sociology	2004	
4	D.P.Mukerji	Basic concepts in Sociology	2004	Rupa Publications India Pvt Ltd
5	RenuKhosla	Addressing Gender Concern in India's Urban Renewal Mission	2010	UNDP

## BP218- TECHNICAL REPORT WRITING

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study methods of Technical Report Writing and to study Scientific Research Methodology.

### Objective:

1. To learn to prepare Coherent and Analytical Report writing with Technical Content.
2. To study Scientific Approach to Research.

### Pre-requisites:

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#### Unit 1: Types and Classification of Reports

Types of reports, difference between technical, scientific, legal and other types of communications; specific characteristics of writing technical reports. English comprehension and oral communication. Presentation techniques in digital and oral format for group discussion in seminars and meetings.

#### Unit 2: Format and Elements of Reports

Preface, acknowledgements, contents, indexing, key word indexing, introduction, body terminal section, appendices, references; Use of Word Processing software; Literature surveys: Use of libraries, knowledge of indexing and available reference materials

#### Unit 4: Special Type of Writing

Special type of writing: 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

#### Unit 5: Research Methodology

Intuition and research; Scientific research, need for scientific approach to research; Research methods; Hypotheses, testing of hypotheses; Reporting of research; Research in planning

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Riordan, D. and Pauley, S.E.	Technical Report Writing Today	--	Jonny and Books.
2.	Allwood, J., Anderson, L.G. and Dahl, O.	Logic of Linguistics	--	Cambridge University, Press, Cambridge.
3.	C.R. Kothari	Research Methodology	2009	New Age International Publisher
4.	R. Kumar	Research Methodology	2005	Sage Publication Ltd., New Delhi

## BP217- PLANNING AND DESIGN LAB IV (TRANSPORTATION PLANNING)

### Teaching Scheme

Lectures: 0 hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Jury:100 Marks  
External Jury:100 Marks

**Aim:** To provide practical experience on various aspects of Transport Planning including Road Geometrics Layouts and Area Circulation Plan on Real Life Projects.

### Objective:

1. To provide Students with Basic understanding about Roads, Road Geometrics and Layout Preparation.
2. To train students in Preparation of Area Circulation Plan including Geometric Design and Low Cost Traffic Management Measure.

**Pre-requisites:** Traffic and Transportation Planning I and II

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### Unit 1: Classification of Roads

Understanding of functional and geometric classifications of urban and rural roads and their cross-sectional elements

### Unit 2: Types of Transport Surveys

Methods, surveys, analysis, presentation of data and also to prepare reports relating to different types of transport surveys

### Unit 3: Road Geometrics and Surveys

Road geometrics and road components, traffic volume, origin destination, spot speed, speed and delay, parking and pedestrian;

### Unit 4: Road Layouts

Design and preparation of layout for road intersections, rotaries and signalized intersections

### Unit 5: Area Circulation Plan (ACP)

Preparation of an area circulation plan by studying the existing land use, existing circulation pattern, geometric design, level of services for a small area through networks improvement and low cost traffic management measures

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	L.R. Kadiyali	Traffic Engineering and Transport Planning	2011	Khanna Publishers
2.	Subhash C. Saxena	Traffic Planning and Design	--	DhanpatRai and Sons
3.	J. Khistry and Lal	Transportation Engineering	--	Prentice Hall
4.	Indian Roads Congress	Design Guidelines for Urban Roads – Intersections	--	IRC
5.	ITPI	UDPFI Guidelines	--	ITPI
6.	HomeGurger	Transport Engg. Handbook	--	--
7.	O'Flaherty	Transport Planning and Traffic Engineering	2006	Elsevier India
8.	S.K. Khanna	Highway Engineering	2011	Nem Chand and Brothers

Note: Each student shall undertake training and planning (or related) during summer vacation. The exact period and place of training will be decided in consultation with the coordinator in charge of training



## THIRD YEAR: FIFTH SEMESTER

### BP301- INTRODUCTION TO ECONOMICS

#### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Basic Concepts of Urban and Regional Economics.

#### Objective:

1. To learn Definitions and Scope of Economics along with Theory of Demand / Supply.
2. To learn Urban and Regional Economics.

#### Pre-requisites

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#### Unit 1: Definition and Scope of Economics

Central problems of economics; micro and macro- economic decisions; use of economics in planning

#### Unit 2: Theory of Demand and Supply

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

#### Unit 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

#### Unit 4: Concept of Income, Employment and Money

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

#### Unit 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.

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	IC Dhingra	Principles of Micro economics	2011	Sultan Chand
2.	MK Goyal	Principles and Theories of Economics	2006	ABD Publishers
3.	Mclann Philip	Urban and Regional Economics	2001	Oxford University Press
4.	Centre for Good Governance (CGG)	Application of Urban Economic Theory to Land Use and Transport-Hyderabad Metro Region		Cgg.gov.in/pdf/wp-1
5.	SaskiaSassen	Cities in World Economy	2000	Pine Forge Press
6.	UNHABITAT	State Of World Cities	2007	UN HABITAT

## BP302- PLANNING AND MANAGEMENT OF UTILITIES AND SERVICES

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Scheme

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study the Planning and Management of Utilities and Services.

### Objective:

1. To introduce basics of Utilities and Services Planning.
2. To give exposure to Innovative Techniques for provision of Water Supply, Waste Water Treatment, Storm Water Management, Sanitation and Solid Waste Management, etc.

**Pre-requisites:** Materials and Principles of Construction, Traffic and Transportation Planning I

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### Unit 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

### Unit 2: Storm Water System

Definition of Hydrology, classification, hydrological cycle, urban water cycle; Types precipitation, measurement of precipitation, intensity-duration-frequency relationships, rainfall formula, rainfall maps, significance of interpretation and presentation of rain fall data; Surface water run off, hydrograph, measurement of discharge for small and big rivers, rational method for estimating run off, unit hydrograph and its application, definition of watershed; Flood frequencies, flood protection measures in urban areas. Estimating storm run-off, run-off co-efficient, rainfall intensity, time of concentration; Gravity flow, hydraulic gradient line, Manning's formula and nomographs, full flow and partial flow; layout and design of storm water system; General considerations, inlets, self cleansing velocity, non-scouring velocity, physical layout-design principles, data requirement; hydraulic design of storm water system and computation procedure.

### Unit 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 its relationship with population sizes, variation of water consumption; seasonal & hourly, peak factor; demand of water for fire fighting; Water treatment system, location and space requirements; Components of water distribution systems, water storage location, capacity, fire fighting components, fire hydrants location, spacing, pressure requirement in pipe; Pumps types, efficiency, head loss, pump selection criteria, site selection and space requirements for pump house; Planning of water supply system, organizations and their jurisdictions, basic design guide line and layout of water supply distribution system; Financing water supply system, public and private partnership of providing water; Legal aspects and government policy for urban and rural water supply. Case study discussion on innovative methods and successful urban water supply system; Significance and methods and advantages of water harvesting system Design of water harvesting systems; Government initiatives for water harvesting system and case study discussion

#### Unit 4: Sanitation and Sewer Systems

Methods of sanitations, advantages and limitations; On-site detention, design procedure for on-site detention, Off-site and on-site technology up gradation; Low cost appropriate technologies for sanitation; Quantity of sewage, standards for Indian cities; Sanitary sewer system network and layout, data needs and procedure of planning; Sewer appurtenances; sewer lift station, sewer pumping and forced main manholes; Sewage disposal methods and their advantages and disadvantages, location criteria and capacity; Case study of innovative approaches of sewage disposal in urban area; Approaches for financing and cost recovery for sewer system.

#### Unit 5: Solid Waste Management

Solid waste management for Indian cities, issues and database, quantity of solid waste and its character; Methods of solid waste management, collection and transportation, disposal of solid waste; Land filling and composting, pre and post treatment; Indore and Bangalore methods, incineration, pyrolysis and recycling park; Area requirements, location and cost aspects of different methods of solid waste disposal systems; Community participation and involvement of Non-Governmental Organizations or NGOs in efficient solid waste management.

#### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Andy D. Ward, Stanley W. Trimble	Environmental Hydrology, Second Edition	2011	Lewis Publisher
2.	Dr. B.C. Purnia, Ashok Kumar Jain, Arun Kumar Jain	Water Supply Engineering		Laxmi Publisher, Delhi
3.	S.C. Rangwala	Water Supply and Sanitary Engineering	Second	Charotar Publishing House, Anand
4.	Urvashi Dhamija	Sustainable Solid Waste Management	First	Academic Foundation, Delhi

## BP303- PLANNING LEGISLATION

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study various Legislations related to Urban and Regional Planning.

**Objective:**

1. To understand the basic Concept of Law and Indian Constitution.
2. To understand the Roles, Responsibilities of various Plan Preparation and Implementation Authorities/Agencies

**Pre-requisites:** Techniques of Planning I and II, Planning Theory I and II

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**Unit 1: 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 planning; benefits of statutory backing for planning schemes; eminent domain and police powers.

**Unit 2: Indian Constitution**

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

**Unit 3: Laws and Acts for Planning and Development**

Introduction, scope and relevance of various laws and acts relevant to planning; Model Town and Country Planning Acts, Development Authorities Act, 73rd and 74th Constitution Amendment Acts; Municipal Acts, Environmental and Pollution Control Acts, etc.; Case studies.

**Unit 4: Land Acquisition Act**

Introduction to Land Acquisition Act, 1984, Historical background, need, advantages, limitations; Relevance in today's context; Case studies highlighting nature of contention, parties in dispute and the decisions in specific planning dispute.

**Unit 5: 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.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	ITPI	Planning Legislation And Prof. Practice		ITPI, New Delhi
2.	GoI	UDPFI Guidelines Volume – 2A	1996	ITPI, New Delhi
3.	Bijlani, H.U. and Balachandran	Law and Urban Land		
4.	GoI	Constitution of India: Constitution (73 <sup>rd</sup> and 74 <sup>th</sup> Amendment) Acts 1992; Model Rect Control Legislation; Indian Contract Act; The Arbitration and Conciliation Act 1996; Slum (Improvement and Clearance) Act 1956; Land Acquisition Act 1894 and Amendments thereof; NCR Planning Board Act, Environment (Protection) Act 1986; Model Town Planning and Regional Planning Development Law; etc.		
5.	Government of Maharashtra	Maharashtra Town Planning Act, 1966		

## BP304- LANDSCAPE PLANNING AND DESIGN

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study the Fundamentals of Landscape Planning and Design

### Objective:

1. Overview of Principles and Techniques of Landscape Design, Open Spaces, etc.
2. Significance of Landscape Planning as component of Urban and Regional Development, Ecology and elements of Landscape.

### Pre-requisites: Planning and Design Lab III

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#### Unit 1: Landscape Elements

Landscape as an outcome of natural processes; principles and techniques of design with landform, water and vegetation; the role of surface materials, outdoor fittings and structures; man-made landscapes in history; a comparative study of the major traditions of landscape design in the east and the west in relation to concepts of space and variations in the use of landscape elements.

#### Unit 2: Urban Landscape

Characteristics and components of open space patterns in towns and cities (traditional and contemporary) basic types: streets, squares, plazas, gardens, ghats and maidans, public parks at district, local and neighborhood levels; park systems; landscape design related to land-use, circulation networks and activity; street furniture as a component of urban landscape.

#### Unit 3: Landscape Aspects of Site Planning – I

Principles of understanding and evaluating an existing landscape; development as a response to constraints and opportunities offered by the site; the landscape concept and open space structure as a basic component of the site plan

#### Unit 4: Landscape Aspects of Site Planning – II

The role of vegetation: environmental benefits, functional requirements, aesthetic considerations; typical situations and criteria for design with plants and selection of species; grading; in relation to existing contours, plinth levels, road alignment and storm water drainage; principles of cut and fill.

#### Unit 5: Elements of Landscape Planning

The rural landscape; characteristics, components and change related to agriculture, forestry and development; western experience of landscape planning; landscape assessment techniques; the concept of landscape quality; landscape planning as a component of regional development proposals for industrial location (manufacturing and extractive); environmental conservation, tourism, etc.; landscape planning in the context of urban extensions and new towns; Introduction to landscape ecology, cultural landscapes.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Geoffrey Alan Jellicoe, Susan Jellicoe	The landscape of man: shaping the environment from prehistory to the present day	Illustrated Edition	Viking Press
2.	William M. Marsh	Landscape Planning: Environmental Applications	5 <sup>th</sup> Edition	John Wiley & Sons
3.	John O. Simonds	Landscape Architecture: A Manual of Site Planning and Design	New/latest Edition	Mcgraw-hill Professional
4.	Wenche E. Dramstad, David M. Gillilan, James D. Olson	Landscape Ecology Principles in Landscape Architecture and Land-Use Planning	New/latest Edition	Island Press
5.	Norman K. Booth	Basic elements of landscape architectural design	illustrated, reprint	Elsevier

## BP305- GEOINFORMATICS FOR PLANNING

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study Geo-informatics and its Potential in Spatial Planning.

### Objective:

1. To study the concept of Remote Sensing and Satellite and Aerial Remote Sensing.
2. To study Planning Information System and its Application in Human Settlements Planning.

**Pre-requisites:** Techniques of Planning I and II

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### Unit 1: Remote Sensing

Limitations of Traditional Surveys for Planning; Remote Sensing - Definition, Aerial and Satellite Remote Sensing, Aerial Remote Sensing

### Unit 2: Photo Interpretation

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

### Unit 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;

### Unit 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

### Unit 5: Planning Information Systems in India

Planning Information Systems -NNRMS, NUIS, National Urban Observatory, Municipal Information Systems, Land Information Systems, Cadastre Systems; Applications and Limitations; Tools for Spatial Data Handling, Introduction to GISs

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Harsan Karimi	Handbook of Research on Geo-informatics	2009	IGI Global
2.	Victor Mesev	Integration of GIS and Remote Sensing	2007	John Wiley
3.	Murali Krishna	Spatial Information Technoogy – Remote Sensing and GIS	--	ICORG – BSP
4.	Nath&Pandey	Geo-informatics for decentralized planning and governance	--	Rawat
5.	N.M. Naidu	Geo-informatics and Geo-statistics	2009	Saujanya Books



## **BP306- INFRASTRUCTURE PLANNING DEVELOPMENT AND MANAGEMENT ELECTIVE I**

### **Teaching Scheme**

Lectures: 2hrs/week  
Practical: 0 hrs/week

### **Examination Schemes**

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Infrastructure Planning and Management.

### **Objective:**

1. To understand basic knowledge of Water Supply, Sanitation; Fire Protection and Electricity.
2. To study requirement and Planning Issues for Regional Infrastructure.

**Pre-requisites:** Planning and Management of Utilities and Services, Planning Theory I and II

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### **Urban Infrastructure**

#### **Unit 1: Water**

Concept of basic needs; formulation of objectives, norms and standards; Planning for water supply; Source of supply, source analysis, quality and quantity; Issues related to transmission of water, treatment methods, sequence, benefits; Distribution systems suitable in large city, small town; basic requirements, design guidelines; Technological options for water supply; Aspects of water distribution in far flung areas; Standards and locations for pumping stations; Water supply projects financing and management; Legal rights, water pricing, water pollution.

#### **Unit 2: Sewage and Sanitation**

Biological/ Environmental/ Cultural concepts in environmental sanitation; Low cost sanitation options: biogas, Sulabh Sauchalaya, etc.; Basic information, alternative disposal systems and conditions of use; Principles of sewage system layout; Collection, transportation and treatment of sewage; Principles of water bound disposal system, storm water drainage systems; Different methods of sewage treatments; Issues related to development parameters. Solid waste: basic principles, generation, characteristics, collection, collection, disposal, management of city waste; Environmental issues of garbage disposal; Alternative technological innovations, conversion of garbage into usable forms.

#### **Unit 3: Fire Protection and Electricity**

Planning for fire protection services and space standards; Locational criteria, implications on land use and density. Planning for electrification, general scenario, services and space standards of transformers; Locational criteria, load forecasting. Institutional arrangements for municipal services, sector issues and assessments, financing systems, administrative set-up, people's participation

#### **Unit 4: Regional Infrastructure Planning**

Regional poverty and basic needs; Basic needs approach to the provision of infrastructure and networks; Regional infrastructure and network systems: Physical (roads, irrigation system, water supply, sanitation, drainage, watershed management, fire services, telecommunication, energy, electricity, solid waste disposal, etc.); Social (health and education) and economics (banking, marketing and public distribution systems); issues, methodology, role of regional planner.

#### **Unit 5: Issues in Regional Infrastructure Planning**

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

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	W.R. Hudson, R.C.G. Hass, W. Uddin	Infrastructure Management	1997	Mcgraw Hill
2.	J.W. Gifford, D.R. Uzarski and S. McNeil	Infrastructure Planning and Management	1993	American Society of Civil Engineers
3.	J. Parkin and D. Sharma	Infrastructure Planning	1999	Thomas Jelford Publishing, London
4.	A. Goodman and M. Hartak	Infrastructure Planning Handbook	2000	ASCE Press.

## BP306- RURAL DEVELOPMENT AND MANAGEMENT ELECTIVE I

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Rural Development and Management Issues; Initiatives and Strategies.

### Objective:

1. To understand the characteristics of Rural Society and the Scope and Nature and Constraints of Rural Development.
2. To study Implications of 73rd CAA on Planning, Development and Governance of Rural Areas

**Pre-requisites:** Fundamentals of Urban and Regional Planning, Planning Theory I and II

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### Unit 1: Introduction to Rural Development

Meaning, nature and scope of development; Nature of rural society in India; Hierarchy of settlements; Social, economic and ecological constraints for rural development

### Unit2: Roots of Rural Development in India

Rural reconstruction and Sarvodaya programme before independence; Impact of voluntary effort and Sarvodaya Movement on rural development; Constitutional direction, directive principles; Panchayati Raj - beginning of planning and community development; National extension services.

### Unit 3: Post Independence rural Development

Balwant Rai Mehta Committee - three tier system of rural local Government; Need and scope for people's participation and Panchayati Raj; Ashok Mehta Committee - linkage between Panchayati Raj, participation and rural development.

### Unit 4: Rural Development Initiatives in Five Year Plans

Five Year Plans and Rural Development; Planning process at National, State, Regional and District levels; Planning, development, implementing and monitoring organizations and agencies; Urban and rural interface - integrated approach and local plans; Development initiatives and their convergence; Special component plan and sub-plan for the weaker section; Micro-eco zones; Data base for local planning; Need for decentralized planning; Sustainable rural development.

### Unit 5: Post 73rd Amendment Scenario

73rd Constitution Amendment Act, including - XI schedule, devolution of powers, functions and finance; Panchayati Raj institutions - organizational linkages; Recent changes in rural local planning; Gram Sabha - revitalized Panchayati Raj; Institutionalization; resource mapping, resource mobilization including social mobilization; Information Technology and rural planning; Need for further amendments.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	ITPI	Village Planning and Rural Development		ITPI, New Delhi
2.	Thooyavan, K.R.	Human Settlements: A	2005	MA Publication, Chennai
3.	GoI	Constitution (73 <sup>rd</sup> Amendment) Act		GoI, New Delhi
4.	Planning Commission	Five Year Plans		Planning Commission
5.	Planning Commission	Manual of Integrated District Planning	2006	Planning Commission, New Delhi
		Planning Guide to Beginners		

## BP307- TRAINING SEMINAR-I

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 2 hrs/week

### Examination Schemes

**Aim:** Exposure to Live Planning Projects and Working Environment in Planning Organization / Department / Development Authority / Local Body.

**Objective:**

1. To understand the profile of the Planning Office / Planning Authority / Local Body / Planning Professional.
2. To participate in a Live Project of Planning Office / Planning Authority / Local Body / Planning Professional.

**Pre-requisites:**

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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 Co-ordinator-in-charge of training. The objective of Training is to expose the students to live planning projects and working environment at planning offices. The students are required to submit a 'Satisfactory' certificate from the relevant Planning Office after completion of Training. The student will also submit a report, highlighting the Profile of the Planning Office, its organization, key work areas, etc; Introduction to the project(s) worked upon during training; planning brief; methods employed; and planning - design solutions / proposals.

The students will also be required to present their work through drawings / visuals, power point presentations in the form of a Seminar to the faculty and students of the Department over the fifth semester, as per directions of the Co-ordinator-in-charge of training.

## BP308- PLANNING AND DESIGN LAB V (AREA PLANNING)

### Teaching Scheme

Lectures: 0 hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Jury:100 Marks  
External Jury:100 Marks

**Aim:** To provide Practical Experience of Area Planning and prepare Area Plan.

### Objective:

1. To study plan preparation and its relationship of higher order plan with lower order plans such as Master Plan with Zonal Plan and Area Plan.
2. To develop the lower order plan within the framework of Master Plan.

**Pre-requisites:** Techniques of Planning I and II, Planning Theory I and II

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### Unit 1: Approaches to Plan Making

The different approaches to plan making; the concepts of master plan, comprehensive development plan - the structure plan, the sector plan, the area/ zonal plan, and other types of plan making processes

### Unit 2: Relationship among Plans

Relationship of higher order plans with lower order plans

### Unit 3: Framework for Zonal Plans

The approach to developing the area/ zonal plan within the framework of Master Plan

### Unit 4: Planning Standards

The study and development of the relevant planning standards for different land uses

### Unit 5: Zonal Plans / Area Plans

Detailing of specific sites in the proposed Zonal Plans / Area Plans, covering different land uses

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Ashutosh Joshi	Town Planning Regeneration of Cities	2008	New India Publishing
2.	Simon Eisher Arthur Gallion, Stanky Eisner	The Urban Pattern	Sixth Edition	Wiley Publications
3	Donal L Elliot	A Better Way to Zone: Ten Principles to create More Livable Cities	2008	Island Press Washington DC

## THIRD YEAR: SIXTH SEMESTER

### BP311- URBAN MANAGEMENT

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To understand the importance of Management of Urban Development.

#### Objective:

1. To understand the importance of Management of Urban Development.
2. To study the role of Private Sector in Urban Development and explore the various sources of Financing Urban Development

**Pre-requisites:** Planning Legislation, Settlement Sociology

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#### **Unit 1: Role of Management in Urban Development**

Definition, objectives and scope of management; Role of management in developing economy; Meaning and theory of organization; Urban development as a decision making process and a corporate activity; Application of management techniques in urban planning and development

#### **Unit 2: Urban Developments in India**

Urban development in India: problems and issues, policies, programmes and provisions in the national five year plans; processes of decision making for urban development at national, regional, state, district and local levels.

#### **Unit 3: Organizations for Urban Development**

Various national, state, regional, district and local level organizations involved in urban development and management in India, their background, functions, powers, organization structure and resources; Case studies.

#### **Unit 4: Urban Developments and Public/ Private Sector**

Urban development bodies; urban development authorities: background, functions, powers, organization structure and resources, Case studies; Role of NGOs and private organizations in urban development, relationships with local and state governments.

#### **Unit 5: Financing Urban Development**

Financing urban development projects; Sources of funding: cost recovery, cost subsidization, medium and long term financing; Private investments in urban development projects: prospects and limitations; Municipal financing: sources of revenue and items of expenditure; Financial resource mobilization for urban development particularly for municipal/ local bodies.

**Text / Reference Books: Relevant to the selected Thesis Topic**

<b>Sl. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1	William I. Goodman and Eric C. Freund	Principles and Practice of Urban Planning (Municipal Management)	1968	Goodman
2	High Powered Expert Committee (under chairpersonship of Ms. Isher Ahluwalia)	Report on Indian Urban Infrastructure and Services	2011	NIUA/MoUD
3	McKinsey Global Institute	India's Urban Awakening : Building	2010	McKinsey Global Institute



## BP312- URBAN RENEWAL AND CONSERVATION

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 2 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Concepts of Urban Renewal and Conservation.

### Objective:

1. To understand role, Concepts and Techniques of Urban Renewal and Conservation.
2. To study Legal and Administrative Aspects of Urban Renewal and Conservation.

**Pre-requisites:** Planning Legislation, Planning Theory I and II

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### Unit 1: Introduction

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; Urban renewal as a part of metropolitan plan; identification of urban renewal areas; conservation, rehabilitation and redevelopment urban renewal policies and strategies

### Unit 2: Economic, Financial and Management Aspects

Economic and spatial implications of urban renewal programs, mobilization of resources; incentive zoning - management of urban renewal areas

### Unit 3: Conservation and Development

Economic and social aspects of conservation, traffic and management issues; Conservation policies

### Unit 4: Slums

Clearance and improvement schemes, planning aspects, land management, social economic issues, public participation, government schemes and their critical evaluation

### Unit 5: Legal and Administrative Aspects

National and international experience in implementing urban renewal programs; 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

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Geoffrey Alan Jellicoe, Susan Jellicoe	The landscape of man: shaping the environment from prehistory to the present day	Illustrated Edition	Viking Press
2.	William M. Marsh	Landscape Planning: Environmental Applications	5 <sup>th</sup> Edition	John Wiley & Sons
3.	John O. Simonds	Landscape Architecture: A Manual of Site Planning and Design	New/latest Edition	Mcgraw-Hill Professional
4.	Wenche E. Dramstad, David M. Gillilan, James D. Olson	Landscape Ecology Principles in Landscape Architecture and Land-Use Planning	New/latest Edition	Island Press
5.	Norman K. Booth	Basic elements of landscape architectural design	illustrated, reprint	Elsevier

## BP313- PROJECT FORMULATION, APPRAISAL AND MANAGEMENT

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Scheme

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Project Formulation, Appraisal and Management Concepts and Techniques as applicable to Town Planning Projects

### Objective:

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

**Pre-requisites:** Specification, Estimation and Valuation, Introduction to Economics

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### Unit 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, life cycle of project; detailed project report, and feasibility studies; techniques of financial appraisal, payback period, IRR, DCF, NPV, CBR

### Unit 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.

### Unit 3: Project Appraisals

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

### Unit 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.

### Unit 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.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	ITTO	Manual on Project Formulation	III, General Information Series No. 13	ITTO
2.	Prasanna Chandra	Projects	VII I	McGraw Hill
3.	K. Nagarajan	Project Management	2004	New Age International Publishers
4.	A. Kanda	Project Management	2011	PHI Learning Pvt. Ltd., New Delhi.

## BP314- INTRODUCTION TO URBAN DESIGN

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Principles of Urban Design and its Controls

### Objective:

1. To study various urban forms
2. To study Building Bye-Laws and Spatial rules for heritage and Hill Areas

### Pre-requisites:

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#### Unit: 1 Introduction to Urban Design Theory

Urban design as interface between architecture and planning; city as a three dimensional entity; Study of volumes and open spaces at all spatial levels; A brief historic review of the development of the urban design discipline and principles

#### Unit: 2 Elements of Urban Design

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

#### Unit: 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.

#### Unit: 4 Control of Urban Design

Urban design and its control; Control of visual pollution; Agencies responsible for ensuring better urban design, their roles, powers and limitations.

#### Unit: 5 Contemporary Practices

Townscape policies, building byelaws and regulations for existing and emerging areas of development; Special rules for heritage and hill areas

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	John Lang	Urban Design	2005	Elsevier
2.	Kevin Lynch	Image of the City	2009	Minnesota Press
3	Ron Kesprisin	Urban Design The Composition of Complexity	2011	Routledge, New York
4	Cristopher Crouch and Jane Pearce	Doing Research In Design	2012	Berg, New York

## BP315- PLANNING AND MANAGEMENT OF INFORMAL SECTOR

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Scheme

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the problems and issues of Urban Informal Sector along with its Planning and Management.

### Objective:

1. To study the Concept and Dimensions of Urban Poverty.
2. To study Migratory Impulses and Impact on Informal Sector.

**Pre-requisites:** Housing and Community Planning, Settlement Sociology

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### Unit 1: Urban Poverty

Dimensions of urban poverty, magnitude of problem, urban poverty alleviation programmes, impact of macro-economic structural adjustment policies on poor urban households.

### Unit 2: Basic Needs

Development of the concept of basic needs; identification of basic needs and their provision for various target groups and informal sectors; standards for basic needs, NGO's and voluntary organizations associated with provision of basic needs.

### Unit3: Alternative Approaches for Delivery of Basic Services to the Urban Poor

Community planning approach, low cost alternatives and institutional reforms approach.

### Unit 4: Migratory Impulses and Impact on Informal Sector

Characteristics of migrants and their association with growth of informal sector; socio-economic deprivation and informal sector; development of informal sector concept; Role of informal sector in housing stock, economy, commercial activities, etc.; Implications in physical planning.

### Unit 5: Consequences of Spontaneous Growth

Study of major aspects; spontaneous living and working, their characteristics and functions in urban context, actions for improvement; appraisal of the role of government, private and voluntary organizations; existing management; their organizational set-up and limitations; planning and development of urban settlements in respect of the spontaneous growth; case studies from India and other developing countries.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Sarabjit Chauhan, Ujjani Mukhopadhyay	Revisiting the Informal Sector	2010	Springer
2.	Kishor C. Samal	A General Equilibrium Approach, Informal Sector Concept, Dynamics Linkages and Migration	2008	Concept Publishing Company, New Delhi.
3	David Lawson, David Hulme, Imran	What Works For The Poorest? Poverty reduction	2010	Practical Action Publishing Ltd Warwickshire, UK
4	Matinand Karen Moore	programmes for the world's extreme poor		

## BP316- GIS (GEOGRAPHIC INFORMATION SYSTEM) FOR PLANNING

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study, Geographic Information System (GIS) and its application in spatial planning.

### Objective:

1. To study the concepts of GIS, Thematic Maps Creation and Spatial Analysis, GIS Modeling and its Application in Spatial Planning
2. To study GIS Software Packages and Advanced Concepts of GIS.

**Pre-requisites:** Techniques of Planning I and II, Geo-informatics for Planning

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### Unit 1: Need for GISs

Maps and Spatial Information, Limitations of Typical DBMS Packages and CAD Packages; Need for GISs.

### Unit 2: Introductions to GISs

Geographic Information Systems, Introduction, Components, Benefits; Computerized GISs, Input and Output Devices; Spatial Data Entry into GIS, Spatial Information Security and Sharing; Data Structure for GIS, Vector and Raster Data Structures, Comparative Advantages and Disadvantages; Maps, Base Maps and Thematic Maps, Mapping and Spatial Analysis Software, Linking of Attribute Data, Spatial Data Aggregation; Spatial Data Generalization; Limitations of GISs

### Unit 3: GIS Modeling

Overlay functions in GIS; using attribute over spatial data in Modeling; case study based land suitability analysis; Modeling service area for social infrastructures; impact analysis

### Unit 4: Specific Packages

Introduction and laboratory exercises on selected GIS Packages (e.g., ArcInfo, ArcView, GeoConcept, Geo-Media, ILWIS, MapInfo, etc.); Comparative advantages and disadvantages; Planning applications

### Unit 5: Advanced Concepts in GISs

Introduction to Dynamic GISs; Integration of GIS and Digital Image Processing; Integration of GIS and GPS

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Michael N. Demers	Fundamentals of Geographic Information Systems	--	John Wiley
2.	Chor Pang Lo, Albert Yeung	Concepts and Techniques of GIS	2007	Prentice Hall
3.	ESRI	Getting to know Arc View GIS		ESRI
4.	John Peter Wilson	Handbook of GIS	2008	Blackwell Publishing
5.	Paul Longley and Michael Betty	Spatial Analysis – Modeling in GIS Environment	1996	John Wiley
6.	Michele Campagna	GIS for Sustainable Development	2005	Taylor and Francis

**BP317- URBAN ENERGY SYSTEMS  
ELECTIVE II**

**Teaching Scheme**

Lectures: 2hrs/week  
Practical: 0 hrs/week

**Examination Schemes**

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To understand various Energy systems that can be used in planning cities

**Objective:**

1. To understand key challenges faced by Urban Planners and designers in conserving energy systems
2. To undertake one urban planning project with implementation of Urban Energy systems

**Pre-requisites:** Settlement Geography and Urbanization

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**Unit 1:** Current energy systems, Alternative energy systems, Solar, Wind, Wave and Tide, Bicycle/Mechanical, Bio, Geo-Thermal.

**Unit 2:** Changing Energy Consumption Patterns, Patterns in Human Settlement; Energy Management, Energy Technology appraisal criteria, Non environmental criteria : financial viability ,supply security ,wider economics.

**Unit 3:** Key issues in Urban Energy Systems: Sustainability, Management, Planning, Engineering, Technology and Financing.

**Unit 4:** Energy Fact Sheets: Traditional Fuels of Today and Yesterday, Nuclear Energy, Energy Use/Waste and Society, Consequences.

**Unit 5:** Energy Environmental Interactions, Economic Considerations. World Energy and Challenge of Sustainability

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1	James Keirstead, Nilay Shah	Urban Energy Systems: An Integrated Approach	2013	Routledge (T&F)
2	Arnulf Grubler, l Fisk	Energizing Sustainable Cities: Assessing Urban Energy	2012	Routledge (T&F)

**BP317- ENERGY EFFICIENT PLANNING  
ELECTIVE II**

**Teaching Scheme**

Lectures: 2hrs/week  
Practical: 0 hrs/week

**Examination Schemes**

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

This is advance course in area of energy conscious Architecture.

**Aim:** To understand various Energy efficient systems and ratings used that can be used in planning buildings and cities

**Objective:**

1. To study energy ratings like LEED, GRIHA
2. To undertake one Urban Planning project and propose energy ratings

**Pre-requisites:** Settlement Geography and Urbanization, Ecology, Environment and Resource development and Management

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**Unit 1:** Building design in response to various climates and its impact upon requirements of energy in building.

**Unit 2:** Assessment of energy in buildings using computer software.

**Unit 3:** Low energy strategies and guidelines.

**Unit 4:** Non- conventional energy sources and system integrated building design.

**Unit 5:** Building energy management system and energy audit of buildings using computer software.

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1	James Ridgeway, Carolyn S. Projansky	Energy-Efficient Community Planning: A Guide to Saving Energy and Producing Power at the Local Level	2012	JG Press
2	Roberto Gonzalo, Karl J. Habermann	Energy-Efficient Architecture: Basics for Planning and Construction	2006	



## BP318- PLANNING AND DESIGN LAB VI (URBAN DEVELOPMENT PLAN)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Jury: 100 Marks  
External Jury: 100 Marks

**Aim:** To impart knowledge and Hands-on Skills for Conducting various Field Surveys; Analysis Data and preparation of Urban Development Plans.

### Objective:

1. To understand various types and hierarchy of Urban Plans, their Characteristics and Contents.
2. To evolve Development Policies; Land Use Plan, priorities and Implementation Mechanism for a selected Urban Area.

**Pre-requisites:** Techniques of Planning I and II, Planning Theory I and II

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### Unit 1: Studying Development Plans

The study shall involve understanding of contents of various types of development plans and explore their foci

### Unit 2: Secondary Source Information for a Selected City or Town

Identification and preparation of secondary source information of the towns or cities selected for the study

### Unit 3: Organization of Field Surveys

Visit to the case study area, collection of primary and secondary data and information on various aspects such as demography, social, economic, housing, transportation, etc.; conduct of primary and secondary surveys

### Unit 4: Analysis and Synthesis

Analysis and synthesis of data and information collected on various aspects; projections of population and workforce; trends and issues identification

### Unit 5: Plan, Policies and Proposals

Preparation of policies and proposals with different scenarios and identification of priorities and action areas; phasing and monitoring; governance structures for implementation; land use plan and the plan document

### Text / Reference Books:

S.No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	GOI	UDPFI Guidelines	1996	ITPI, New Delhi
2.	Bureau of Information and Statistics	National Building Code	2006	BIS, New Delhi
3.	Delhi Development Authority	Master Plan for Delhi 2021	2010	DDA, New Delhi
4.	CIDCO	Navi- Mumbai Development Plan	2008	CIDCO Mumbai

Note: Each student shall undertake training and planning (or related) during summer vacation. The exact period and place of training will be decided in consultation with the co-ordinator in charge of training

## FOURTH YEAR: SEVENTH SEMESTER

### BP401- INTRODUCTION TO REGIONAL PLANNING

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Concepts, Characteristics and Process of Regional Planning.

#### Objective:

1. To understand Regionalization and Growth of Regions and study their Nature, Types and Structure using Case Studies.
2. To study Regional Planning Process and Manner of Preparation of Regional Plans.

**Pre-requisites:** Fundamentals of Urban and Regional Planning

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#### Unit 1: Introduction to Region

Concept of regional planning: nature, objectives, levels and aims; Concept of a region, types, and regionalization.

#### Unit 2: Interactions within a Region

Regional interaction: Rank Size Rule, Settlement patterns, Central place theory; Loschian theory; Regional networks.

#### Unit 3: Regional Developments

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

#### Unit 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.

#### Unit 5: Case Studies

Selected case studies in regional development: Rajasthan Canal Area, South-East Resource Region, Western Ghats Region, etc.; District Planning; Metropolitan regions: National Capital Region, Mumbai Metropolitan Region, etc.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	Ramachandran, R.	Urbanization and Urban Systems in India	1998	Oxford University Press, New Delhi
2.	Chaudhuri, Ray Jayasri	An Introduction to Development and Regional Planning with special reference to India	2001	Orient Longman Ltd., Kolkata
3.	Hall, Peter and Tewdwr Jones, M.	Urban and Regional Planning	2010	Rutledge, New York
4.	TCPO	Urban and Regional Planning and Development in India	1996	TCPO, New Delhi
5.	Planning Commission	Manual of Integrated District Planning	2006	Planning Commission, New Delhi
6.	Carter, Harold	The Study of Urban Geography	1995	Edward Arnold

## BP402- URBAN FINANCE

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Composition of Urban Finance along with its Mobilization and Application.

**Objective:**

1. Analyze Multiple Sources of Urban Finance for Urban Development.
2. Introduce Urban Reforms and their Implications on Liquidity and Application of Urban Finance.

**Pre-requisites:** Introduction to Economics

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#### **Unit 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; Non-traditional sources of funding; Market access; Pool finance and prerequisite conditions for accessing nontraditional funds.

#### **Unit 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.

#### **Unit 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.

#### **Unit 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.

#### **Unit 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.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1	Bahl, Ray, W. and J. Link	Urban Public Finance in Developing Countries	1992	Oxford University Press, New York
2	Kulwant Singh and Behnam Tai	Financing and Pricing of Urban Infrastructure	2000	New Age International, New Delhi
3	KK Pandey	Stimulating Revenue Base of Urban Local	2010	IIPA, New Delhi
4	George E. Peterson and Patricia C. Annez	Financing Cities	2007	Sage Publishers, World Bank
5.	HPEC	Report on Urban Infrastructure and Services	2011	Ministry of Urban Development, Government of India / NIUA.
6.	Peterson, G.	Unlocking Land Values	2009	Cambridge University Press

## BP403- DISASTER RISK MITIGATION AND MANAGMENT

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Disaster Management Practices and Disaster Mitigation Measures.

### Objective:

1. To understand the Basic Concepts of Disaster Management.
2. To understand Disaster Management Mechanisms; Disaster Risk Mitigation; and Post Disaster Measures.

**Pre-requisites:** Housing and Community Planning,

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### Unit 1: Basic Concepts of Disaster Management

Disaster – definitions, concept and perceptions; different types of disasters; recent initiatives at national and state level; Kyoto Framework of disaster mitigation and management; Disaster management policy – national and states; Disaster Management Act – national and states

### Unit 2: Disaster Management Mechanisms

Disaster management mechanisms – national, state and district levels; select global practices; disaster and development; physical planning and disaster management plans; various role players in disaster management – NGOs / CBOs and Armed Forces; Community Based Disaster Preparedness (CBDP)

### Unit 3: Disaster Risk Mitigation

Natural Disasters – physical phenomenon, causes and consequences mitigation and management practices – cyclones, floods, earthquakes, landslides etc.; causes and risk mitigation strategies at the Master Plan for industrial, chemical and biological disasters; land use planning, building bye laws and disaster safe construction practices for different types of disasters

### Unit 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 and case studies on natural disasters. Urbanization, land requirements, social and affordability issues of land use, Climate change and its implications in disaster mitigation

### Unit 5: Post Disaster Management and Cross Cutting Issues

Post disaster management; rehabilitation and reconstruction of disaster affected areas; urban disaster mitigation; natural resource management for disaster safe habitation; relationship between disaster and environment; safe hill area development guidelines and coastal zone regulations for safe habitation; human settlement planning for consequence mitigation of global warming and climate change.

**Text / Reference Books: Relevant to the selected Thesis Topic**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1	Damon P Capolla	Introduction to International Disaster Management	2007	Butterworth Heinemann
2	George D Haddow and Jane A Bullock	Introduction to Emergency Management	2006	Elsevier Butterworth Heinemann
3	Dr. Aniruddha Dhairyadhar Joshi,	Text Book of Disaster Management	2009	Lotus Publication of Pvt ltd.
4	NDMA	Disaster Management Guidelines	2007-11	NDMA
5	Ministry of Home Affairs	Model Amendment in Town and Country Planning Legislations, Regulation for Land Use Zoning and Building Byelaws for Structural Safety	2004	MHA
6	Ministry of Home Affairs	National Policy on Disaster Management(NPDM)	2006	MHA

## BP404- SUSTAINABLE URBAN DEVELOPMENT

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study the Concept of Sustainable Urban Development with focus on issues of Sustainability of Land, Water and Energy Sources and their Impact on Urban Settlements.

### Objective:

1. To study Concept and Issues of Sustainable Urban Development.
2. To understand the concern for ensuring Sustainability of Land, Water and Energy Sources.

**Pre-requisites:** Ecology, Environment and Resource development and Management

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### Unit 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.

### Unit 2: Methods and Techniques

Application of ecological principles in sustainability: energy and resource cycles, food webs, ecological pyramids and evolution and succession of natural ecosystems; Carrying Capacity based planning: concept, parameters and indicator measures, models and case studies in urban and regional development; Environmental Impact and Strategic Environmental Assessment for urban areas; Ecological Footprint Analysis of cities; Sustainable Lifestyle Assessment and behavioral modifications at household levels.

### Unit 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

### Unit 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.

### Unit 5: Air Quality & Solid Waste Management

Sources, types and effects of air pollution and solid waste disposal in cities, 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.



**Text / Reference Books: Relevant to the selected Thesis Topic**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1	Munier, Nolberto	Handbook on Urban Sustainability	2007	Springer
2	The Energy and Resource Institute	Climate Resilient and Sustainable Urban Development	2011	TERI
3	Union Nations	Shanghai Manual, A Guide for Sustainable Urban Development of the 21 <sup>st</sup> Century	2010	Union Nations
4	Planning Commission	Working Group Report on Environmental Sustainability of Indian Cities	2012	Planning Commission
5	CPHEEO	Reports /Manuals	2008-12	CPHEEO

## **BP405- METROPOLITAN PLANNING DEVELOPMENT AND MANAGEMENT ELECTIVE III**

### **Teaching Scheme**

Lectures: 2hrs/week  
Practical: 0 hrs/week

### **Examination Schemes**

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Basic Characteristics and Planning Approach to Metropolitan Cities and their Respective Regions.

### **Objective:**

1. To understand the Process of Metropolitanization and Evolution of Metropolitan Cities and their respective Regions using Case Studies.
2. To introduce the Techniques of Delineation of Metropolitan Regions and study their Structure, Form and Characteristics with the help of Case Studies.

**Pre-requisites:** Techniques of Planning I and II, Planning Theory I and II

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### **Unit 1: Metropolis and Metropolitanisation**

Introduction to metropolis and related concepts, growth and scale; Complexities: social, economic, physical and administrative; Metropolitanisation in India: general trends and distribution; Issues and problems in metropolitan planning and development

### **Unit 2: Metropolises and its Region**

Area of influence, service area of a metropolis; Metropolis as a primate city; Concept of degree of primacy; Metropolitan region and delineation techniques; Metropolitan regional structures: characteristics, components and spatial patterns

### **Unit 3: Forms**

Metropolitan centralization and decentralization processes; Concepts of ring and satellite towns, counter-magnets; Forms and concepts for metropolitan planning and development: Sheet, Galaxy, Core, Star, Ring and Multi-nucleated; Merits and demerits; Efficient functioning of metropolis

### **Unit 4: Metropolitan Planning, Development and Management Strategy**

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

### **Unit 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

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	ITPI	City and Metropolitan Planning and Design		ITPI, New Delhi
2.	Ramachandran, R.	Urbanization and Urban Systems in India	1998	Oxford University Press, New Delhi
3.	Bawa, V.K.	Indian Metropolis: Urbanization, Planning and Management	1987	Inter-India Publications, New Delhi
4.	MMRDA	Madras 2011: A New Perspective for Metropolitan Management	1991	MMRDA, Chennai
5.	NCRPB	Regional Plan 2021	2005	NCRPB, New Delhi
6.	DDA	Master Plan for Delhi – 2021	2010	DDA, New Delhi

## BP405- REAL ESTATE PLANNING AND MANAGEMENT ELECTIVE III

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To Study the Fundamentals of Real Estate Planning and Management.

### Objective:

1. To introduce the basic Definitions and Concepts of Real Estate Planning and Management
2. To provide a basic understanding of Real Estate Markets.

**Pre-requisites:** Urban Finance; Project Formulation, Appraisal and Management

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### Unit 1: Land

Economic 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.

### Unit 2: Developments of Land and Real Property

Process, cost of development, source of finance, and financial calculation for real estate developer

### Unit 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.

### Unit 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; Techniques of cost benefit analysis of urban development programme.

### Unit 5: Case Studies

Case studies of real estate development in public, private, partnership sectors; Real estate as facilitator of development; Development of real estate as a tool for controlling land and property prices; Transaction and renting of real estate, Lease deeds/ sale deeds, sale documents, registration; Mortgage and pledging.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	John Ratcliff, et.al.	Urban Planning and Real Estate Development	3rd	Routledge
2.	Weimer, Arthur M and Hoyt, Homer	Principles of Real Estate	6 <sup>th</sup>	The Ronald Press Co., NY

## BP406- PLANNING THESIS -I

### Teaching Scheme

Lectures: 4hrs/week

Practical: 0 hrs/week

### Examination Schemes

**Aim:** To Equip Students to Conduct Independent Research.

**Objective:**

1. To carry out Literature Search, Set Goals, Objectives and Methodology.
2. To Conduct Field Surveys and Analyze and Synthesize Data Collected and Evolve Recommendations, Strategies and Proposals..

**Pre-requisites:**

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Each student of Bachelor of Planning is required to prepare a thesis on the subject of his / her choice, concerning urban, regional or rural planning. The topic shall be approved by the concerned department. Thesis will provide an opportunity to the student to conduct independent research by using the skills of analysis and synthesis learnt through various theory and practical courses. Thesis will be completed under the guidance of an approved research supervisor allotted by the Department. Thesis will be prepared by the student as per Thesis Manual prepared by the Department. The students will be required to present thesis 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.

### Unit 1: Need for the Study and Formulation of Goals and Objectives

Clear goals and objectives along with scope of each objective should be outlined before establishing the need for conducting a research study; Substantive limitations of the research work should also be stated

### Unit 2: Literature Search

Previous published work on the subject area has to be critically examined for finding out existing thought processes of other authors and trends (proper acknowledgements to be given to authors)

### Text / Reference Books: Relevant to the selected Thesis Topic

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Brubaker, D.L. and Thomas, R.M.	Thesis and Dissertations: A Guide to Planning, Research and Writing.	-	-
2.	Rowena Murray	How to Write a Thesis (3 <sup>rd</sup> Edition)	-	Open University Press
3.	F. Abdul Rahim	Thesis Writing	2005	New Age International (P) Limited Publishers, New Delhi.

## BP407- TRAINING SEMINAR II

### Teaching Scheme

Lectures: 0hrs/week

Practical: 0 hrs/week

### Examination Schemes

**Aim:** Exposure to Live Planning Projects and Working Environment in Planning Organization / Department / Development Authority / Local Body.

### Objective:

1. To understand the profile of the Planning Office / Planning Authority / Local Body / Planning Professional.
2. To participate in a Live Project of Planning Office / Planning Authority / Local Body / Planning Professional.

### Pre-requisites:

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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 Co-ordinator-in-charge of training.

The objective of Training is to expose the students to live planning projects and working environment at planning offices.

The students are required to submit a 'Satisfactory' certificate from the relevant Planning Office after completion of training. The student will also submit a Report highlighting the Profile of the Planning Office, its organization, key work areas, etc; Introduction to the project(s) worked upon during training; planning brief; methods employed; and planning - design solutions / proposals.

The students will also be required to present their work through drawings / visuals, power point presentations in the form of a Seminar to the faculty and students of the Department over the seventh semester, as per directions of the Co-ordinator-in-charge of training.

## BP408- PLANNING AND DESIGN LAB VII (REGIONAL PLAN)

### Teaching Scheme

Lectures: 0hrs/week  
Practical: 10 hrs/week

### Examination Schemes

Internal Assessment: 100  
External Jury: 100

**Aim:** To impart knowledge and Hands-on Skills for Conducting various Field Surveys; Analysis of Data and Preparation of Regional Plans of Districts and Metropolitan Areas.

### Objective:

1. To understand Role and Relevance of Regional Planning in general and the Context of 73rd and 74th CAA in particular.
2. To study District / Metropolitan Area / Regional Development Policies and Land Utilization Plan along with Phasing, Monitoring Mechanism, and Governance Structure for Implementation.

**Pre-requisites:** Techniques of Planning I and II, Planning Theory I and II

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### Unit 1: Context of Regional Plans

Role and relevance of regional planning at district or block level for regional planning, critical appraisal of district or block level plans; Understanding the contents of various types of regional plans and their linkages with higher and lower order plans

### Unit 2: Constitutional Provisions

District planning in the context of 73rd and 74th Constitution Amendment Acts; District Planning Committees (DPCs); Metropolitan Planning Committees (MPCs) and Ward Committees

### Unit 3: Organization of Field Surveys

Formulation of goals, objectives, methodologies; identification of data and sources of information; Collection of secondary and primary data for sectoral and spatial planning; detailed data analysis,

### Unit 4: Analysis and Synthesis

Identification of development issues, potential thrust areas and constraints: sectoral and spatial; designing of alternative planning strategies, settlement patterns and development strategies; Sectoral and spatial prioritization, phasing, financial plans, institutional mechanisms, legislative framework, management plans

### Unit 5: Plan, Policies and Proposals

Preparation of Regional Plan Document along with drawings, etc; Preparation of policies and proposals with different scenarios and identification of priority areas; phasing and monitoring; governance structures for implementation; regional land utilization plan and the plan document

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Planning Commission	Manual of Integrated District Planning	2006	Planning Commission, New Delhi
2.	Government of India	Constitution 73 <sup>rd</sup> and 74 <sup>th</sup> Amendment Act		GoI
3.	John Glasson	Regional Planning	2007	Taylor and Francis, UK
4.	T. Marshall, John Glason and Peter	Contemporary Issues on Regional Planning	2002	University of Michingan

## FOURTH YEAR: EIGHTH SEMESTER

### BP411- URBAN GOVERNANCE AND MANAGEMENT

#### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

#### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To provide an in-depth understanding of the Basic Themes and Issues in Urban Management

#### Objective:

1. To understand the Importance of Decision Making in Urban Management.
2. To appreciate role of Leadership and Communications in Urban Management.

#### Pre-requisites: Urban Management

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#### Unit 1: Introduction to Urban Governance and Urban Management

Meaning of governance and government; Scope of governance, evolution of concept of governance; Theories of local government; History of urban local bodies in India, Evolution of modern urban local governments during British rule; Decentralization of local government; Recommendations of various committees; Politics and progress of decentralization, 74th Constitution Amendment Act, including - XII schedule, decentralization of powers and functions; Local and participatory planning, bottom up, decentralized and integrated planning processes; Planning, governance and spatial strategy; Best practices of planning and quality of governance. Evolution of development and management systems; Scope of development management at the National, state and local levels; Hierarchy of urban settlements; Institutions and organizations; Stakeholders, their perceptions and role in urban management

#### Unit 2: Decision Making

Decision-making; definition, features, factors, essentials and hindrances in sound decision-making; structure of decisions and types of decisions; theories of decision making - rational theory, incremental theory, systems theory, game theory, conflict theory, Herbert Simon's contribution in decision making; decision makers and decision making bodies related to urban and regional planning at national, state and local level.

#### Unit 3: Leadership

Planner's functions as a leader, urban development manager, public bureaucrat, policy analyst and social reformer; approaches to study leadership — trait-approach, behavioral approach and situational approach; role of the planner in the decision-making process; generalists vs. specialist

#### Unit 4: Communication

Importance of communications; elements, types, features and essentials of effective communications; hindrances to effective communication; theories of motivation; carrot and stick approach, need based theory, motivational system; integration versus disintegration; co-ordination and co-operation; centralization and decentralization; single versus plural supervision; elements and types of organization; theories of organization — scientific management theory, bureaucratic theory, classis theory, human relations theory; behavioral approach and systems approach

#### Unit 5: 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



## Unit 6: Conflicts and Resolutions

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; Case studies; examples from the other parts of the world highlighting situations where such problems have been minimized.

### Text / Reference Books

Sl. No.	Name of Authors	Titles of the Book	Edition	Publisher
1	NishithRai	Urban Governance in India	2010	RCEUS
2	Dr. O. M. Mahala	Urban India: Emerging Challenges In Liberalized Era	2011	Neha Publishers and Distributers
3	K.C. Sivaramakrishnan	Growth in Urban India Issues of Governance	2006	Centre for Policy Research
4	I.S.A Baud and Joop de wit	New forms of urban Governance in India	2009	SAGE India
5	FrederikEsko Lange	Urban Governance: Theory and Practice	2009	World Vision
6	P.S.N Rao	Urban Governance and Management	2010	Kanishka Publications
7	Rajiv Sharma	Urban Governance in India	2011	Research India Press
8	Frada Burstein, Clyde W. Holsapple	Handbook on Decision support systems	2008	Springer
9	Harry Timmermans	Decision support systems in Urban Planning	2011	E&FN Spon
10	Dr. B. L. Fadia	Indian Government and Politics		Sahitya Bhawan Publications
11	M.P.Singh and Himanshu Roy	Indian Political System		
12	Peter Guy Northouse	Leadership: Theory and Practice	2012	Sage

## BP412- PLANNING PRACTICE II

### Teaching Scheme

Lectures: 3hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Role and Responsibilities of Professional Planner, and attain knowledge of Project Formulation, Valuation and Conditions of Engagement and Scale of Professional Charges.

### Objective:

1. To understand the Professional Ethics, Roles and Responsibilities of Planners, Clients and Relationship with Public, Developers / Contractors; Professional Planners and other Professionals and Domain Experts
2. To understand the Scope and Nature of Professional Work and to Quote Professional Fees and Charges.

**Pre-requisites:** Planning Practice I

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### Unit 1: Role of Planner

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

### Unit 2: Organization, Scope and Scale of Charges

Aims and objectives of professional institutes, sister bodies; professional roles and responsibilities of planning consultants; professional ethics; responsibilities towards clients, fellow professionals and general public; Scope of services for different projects like master plan for urban area, zonal / district plan, sector / neighborhood; layout, group housing schemes, commercial centers, industrial estates, etc; Consultancy agreements and safeguards; Fees and scales of professional charges, competitions and copyrights.

### Unit 3: Valuation

Fundamentals of valuation, ownership of land, compound interest theory, calculating of present value, concepts of economic rents and social rents, property taxes, sinking fund, annuity, depreciation, valuation tables; Legislative framework-rent control, land acquisition, easements and their effects on properties.

### Unit 4: Methods of Real Property Valuation

Income capitalization methods, land and building method and other methods of valuation; Purpose of valuation; Valuation for wealth tax, income tax, capital gains tax, property tax, gift tax, etc.

### Unit 5: Contract Documents and Project Formulation

Tenders, contracts, arbitration, schedule of rates for construction; Materials, labor and equipment for land development, unit and mode of measurements, rate analysis; Formulations of project proposals and outline; Preparation of and response to Notice Inviting Tenders, Expression of Interest, Terms of Reference, Penalty clauses, etc.

**Text / Reference Books:**

<b>S. No.</b>	<b>Name of Authors</b>	<b>Titles of the Book</b>	<b>Edition</b>	<b>Name of the Publisher</b>
1.	ITPI	Planning Legislation and Professional Practice		ITPI, New Delhi
2.	Kulshrestha, S.K.	Urban and Regional Planning in India: Handbook for Professional Practice	2012	Sage Publications, New Delhi.
3.	ITPI	Conditions of Engagement of Professional Services and Scale of Professional Fee and Charges	2011	ITPI, New Delhi
4.	CPWD	CPWD Manual	2012	CPWD, New Delhi
5.	CPWD	CPWD Schedule of Rates 2012: Civil	2012	CPWD, New Delhi

Note: This course will be delivered by practitioners having considerable experience in planning practice.

## BP413- HUMAN VALUES IN PLANNING

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study Human Values in regard to Urban and Regional Planning.

### Objective:

1. The objective of the course is an exploration of human values, which go into making a 'good' human being, a 'good' professional, a 'good' society and a 'good life'. The context is the work life and the personal life of modern Indian professionals.
2. To understand the Nature and Type of Human Values relevant to Planning Institutions.
3. To understand Professional Ethics and Responsibilities in Planning.

### Pre-requisites:

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#### Unit 1: Nature of Values

The value-crisis in the contemporary Indian Society; The nature of values: the value spectrum for a good life; The Indian system of values.

#### Unit 2: Values and Science and Technology

Material development and its values; the challenge of science and technology; Values in planning profession, research and education

#### Unit 3: Types of Values

Psychological values — integrated personality; mental health; Societal values — the modern search for a good society; justice, democracy, rule of law, values in the Indian constitution; Aesthetic values — perception and enjoyment of beauty; Moral and ethical values; nature of moral judgment; Spiritual values; different concepts; secular spirituality; Relative and absolute values; Human values — humanism and human values; human rights; human values as freedom, creativity, love and wisdom.

#### Unit 4: Ethics

Canons of ethics; ethics of virtue; ethics of duty; ethics of responsibility; Work ethics; Professional ethics; Ethics in planning profession, research and education.

#### Unit 5: Values and Managements

Management by values — professional excellence; inter-personal relationships at work place; leadership and team building; conflict resolution and stress management, management of power.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Weaver, R.C.	The Urban Complex		Doubleday.
2.	Farmer, W.P. et al	Ethics in Planning		American Planning Association, Washington.
3.	How, E.	Normative Ethics in Planning		Journal of Planning Literature, Vol.5, No.2, pp. 123-150.
4.	Watson, V.	Conflicting Rationalities: Implications for Planning Theory and Ethics	--	Planning Theory and Practice, Vol. 4, No.4, pp.395 – 407.

## BP414- ENVIRONMENT IMPACT ASSESSMENT ELECTIVE III

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Role of Environmental Impact Assessment and Methods of Assessment of Impacts.

**Objective:**

1. To understand Role, Evolution and Scope and Methods of Environmental Impact Assessment.
2. To understand Significance of Public, Private and Peoples' Participation.

**Pre-requisites:** Ecology, Environment and Resource Development and Management

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**Unit 1: Introduction**

Role of Environmental Impact Assessment in the planning and decision making process; Definition and need, evolution and objectives, tasks and scope.

**Unit 2: Methods**

Methods of Environmental Impact Assessment; Advantages and limitations; Case studies from India and abroad on projects of various types covering different levels of planning

**Unit 3: Impacts on Land Uses and Resources**

Assessment of impacts on land use, Urban and regional; Assessment of impacts on resources (including air, water, flora and fauna); Case studies from India and abroad on projects of various types covering different levels of planning

**Unit 4: Social and Health Impacts**

Assessment of social and health impacts; Case studies from India and abroad on projects of various types covering different levels of planning

**Unit 5: Environmental Impact Assessment**

Public - private - people's participation in Environmental Impact Assessments: definition and concepts, objectives, techniques, advantages and limitation; PRA techniques; Case studies from India and abroad on projects of various types covering different levels of planning; Practical exercises on Environmental Impact Assessments

**Text / Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	A K Shrivastava	Environment Impact Assessment	1 <sup>st</sup> Edition	Aph Publishing Corporation
2.	Asit K. Biswas	Environmental Impact Assessment For Developing Countries	New/latest edition	Butterworth-Heinemann ltd
3.	S. A. Abbasi	Environmental Impact Assessment	1 <sup>st</sup> Edition	Discovery Publishing House
4.	Bindu N. Lohani	Environmental impact assessment for developing countries in Asia, Volume 1	1997	Asian Development Bank
5.	Larry W. Canter, Canter	Environmental Impact Assessment	2nd Edition	Mcgraw-hill Science/engineering/math

## BP414- PPP IN URBAN ENVIRONMENTAL SERVICES ELECTIVE III

### Teaching Scheme

Lectures: 2hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Mid Sem- 30, Assignment- 20 Marks  
End Sem 50 Marks

**Aim:** To study the Role of Public – Private Partnerships in Urban Environmental Services

### Objective:

1. To understand the Role and Trends in Public – Private Partnerships.
2. To understand the Mechanisms of Public-Private Partnerships.

**Pre-requisites:** Ecology, Environment and Resource Development and Management

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### Unit 1: Urban Environment

The urban environment; existing attributes and changing scenario; Problems associated with urban environmental services.

### Unit 2: Role and Trends

Public-Private Partnerships in delivery of urban environmental services; Recent trends of increasing private participation; Possible partners and their possible roles.

### Unit 3: Forms of Partnerships

Possible forms of partnerships such as contracting out, BOT, joint venture, concessions and community led informal partnership approaches; Strengths and weaknesses of PPPs and their funding structures

### Unit 4: Partnerships, Alliances and Urban Environmental Services

Preconditions for partnerships; Advantages of collaborating; Making groups and partnerships effective; Methods of promoting participation; Using partnerships for improving urban environmental services in small and medium size cities; Meeting the needs of the urban poor through PPP

### Unit 5: Mechanisms of PPPs (Public Private Partnerships)

Processes, procedures and mechanisms in partnerships: regulations and administrative procedures, competitive bidding, due diligence technique, regulatory authority. Transaction cost; Use of municipal bonds for raising public investment; Capacity building of municipalities for undertaking partnership efforts.

### Text / Reference Books:

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Bernan	Guidebook on Promoting Good Governance in Public Private Partnerships	2008	United Nations
2.	Peter Scheubeler	Participation and Partnership in Urban Infrastructure Management	New/latest edition	World Bank Publications
3.	Adriana Allen, Nicholas You, Sonja Meijer, Adrian Atkinson	Sustainable Urbanization: Bridging the Green and Brown Agendas	2002	UN-HABITAT
4.	Mila Freire, Belinda K. P. Yuen	Enhancing Urban Management in East Asia	2004	Ashgate Ltd.

## BP406- PLANNING THESIS -II

### Teaching Scheme

Lectures: 8hrs/week  
Practical: 0 hrs/week

### Examination Schemes

Each student of Bachelor of Planning is required to prepare a thesis on the subject of his / her choice, concerning urban, regional or rural planning. The topic shall be approved by the concerned department. Thesis will provide an opportunity to the student to conduct independent research by using the skills of analysis and synthesis learnt through various theory and practical courses. Thesis will be completed under the guidance of an approved research supervisor allotted by the Department. Thesis will be prepared by the student as per Thesis Manual prepared by the Department. The students will be required to present thesis 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.

#### Unit 1: Field Surveys

Depending on the research topic, field surveys have to be designed and field work has to be done after conducting appropriate sample surveys

#### Unit 2: Synthesis of Data and Information and Findings

Field data and information and literature search findings should be synthesized to make final arguments and identification of planning issues

#### Unit 3: Proposals and Recommendations

Final, specific planning proposals and recommendations should be made at various geographical levels. Proposals should directly emanate from analysis and should not be generalized. Thesis should contain a list of references as per international practice.

#### Text / Reference Books: Relevant to the selected Thesis Topic

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	Brubaker, D.L. and Thomas, R.M.	Thesis and Dissertations: A Guide to Planning, Research and Writing.	-	-
2.	Rowena Murray	How to Write a Thesis (3 <sup>rd</sup> Edition)	-	Open University Press
3.	F. Abdul Rahim	Thesis Writing	2005	New Age International (P) Limited Publishers, New Delhi.