

# FACULTY OF PHYSICAL PLANNING & ARCHITECTURE

## SYLLABUS

for

### **B.TECH. (URBAN & REGIONAL PLANNING) (SEMESTER: I - VIII)**

(Under Credit Based Continuous Evaluation Grading System)

**Examinations: 2015–16**



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# **GURU NANAK DEV UNIVERSITY AMRITSAR**

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**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER SYSTEM)**  
(Under Credit Based Continuous Evaluation Grading System)

**Scheme of Course**

**Semester-I (Autumn Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL101	C	Fundamentals of Urban and Regional Planning	2	1	0	3
SPL102	C	Principles of Construction and Building Structures	2	1	0	3
SPL103	C	Technical Report Writing and Research Methodology	2	1	0	3
SPL104	C	Basic Architectural Design	2	1	0	3
SPU105	C	Map Preparation	1	0	4	3
SPU106	C	Map Graphics	1	0	4	3
PBL121	C	Punjabi Compulsory-I	2	0	0	2
PBL122		<b>OR</b> Basic Punjabi (Mudhli Punjabi)				
ENL101	C	Communicative English – I	2	0	0	2
<b>TOTAL</b>						<b>22</b>

**Semester-II (Spring Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL151	C	Planning Theory – I	2	1	0	3
SPL152	C	Statistical Methods in Planning	2	1	0	3
SPL153	C	Techniques of Planning - I	2	1	0	3
SPL 154	C	Elements of Geography	2	1	0	3
SPU 155	C	Survey of Locality	2	0	6	5
SPU 156	C	Computer Aided Design (CAD)	2	0	2	3
PBL131	C	Punjabi Compulsory-II	2	0	0	2
PBL132		<b>OR</b> Basic Punjabi (Mudhli Punjabi)				
ENL151	C	Communicative English – II	2	0	0	2
Course No. to be added after the student opts for a particular course	I	Student may opt a credit based undergraduate course from any department of the University of minimum 3 credits	Credits to be added after the student opts for a particular course			
<b>TOTAL</b>						<b>27</b>

**B. Tech. (Urban & Regional Planning)**  
**(4 Years 8 Semesters) for 2015-16 (students admitted in 2014-15)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**Semester-III (Autumn Semester)**

Course Code	Course Type	Title of the Course	Credits			Total Credits
			L	T	U	
SPL201	C	Land Record and Information System	2	1	0	3
SPL202	C	Transportation Planning -I	2	1	0	3
SPL203	C	Planning for Utilities	2	1	0	3
SPL204	C	Statistical Methods in Planning	2	1	0	3
SPU205	C	Residential Site Planning	2	0	6	5
SPU206	C	Geographic Information System	1	0	4	3
ESL220	C	Environmental Studies	Audit Course			
Course No. to be added after the student opts for a particular course	I	Student may opt a credit based undergraduate course from any department of the University of minimum 3 credits	Credits to be added after the student opts for a particular course			
<b>TOTAL</b>						<b>23</b>

**Semester-IV (Spring Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL251	C	Specifications, Estimation and Valuation	2	1	0	3
SPL252	C	Real Estate Management	2	1	0	3
SPL253	C	Surveying	2	1	0	3
SPU254	C	Transportation Planning	1	0	4	3
SPU 255	C	Study of Town	2	0	6	5
SPL256	E	Sociology of Settlements	2	1	0	3
SPL257	E	Municipal Services Management	2	1	0	3
SPL258	E	Sustainable Urban Development	2	1	0	3
Course No. to be added after the student opts for a particular course	I	Student may opt TWO credit based undergraduate course from any department of the University of minimum 3 credits	Credits to be added after the student opts for a particular course			
<b>TOTAL</b>						<b>26</b>

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**Semester-V (Autumn Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL301	C	Planning for Conservation	3	1	0	4
SPL302	C	Aerial Photography & Remote Sensing	3	1	0	4
SPL303	C	Transportation Planning – II	3	1	0	4
SPP304	C	Planning Studio – V (GIS & Study of a Town)	0	0	12	6
SPL305	E	Planning for Mega Projects	3	1	0	4
SPL306	E	Planning for Tourism	3	1	0	4
SPL307	E	Real Estate Management	3	1	0	4
<b>TOTAL</b>						22

SPF355	C	Educational Tour – I (to be conducted after theory and planning practice classes of V <sup>th</sup> semester and Viva-voce to be conducted in the VI <sup>th</sup> semester)	Qualifying			Viva-voce
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**Semester-VI (Spring Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL351	C	Planning Legislation	3	1	0	4
SPL352	C	Metropolitan Planning & Development	3	1	0	4
SPL353	C	Rural Settlement Planning & Development	3	1	0	4
SPP354	C	Planning Studio – VI (Master Plan & Regional Study)	0	0	12	6
SPF355	C	Educational Tour – I	Qualifying			
SPL356	E	Planning for Socio-Economic Infrastructure	3	1	0	4
SPL357	E	Disaster Management	3	1	0	4
SPL358	E	Planning for Special Areas	3	1	0	4
<b>TOTAL</b>						22

SPE 404	C	Internship ( 4 to 5 Weeks) (to be conducted after major tests of VI <sup>th</sup> semester and during summer vacations and viva-voce to be conducted in VII <sup>th</sup> semester)	Qualifying			Viva-voce
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**B. Tech. (Urban & Regional Planning)**  
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**Semester-VII (Autumn Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL401	C	Regional Planning	3	1	0	4
SPL402	C	Environment Planning & Management	3	1	0	4
SPL403	C	Project Formulation, Monitoring & Evaluation	3	1	0	4
SPE404	C	Internship (4 to 5 Weeks)	Qualifying			
SPP405	C	Planning Studio-VII (Regional Plan & DPR)	0	0	12	6
SPL406	E	Professional Practice	3	1	0	4
SPL407	E	Community Development and Public Participation	3	1	0	4
SPL408	E	Development Policies and Strategies	3	1	0	4
<b>TOTAL</b>						22

SPF454	C	Educational Tour – II (to be conducted after theory and planning practice classes of VII <sup>th</sup> semester and Viva-voce to be conducted in the VIII <sup>th</sup> semester)	Qualifying	Viva-voce
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**Semester-VIII (Spring Semester)**

Course No.	Course Code	Title of the Course	Credits			Total Credits
			L	T	P	
SPL451	C	Governance and Finance	3	1	0	4
SPL452	C	Planning for Regional Infrastructure	3	1	0	4
SPD453	C	Planning Studio – VIII (Planning Dissertation)	5	0	20	15
SPF454	C	Educational Tour – II	Qualifying			
Course No. to be added after the student opts for a particular course	I	Student may opt a credit based undergraduate course from any department of the University minimum 3 credits	Credits to be added after the student opts for a particular course			
<b>TOTAL</b>						26

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER - I)  
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**SPL 101: FUNDAMENTAL OF URBAN AND REGIONAL PLANNING**

**Credits: 2–1–0**

Settlement: definition and characteristics, rural, urban, census definitions and classification of towns, city, metropolis, megalopolis, their interaction and interdependence. Urbanization process: definition, character, function, migration, role of social, economic and demographic aspects on urbanization, major components of a settlement, major urban problems and their solutions, landuses.

Planning process: definition, need and importance, function, objective and type of planning (sectoral and spatial), administrative level of planning (local, block, dist, state and national), role of environment, society, economy, political, administrative and legal system on planning process. Contents of spatial planning for a settlement: Site planning, transport planning, utility planning, landscape planning, master plans.

Regional planning: definition, need and importance, function, objective, concept of region, types of regions, types and contents of regional planning for block, district, state, national, NCR, resource region, agro-climatic region, topographic region and sectoral planning, major regional problems and their solutions.

**Suggested Readings:**

1. Branch, Melville, (1975), Urban Planning Theory, Dewden, Hutchinson & Ross Inc, Strondsburg Pennsylvirania.
2. Sarin, Madhu, (1982), Urban Planning in third World, the Chandigarh Experience, Mansell Publishing House, London.
3. Thooyavan, K.R. (2005), Human Settlements – A Planning Guide to Beginners, M.A. Publications, Chennai.
4. Hussein, Majid (2002), Fundamentals of Physical. Geography, Second Edition, Rawat Publications, New Delhi.
5. Keeble L. (1972), ‘Principles & Practice of Town and Country Planning’, the Estates Gazette Ltd., London.
6. Kopardekar & Diwan (1994), ‘Urban and Regional Planning-Principles, Practice and Law’ S.H. Kopardekar, Talegaon – dabhade.
7. Kulshrestha S.K. (Ed. 2006), ‘Dictionary of Urban and Regional Planning’, Kalpaz Publications, Delhi.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -I)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 102: PRINCIPLES OF CONSTRUCTION AND BUILDING STRUCTURES**

**Credits: 2-1-0**

Elements of a building: their functions and characteristics, Common types of foundations for buildings: Walls and columns, Cross sectional components of a single storey and Multistoried building. Characteristics of the common building material used for these elements. Façade elements of Historical and traditional buildings.

Planning Considerations for Building making- Relevance of set-backs: Type and application, Covered areas, Plinth area, floor areas, carpet areas and FAR. Relevance of Court yard in Traditional or old buildings, Climate and traditional building forms, Verandah, roof height and considerations for healthy living environment in old buildings.

Buildings in Hills, Tropical, costal and desert areas- form, design and planning approaches. Buildings for Special Areas and Purposes—Slums, Temporary Structures, General types and Material used.

**Suggested Readings:**

1. National Building Code,(2006), Government of India, New Delhi
2. Singh Gurcharan, (2008), Building Construction And Materials, Rajson Publication Pvt. Ltd. New Delhi.
3. Frederick S. Merritt, (2001), Building Design and Construction Handbook, Sixth Edition, McGRAW-HILL: New York.
4. Punmia, P.C., (1994), Strength of Materials and Theory of Structures; Vol I, Laxmi Publications, Delhi.
5. Ramamurtham,S., (1990), Strength of Material, Dhanpatrai & Sons, New Delhi,.
6. Nash, W.A., (1989), Strength of Materials - Schaums Series, McGraw Hill Book Co., New York
7. Bansal, R.K., (1990), Engineering Mechanics and Strength of Materials, Lakshmi Publications, New Delhi.
8. Rajput, R.K.,(1996), Strength of Materials, Sultan Chand & Company Ltd., New Delhi
9. Callender, John Hancock, (1982), Time Saver Standards for Architectural Design Data, McGraw Hill Book Co., New York.
10. Bevlín, M.E., (1980), Design through Discovery, Hercourt School, New York.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -I)  
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**SPL 103: TECHNICAL REPORT WRITING AND RESEARCH METHODOLOGY**

**Credits: 2-1-0**

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.

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

**Suggested Readings:**

1. Gopal, M.H., (1970), An Introduction to Research Procedures in Social Sciences, ASIAN Publication House, Delhi.
2. Crotty, Michael, (2003), The Foundations of Social Research: Meaning and Perspective in the Research, Sage Publishers, London.
3. Kumar, Ranjit, (2005), Research Methodology – An Introduction, Pearsons Education, Baba Balak Nath Printers, New Delhi.
4. T.S. Wilkiinson and P.L.Bhandarkar, (1984), Methodology and Techniques of Social Research, Himalaya Publishers, New Delhi.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -I)  
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**SPL 104: BASIC ARCHITECTURAL DESIGN**

**Credits: 2-1-0**

Introduction to Architecture – relevance in local and physical environment, Elements of Design; Point, Line, Plane, Colour, Light, Space and Material. Principles of Design – Balance, harmony, rhythm, proportions, scale, contrast, symmetry, variety, unity and diversity.

Objectives of Design; beauty, order, economy. Composition Formal / informal, two dimensional and three dimensional Compositions based upon principles of design. (e.g. preparation of collage, murals, motifs etc.) Anthropometry and circulation area required for various activities.

Design of small spaces such as office, bus–stop, kiosk and single storey residential unit. Design considerations and focus of elements used. Relationship of the building to the site, to time and man i.e. scale setting and citing of a building, streets/roads, landscape etc.

**Suggested Readings:**

1. Bussagli Marco (2005), “Understanding Architecture”, I.B. Tauris, London
2. Nathan B Winters, (2005), Architecture is Elementary: Visual Thinking Through Architectural Concepts, Gibbs Smith Publishers, US
3. Gann David, M., (2000), “Building Innovation”, Thomas Telford Publishing, London.
4. Ching Francis, D.K., (1996), “Architecture Form, Space and Order”, Van Nostrand
5. Reinhold, New York.
6. Heath, Tom, (1984), “Method in Architecture”, John Willy and Sons, New York.
7. K.W. Smitnies, (1983), Principles of Design in Architecture, Chapman & Publisher New York.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER - I)**  
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**SPU 105: MAP PREPARATION**

**Credits: 1-0-4**

- Basic elements of MAPS, components and presentation
- Scale and type of maps—study of large scale, small scale maps, Land use maps of cities.  
(tracing of maps and understating of concept of scale)
- Different theme maps—census map series, geographical maps, components of working drawings of a site, buildings.
- Topographical maps – sources, SOI specifications, grid formation, data factors, Projection systems- Types, basic concepts, SOI guidelines and assumptions for projection systems, Study of SOI grids.
- Generation of Theme Maps from Base map\_ Land Use Types etc. Demonstration of Use of Statistical Data on Maps- Pictographically, Graph etc.
- Preparation of a base of a city :
- Copying an existing map and Generating map from other sources
- Components of a Base map for a city or part of a city
- Map presentation with colours.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER - I)**  
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**SPU 106: MAP GRAPHICS**

**Credits: 1-0-4**

The objective of this exercise is to orient students with the techniques of presentation. The students are required to undertake practical exercises in all the following two categories.

- Various types of grades of lines used in drawing. Meaning and description of plan, elevation and sections using geometrical shapes,
- Free hand sketching of solids, cones, cubes, cylinders, spheres etc. Free hand sketch of various settlement elements – electric poles, street features, trees, shrubs, bus stop physical natural features etc.
- Signs and Symbols used for different types of maps—building materials, landscape elements, land use pattern for a city and regional, common sign conventions adopted for topographical sheets.

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**PBL121: पंचाधी-I (लक्ष्मी)**

p`T-kñ Eqp`T-pñsqk-

**Credits: 2-0-0**

**(I)** 1. E`qm En`qm (sñ. virE`m isñ sñDU Eqyf. siññrblr isñ, grññnk dy wñlvristl, Eñññsr)

iveññññ il Kykh`xlk`r :

- (a) grmk isñ ms`iPr : gt`r  
 (E) sj`n isñ : pT`x dl Dl  
 (e) krq`r isñ dñl : ael Eñl v`l l grg`bl  
 (kh`xl-s`r, ivS`-vsqñ kh`xl-kl`, kh`xlk`r)

2. grmkñl Eñ`Qgr`Pl dl j`gq, (pñq; mñ`rnl; ibññ, it`el qyEñk); ivr`m icññ Sbd j`V  
 (SD-ESD)

**(II)** 1. E`qm En`qm (sñ. virE`m isñ sñDU Eqyf. siññrblr isñ, grññnk dy wñlvristl,

Eñññsr) iveññññ il Kykh`xlk`r :

- (a) sñk isñ Dl`r : s-Jl kñ  
 (E) kl vñ isñ ivrk : aj`V  
 (e) mihñr isñ srñ : j`Qd`r mkññ isñ  
 (kh`xl-s`r, ivS`-vsqñ kh`xl-kl`, kh`xlk`r)

2. I`K rcn` (j`lvnl-prk, sm`j k Eqycl ñ iviSE- aqy):  
 10 I`K il Kv`axy(kl`s ivc EqyGr l el EñBE`s)

**(III)** 1. E`qm En`qm (sñ. virE`m isñ sñDU Eqyf. siññrblr isñ, grññnk dy wñlvristl,

Eñññsr) iveññññ il Kykh`xlk`r :

- (a) pñ`p`k`S : m`V` bññ  
 (E) gl`z`r isñ sñDU : kl`@xy

(e) mhn Bf'ri : Gtx'

(s) virE'm isIG sDU : dl dl

(kh'xl-s'r, ivS'-vsqll kh'xl-kl', kh'xlk'r)

2. p' pVllkypSn-dyagr dx'

(E'qm En'qm psqk dykh'xl B'g ivell 15 plrE-dyEiBE's krv'ax)

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER - I)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**PBL-122: ਮੁੱਢਲੀ ਪੰਜਾਬੀ**  
**(In lieu of Punjabi Compulsory)**

**Credits: 2-0-0**

**ਪਾਠ-ਕ੍ਰਮ**

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ,  
ਗੁਰਮੁਖੀ ਲਿਪੀ  
ਗੁਰਮੁਖੀ ਲਿਪੀ : ਬਣਤਰ ਅਤੇ ਤਰਤੀਬ
2. ਗੁਰਮੁਖੀ ਆਰਥੋਗ੍ਰਾਫੀ  
ਸੂਰ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ  
ਵਿਅੰਜਨ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ
3. ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ  
ਸਾਧਾਰਨ ਸ਼ਬਦ  
ਇਕ ਉਚਾਰਖੰਡੀ ਸ਼ਬਦ

**ਯੂਨਿਟ ਅਤੇ ਥੀਮ**

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਨਾਮਕਰਣ ਅਤੇ ਸੰਖੇਪ ਜਾਣ ਪਛਾਣ, ਗੁਰਮੁਖੀ ਲਿਪੀ : ਨਾਮਕਰਣ, ਗੁਰਮੁਖੀ ਵਰਣਮਾਲਾ; ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਸੂਰ ਵਾਹਕ (ੳ ਅ ਏ), ਲਗਾਂ ਮਾਤਰਾਂ, ਪੈਰ ਵਿਚ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ, ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ, ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ।
2. ਗੁਰਮੁਖੀ ਆਰਥੋਗ੍ਰਾਫੀ ਅਤੇ ਉਚਾਰਨ; ਸੂਰਾਂ ਦੀ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ (ਲਘੂ-ਦੀਰਘ ਸੂਰ); ਸੂਰ ਅਤੇ ਲਗਾਂ ਮਾਤਰਾਂ; ਵਿਅੰਜਨਾਂ ਦੀ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ; ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣਾਂ (ਹ, ਰ, ਵ) ਦਾ ਉਚਾਰਨ ; ਲ ਅਤੇ ਲ ਦਾ ਉਚਾਰਨ; ਭ, ਧ, ਢ, ਝ, ਞ ਦਾ ਉਚਾਰਨ; ਪੈਰ ਵਿਚ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣਾਂ ਦਾ ਉਚਾਰਨ।
3. ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ : ਸਾਧਾਰਨ ਸ਼ਬਦ; ਇਕੱਲਾ ਸੂਰ (ਜਿਵੇਂ ਆ); ਸੂਰ ਅਤੇ ਵਿਅੰਜਨ (ਜਿਵੇਂ ਆਰ); ਵਿਅੰਜਨ ਅਤੇ ਸੂਰ (ਜਿਵੇਂ ਪਾ); ਵਿਅੰਜਨ ਸੂਰ ਵਿਅੰਜਨ (ਜਿਵੇਂ ਪਾਰ); ਕੋਸ਼ਗਤ ਸ਼ਬਦ (ਜਿਵੇਂ ਘਰ, ਪੀ); ਵਿਆਕਰਣਕ ਸ਼ਬਦ (ਜਿਵੇਂ ਨੂੰ, ਨੇ); ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ-1; ਲਿੰਗ-ਪੁਲਿੰਗ, ਇਕ ਵਚਨ-ਬਹੁ ਵਚਨ; ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ-1: ਖਾਣ-ਪੀਣ, ਸਾਕਾਦਾਰੀ, ਰੁੱਤਾਂ, ਮਹੀਨਿਆਂ, ਗਿਣਤੀ, ਮੌਸਮ ਆਦਿ ਨਾਲ ਸੰਬੰਧਿਤ।

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER - I)****(Under Credit Based Continuous Evaluation Grading System)****ENL 101: COMMUNICATIVE ENGLISH-I**

Credits: 02 (L=2,T=0,U=0)

**Objective:** To introduce students to the skills and strategies of reading and writing by identifying organizational patterns, spotting classification systems and understanding associations between ideas. This course will prepare students to read a variety of texts and also to communicate more effectively through writing. The course will also pay special attention to vocabulary building.

**Prescribed Text books:**

1. *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. *The Written Word* by Vandana R. Singh, Oxford University Press, New Delhi.

**Course Contents:****1. Reading and Comprehension Skills:**

Students will be required to read and comprehend the essays in Unit 1 and 2 of the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition. They will be required to answer the questions given after each essay.

**2. Developing Vocabulary and using it in the Right Context:**

The students will be required to master “Word List” and “Correct Usage of Commonly Used Words and Phrases” from the Chapter “Vocabulary” in the book *The Written Word*.

**3. Writing Skills**

Students will be required to learn “Report Writing” and “Letter Writing” as in the book *The Written Word*.

Students will be required to write long essays based on the prescribed text book *Making Connections: A Strategic Approach to Academic Reading*.

**Minor 1:****Syllabus to be covered:**

1. Unit 1 from *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. Report Writing from *The Written Word*.

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**Suggested Paper Pattern:**

1. Report Writing ( 8 marks)
2. Short answer type questions from Unit 1 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)
3. Essay type question from Unit 1 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)

**Minor 2:**

**Syllabus to be covered:**

1. “Word List” from the Chapter “Vocabulary” in the book *The Written Word*.
2. Unit-2 from the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.

**Suggested Paper Pattern:**

1. Word List from the Chapter “Vocabulary” in the book *The Written Word* (8 marks)
2. Short answer type questions from Unit 2 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)
3. Essay type question from Unit 2 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)

**Suggested Paper Pattern for Major Exam:**

1. Letter Writing as prescribed in *The Written Word* /1 out of 2 (10 marks)
2. Short answer type questions from Unit 1,2 of *Making Connections: A Strategic Approach to Academic Reading* (14 marks)
3. “Word List” and “Correct Usage of Commonly Used Words and Phrases” from the Chapter “Vocabulary” present in the book *The Written Word*. (10 marks)
4. Essay type question from Unit 1,2 of *Making Connections: A Strategic Approach to Academic Reading* 1 out of 2 (8 marks)
5. Report Writing from *The Written Word* (8 marks)

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER – II)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 151: PLANNING THEORY – I**

**Credits: 2–1–0**

Definitions of planning theory including theory of planning, theory in planning and theory about planning; Definition of paradigm by Kuhn; Significance of planning theory; Espoused theories and theories in us

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

Globalization, internationalization, modernism and postmodernism debate; Pragmatism in planning; Forms of cities in developing world, Forms of cities in the developed world. Need for evaluation; Methods of evaluating development plans; Theories of implementation of planning policies and development plans

**Suggested Readings:**

1. Allmendinger, Philip (2009), "Planning Theory (Planning, Environment and Cities)", Palgrave Macmillan, U.K.
2. Kuhn S. Thomos (1996), "The structure of Scientific Revolutions", The University of Chicago Press, Chicago and London.
3. Kerr, Paulette, "Espoused Theories and Theories in Use of Information Literacy: A Model for Reflection and Evaluation"
4. Morris, Louise, Giroux Renée and Terlaud Claude (2007), "Local Government Participatory Practices Manual" Federation of Canadian Municipalities, International Centre for Municipal Development, 24 Clarence Street, Ottawa Ontario
5. Ministry of Urban Planning, "Urban and Regional Development Plans Formulation & Implementation Guidelines" Volume – I, 2014

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**SPL 152: STATISTICAL METHODS IN PLANNING**

**Credits: 2–1–0**

Introduction to statistics-meaning, importance, scope, and limitations, collection of data – objectives, scope, sources, methods of classification of data – functions, rules basis, methods of tabulation of data meaning, importance, prerequisites, types. Sampling theory and designing sample surveys – concepts; principles, types, methods, sampling errors

Presentation of Data-methods of presentation, graphic presentation; types of charts; plotting a curve, rules for drawing curves; bar charts, pictography, pie charts, histograms ; Measures of central tendency-meaning and importance, arithmetic mean, median, mode.; Measures of dispersion – measures of dispersion – meaning and importance, range, quartile deviations, mean deviation, standard-deviation, Lorenz curve.

Correlation analysis- methods of studying simple correlation: scatter diagram, Karl Pearson's coefficient of correlation, Spearman's rank correlation. Multiple and partial correlation, Correlation ratio and intra-class correlation; Regression analysis- meaning and purpose of regression, simple and multiple linear regression using least square principle, coefficient of determination. Time series analysis -meaning and importance, methods, graphs semi-averages, least squares, moving average, ratio to proportion;

**Suggested Readings:**

1. Goon, A. M., M. K. Gupta and B. Das Gupta, (2002), Fundamentals of Statistics, Vol. II, World Press, Calcutta
2. Gupta, S.C., (2006), Statistical Methods, Sultan Chand & Sons, New Delhi
3. Gupta, S.C. and V. K. Kapoor, (2010), Fundamentals of Mathematical Statistics, 11<sup>th</sup> Ed., Sultan Chand & Sons, New Delhi
4. Gupta, S.P., (2009), Statistical Methods, 38<sup>th</sup> Ed., Jain Book Agency, New Delhi
5. Sancheti, D.C. & V.K. Kapoor, (2001), Statistics Theory Methods & Application, Sultan Chand & Sons, New Delhi

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 153: TECHNIQUES OF PLANNING - I**

**Credits: 2–1–0**

Introduction to data – Data types: spatial and non- spatial data, relevance in urban and regional planning, data sources (non- spatial): census – Types, town Directory, village directory, and data classification of census, Gazetteer, Statistical abstract and other secondary sources. Survey techniques at local, urban, and regional level- Physiographic Surveys – Elements (soil types, underground and surface water vegetation ,topography), Landuse Surveys - general Landuse (level -1), detailed Landuse (level –II), specific Landuse (level-III).

TCPO Landuse classification, UDPFI guidelines, Land utilization Surveys, Building condition survey – traditional elements, modern and any other, Socio-economic survey. Methods of conducting survey- interview questionnaire, scheduling. Planning standards – Different sources of Planning standards (TCPO, UDPFI. development authorities), Landuse standards – city size and classification types, standards for commercial, industrial (industrial area, estate, zones etc) open spaces (types, hierarchy and space standards), facilities and services.

Analysis techniques –Identification of planning units at different levels , analysis of spatial data (weightage index method, graphical method), aspect wise analysis, cross-tabular analysis and data tabulation and compilation techniques. Data presentation techniques – diagrams, graphs, cartograms, choropleth, choro-schematic, choro-chromatic, dot method to present level of development (spatial ), density pattern and other types of planning analysis.

**Suggested Readings:**

1. Kulshrestha, S.K., (2006), Dictionary of Urban and Regional Planning, Kalpaz Publications, Delhi.
2. Ministry of Urban Affairs & Employment (G.O.I.), (1996) Urban Development Plans Formulation and Implementation Guidelines, ITPI, New Delhi.
3. Saini & Mahavir, (1985), Urban Development Planning Strategies and Techniques, Central Electric Press, Delhi.
4. Thooyavan, K.R., (2005), Human Settlements – A Planning Guide to Beginners, MA Publication, Chennai.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)****SPL 154: Elements of Geography****Credits: 2–1–0**

Definition and subject matter, main branches of Geography and their broad coverage, need and importance of geographic considerations in Planning. Physiographic regions and settlement patterns. Geological and hydrological features and their considerations in Planning.

Climate and its determinants and components, Climatic conditioning through planning and design; solar control and wind movement at site and building level. Form and structure of Human settlements and Buildings in warm, humid, hot, dry composite and upland climates (with special reference to India).

Special geographical regions and their planning considerations (e.g. seismic region, flood prone region, cyclone prone areas). Representation of geographical data; relief depiction methods (contours, hachure's and form lines), morph metric analysis (profiles, gradient and slope). Climatic maps and diagrams, geological maps and diagrams.

**Suggested Readings:**

1. Lal, D.S., (1996), Climatology, Chaitanya Publishing House, Allahabad
2. Robinson, H. (1978), Biogeography, ECBS & Mac Donald and Evans, London
3. Strahler. A.H, and Strahler. A.N, (2001), Modern Physical Geography (Fourth Edition), John Wiley and Sons, Inc.1., New York
4. Monkhouse and Willinson, (1964), Maps and Diagrams, Methuen & Co., London.
5. Singh R.L. and Rana P.B. Singh, (1998), Elements of Practical Geography, Kalyani Publishers, New Delhi.
6. Khullar, D. R., (1999), Essentials of Practical Geography, New Academic Publishing Co., Jalandhar.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**SPU 155: SURVEY OF LOCALITY**

**Credits: 2-0-6**

The purpose of the exercise is to train students in art of conducting surveys and preparing or updating a base maps of city or its part, understand the nature of different activities and preparation of survey questionnaire of data. The aim is to understand the physical, social, visual and environment aspects of an area and data presentation techniques. Following aspects are covered

- Site in relation to the city and surrounding landuse.
- Site inventory, topography, existing land use, site resources and physiographic conditions.
- Data collection –of following aspects: physical, socio-economic, physical and social infrastructure, traffic and transportation, building condition, housing,
- The study shall be suitably presented in form of a report illustrated with necessary drawings, maps charts, diagrams and photographs.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)****SPU 156: COMPUTER AIDED DESIGN (CAD)****Credits: 2-0-2**

- Setting up of a drawing – Coordinate system, Limits, Units, Precision, Lines, Poly-lines, Simple modification commands, Simple Dimensioning, Dtext.
- Layers, Circles, Ellipse, Arc, Polygons, Spline, Advance modification commands.
- Array, Hatching, Mtext, Advanced Dimensioning, Scale, Concepts of blocks and external referencing, Printing of drawing.
- 3D in AutoCad and 3D related commands. Modification of 3D in AutoCad e.g., Union, Subtraction, etc., Simple 3D models, Material, Lights and Rendering.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**PBL 131 -पंचाधी- II लासमी**

पंT-कन EqypT पसक-

**Credits: 2-0-0**

- (I)** 1. E`qm En`qm (s) . virE`m isG sDU Eqyf . sihUrblr isG, grUn`nk dy whlvristl, EImkqr) ivellhyT- il Kykvl :
- (a) B`el vlr isG  
 (E) pl prn isG  
 (e) pl mhn isG  
 (kivq`-s`r, ivS`-vsqll k`iv-kl` , kvl)
2. pjl`bl Sbd bxqr : D`qVml , vDqr (Egqr, ipCqr, ivalppq Eqyrp-qrl), sm`s |
- (II)** 1. E`qm En`qm (s) . virE`m isG sDU Eqyf . sihUrblr isG, grUn`nk dy whlvristl, EImkqr) ivellhyT- il Kykvl :
- (a) EImkq` plqm  
 (E) f . hrBj n isG  
 (e) iSv km`r bt`l vl  
 (kivq`-s`r, ivS`-vsqll k`iv-kl` , kvl)
2. p`llrcn` : kl`s iv 10 iviSE- (siBE`c`rk, D`rimk Eqyr`j nlqk) qyp`llrcn` dy EIBE`s krv`axy|

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)**

(III) 1. E`qm En`qm (s`p. virE`m is`G s`DU Eqy f. sih`Mrbir is`G, gr`ll`nk dy w`hlvrstl, E`llm`qsr) iv`e`ll`h`T il Kykvl :

(a) f. j sv`ll is`G n`kl

(E) f. j gq`r

(e) f. srj lq p`qr

(s) p`S

(kivq`-s`r, ivS`-vsq`ll k`iv-kl` , kvl)

2. mh`vryqyEK`x (EK`x qymh`vr` k`S iv`e) 200 mh`virE- Eqy100 EK`x- n`llv`k- iv`e vrqx dyEiBE`s krv`axy (kl`s iv`e qyGr l el) |

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)****PBL-132: ਮੁੱਢਲੀ ਪੰਜਾਬੀ****(In lieu of Punjabi Compulsory)****Credits: 2-0-0****ਪਾਠ-ਕ੍ਰਮ**

1. ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ  
ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਸ਼ਬਦ  
ਬਹੁ-ਉਚਾਰਖੰਡੀ ਸ਼ਬਦ
2. ਪੰਜਾਬੀ ਵਾਕ-ਬਣਤਰ  
ਸਾਧਾਰਨ-ਵਾਕ : ਕਿਸਮਾਂ  
ਸੰਯੁਕਤ-ਵਾਕ : ਕਿਸਮਾਂ  
ਮਿਸ਼ਰਤ-ਵਾਕ : ਕਿਸਮਾਂ
3. ਪ੍ਰਕਾਰਜੀ ਪੰਜਾਬੀ  
ਚਿੱਠੀ ਪੱਤਰ  
ਪੈਰ੍ਰਾ ਰਚਨਾ  
ਸੰਖੇਪ ਰਚਨਾ  
ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ

**ਯੂਨਿਟ ਅਤੇ ਥੀਮ**

1. ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ : ਸੰਯੁਕਤ ਸ਼ਬਦ; ਸਮਾਸੀ ਸ਼ਬਦ (ਜਿਵੇਂ ਲੋਕ ਸਭਾ); ਦੋਜਾਤੀ ਸ਼ਬਦ (ਜਿਵੇਂ ਕਾਲਾ ਸਿਆਹ); ਦੋਹਰੇ ਸ਼ਬਦ/ਦੁਹਰਰੁਕਤੀ (ਜਿਵੇਂ ਧੂੜ ਧਾੜ੍ਹ/ਭਰ ਭਰ), ਮਿਸ਼ਰਤ ਸ਼ਬਦਾਂ ਦੀ ਬਣਤਰ/ਸਿਰਜਨਾ; ਅਗੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਉਪ ਭਾਸ਼ਾ), ਪਿਛੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਰੰਗਲਾ), ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ-2: ਪੜਨਾਵੀਂ ਰੂਪ, ਕਿਰਿਆ/ਸਹਾਇਕ ਕਿਰਿਆ ਦੇ ਰੂਪ; ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ-2: ਮਾਰਕੀਟ/ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਧੰਦਿਆਂ ਨਾਲ ਸੰਬੰਧਿਤ।

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)**

2. ਪੰਜਾਬੀ ਵਾਕ-ਬਣਤਰ : ਕਰਤਾ ਕਰਮ ਕਿਰਿਆ; ਸਾਧਾਰਨ ਵਾਕ, ਬਿਆਨੀਆ, ਪ੍ਰਸ਼ਨਵਾਚਕ, ਆਗਿਆਵਾਚਕ, ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕਾਂ ਦੀਆਂ ਕਿਸਮਾਂ; ਸੁਤੰਤਰ ਅਤੇ ਅਧੀਨ ਉਪਵਾਕ; ਸਮਾਨ (ਤੇ/ਅਤੇ) ਅਤੇ ਅਧੀਨ (ਜੋ/ਕਿ) ਯੋਜਕਾਂ ਦੀ ਵਰਤੋਂ; ਪੰਜਾਬੀ ਵਾਕਾਂ ਦੀ ਵਰਤੋਂ : ਵਿਭਿੰਨ ਸਮਾਜਕ/ਸਭਿਆਚਾਰਕ ਪ੍ਰਸਥਿਤੀਆਂ ਦੇ ਅੰਤਰਗਤ; ਘਰ ਵਿਚ, ਬਾਜ਼ਾਰ ਵਿਚ, ਮੇਲੇ ਵਿਚ, ਸ਼ੋਪਿੰਗ ਮਾਲ/ਸਿਨੇਮੇ ਵਿਚ, ਵਿਆਹ ਵਿਚ, ਧਾਰਮਿਕ ਸਥਾਨਾਂ ਵਿਚ, ਦੋਸਤਾਂ ਨਾਲ ਆਦਿ।
3. ਇਸ ਯੂਨਿਟ ਵਿਚ ਚਿੱਠੀ ਪੱਤਰ (ਨਿੱਜੀ/ਦਫ਼ਤਰੀ/ਵਪਾਰਕ), ਪੈਰਾ ਰਚਨਾਂ, ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਖਾਣ ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਦੀ ਭਾਸ਼ਾਈ ਯੋਗਤਾ ਨੂੰ ਪਰਖਿਆ ਜਾਵੇਗਾ।

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -II)****(Under Credit Based Continuous Evaluation Grading System)****ENL 151: COMMUNICATIVE ENGLISH-II**

Credits: 02 (L=2,T=0,U=0)

**Objectives:** To equip students with the skill of reading and writing dexterously. By the end of the course the students will be skilled in the art of expressing their ideas in short and long compositions, noting information effectively and summarizing and abstracting more efficiently.

**Prescribed Text books:**

1. *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. *The Written Word* by Vandana R. Singh, Oxford University Press, New Delhi.

**Course Contents:****1. Reading and Comprehension Skills:**

Students will be required to read and comprehend the essays in Unit 3 and 4 of the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition. They will be required to answer the questions given after each essay.

**2. Writing Skills**

Students will be required to learn Paragraph and Essay Writing and Note Making, Summarizing and Abstracting as in the book *The Written Word* by Vandana R. Singh, Oxford University Press, New Delhi.

**Minor 1:****Syllabus to be covered:**

1. Unit 3 from *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.
2. ABC of Good notes, Sub dividing your Notes and Summarizing and abstracting included in the Chapter "Note Making, Summarizing and Abstracting" from *The Written Word*.

**Suggested Paper Pattern:**

1. Theoretical questions based on ABC of Good notes, Sub dividing your Notes and Summarizing and abstracting included in the Chapter "Note Making, Summarizing and Abstracting" *The Written Word* (8 marks).
2. Short answer type questions from Unit 3 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks).
3. Essay type question from Unit 3 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks).

**Minor 2:****Syllabus to be covered:**

1. Abbreviations and Symbols and Note making in practice from the chapter “Note-Making, Summarizing and Abstracting in the book *The Written Word*
2. Unit-4 from the book *Making Connections: A Strategic Approach to Academic Reading* by Kenneth J. Pakenham, Second Edition.

**Suggested Paper Pattern:**

1. A practical question on Note making in practice “Note-Making, Summarizing and Abstracting” from the chapter the book *The Written Word* (8 marks)
2. Short answer type questions from Unit 4 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)
3. Essay type question from Unit 2 of *Making Connections: A Strategic Approach to Academic Reading* (6 marks)

**Suggested Paper Pattern for Major Exam:**

1. Practical Question on Paragraph and Essay Writing as prescribed in *The Written Word* /1 out of 2 (10 marks)
2. Short answer type questions from Unit 3,4 of *Making Connections: A Strategic Approach to Academic Reading* (16 marks)
3. Essay type question from Unit 3,4 of *Making Connections: A Strategic Approach to Academic Reading* 1 out of 2 (10 marks)
4. Practical Question on Note Making from *The Written Word* (8 marks)
5. Theoretical Question(s) based on the two chapters from the book *The Written Word* (6 marks)

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)****(Under Credit Based Continuous Evaluation Grading System)****SPL 201: LAND RECORD & INFORMATION SYSTEM****Credits: 2-1-0**

Classification of information and data; Information collection - traditional methods, drawbacks, need for alternative technology; Topographical maps – sources, Survey of India (SOI) specifications, Study of SOI grids; Traditional Measurement units, Karam and Acre conversion, Land records and Khasra maps; its relevance in Planning. Land records - shajra plan, revenue record, jamabandi, intekaal.

Aerial photography - concepts, types of aerial photography survey, elements of photo interpretation, photo-grammetry- thermal photography, sources, costs. Applications of aerial photography - physiographical analysis, calculation of heights, landuse studies, residential densities, networks, areas prone to flooding, encroachments, open spaces, vegetation covers, development controls, site selection, etc.; Small format aerial photography and its application.

Remote Sensing - electromagnetic radiation, spectral signatures, satellite imageries, false colour composite (FCC), thermal imagery, types of sensors used; image interpretation; Image processing; Sources of satellite imageries, costs. Application of satellite imageries - broad land use; residential types, open spaces, vegetation covers, networks, urban growth and fringe areas, water tables.

**Suggested Readings:**

1. Wajahat, Habibullah, (2005), “Computerisation of Land Records”, Sage Publishers, New Delhi.
2. Haryana Land Records Manual (1990), Director, Land Records Department, Haryana.
3. National Map Policy (2005), Survey of India, Dehradun.
4. Survey of India Manual of Maps
5. Census of India : Directory
6. National Sample Survey Organisation

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 202: TRANSPORTATION PLANNING – I**

**Credits: 2-1-0**

Definition, scope and components of transportation planning; Integration of components of transportation; Importance of transport development in economic, political and social development; Characteristics and role of various forms of transport - roadways, railways, waterways and airways; Transport policies and programmes in India before and after independence; Historical perspective of road development in India; Scope and content of Nagpur, Mumbai and Lucknow road development plans; Current trends in road development; accessibility and priority index in traffic network planning.

Traffic and travel characteristics; Relation of traffic volume, concentration and speed; Traffic as a function of land use; Significance of road user's behaviour and vehicular characteristics; Hierarchy of roads – regional and urban; Geometric design of roads – cross and longitudinal sections and their components; Geometric design standards; Design considerations and guidelines; Capacity and level of service of road; Intersections - classification, design and controls.

Traffic surveys - volume count, origin-destination, speed and delay, parking and accidents surveys - their need, design of proforma, methods of conducting surveys, analysis and interpretation; Highway design capacity - concept of PCU and level of service, factors affecting capacity and level of service, capacity of rural and urban roads and capacity at intersections; Traffic controls and regulations – design considerations and standards for signs, markings and signals.

**Suggested Readings:**

1. Banks, James H. 2002. Introduction to Transportation Engineering, McGraw-Hill, Boston.
2. C.S. Papacostas & P.D. Prevedouros. 2001. Transportation Engineering and Planning, Prentice-Hall, New York.
3. C.J. Khisty and B.K. Lall. 2002. Transportation Engineering – An Introduction, Prentice Hall of India Pvt. Ltd.
4. Hutton, Barry. 2013. Planning Sustainable Transport. Routledge, Taylor & Francis Books India Pvt Ltd, New Delhi
5. Kadiyali, L. R. 2014. “Traffic Engineering and Transport Planning”, Khanna Publishers, New Delhi.
6. IRC:SP:12, 1973. Tentative Recommendations on the Provision of Parking Spaces for Urban Areas, Indian Road Congress, New Delhi.
7. IRC:65. 1976: Recommended Practice for Traffic Rotaries, Indian Road Congress, New Delhi.

8. IRC:69, 1977. Space Standards for Roads in Urban Areas, Indian Road Congress, New Delhi.
9. IRC:86. 1983. Geometric Design Standards for Urban Roads in Plains, Indian Road Congress, New Delhi.
10. IRC:92. 1985. Guidelines for the Design of Interchanges in Urban Areas, Indian Road Congress, New Delhi.
11. IRC:93, 1985. Guidelines on Design and Installation of Road Traffic Signals, Indian Road Congress, New Delhi.
- 12.** IRC:106. 1990. Guidelines for Capacity of Urban Roads in Plain Areas, Indian Road Congress, New Delhi.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 203: PLANNING FOR UTILITIES**

**Credits: 2-1-0**

Utilities- Definition and terminologies, Historical perspectives of utilities, significance of utilities in urban and regional planning, sources of water: surface water, ground water, quality of water – impurities and standards of water quality, quantity of water – types of demand, forecasting population methods, Pumps – location considerations and Conveyance of water , Distribution network, Storage and Standards, Water treatment processes – Plain Sedimentation, Sedimentation with coagulation, Filtration, Disinfection and Softening .

Concept of hydrology, precipitation, rain and snowfall, measurement of rainfall, determination of average precipitation, analysis of rainfall records, Drainage system: determination of intensity of rainfall – frequency relationship, run off and runoff losses; factors affecting storm sewage, determination of maximum runoff of a locality, quantity of storm sewage, rain water harvesting; Reuse and recycling of water

Definitions of common terms in sanitary engineering, systems of sanitation, methods of collection, quantity of sanitary sewage, Design of sewers – velocity of flow, sewer grades, Drains and sewers – open drains, drains section, classification of drains, material, Pumps – location considerations, characteristics of sewage, methods of sewage disposal and treatment processes – Filtration, activated sludge process, Screening and Skimming, Sedimentation, other methods, Solid waste generation and disposal

**Suggested Readings:**

1. Ralph A. Wurbs, Wesley P. James (1985), Water Resource Engineering, Prentice Hall India.
2. G. S. Birdie and J. S. Birdie (1990), Water Supply and Sanitary Engineering, Dhanpat Rai Publishers.
3. CPHEEO, “Manual of Sewage and Sewage Treatment”, 1997, Ministry of Housing & Urban Development, Government of India.
4. CPHEEO, “Manual of Water Supply in Treatment”, 1997, Ministry of Housing & Urban Development, Government of India

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 204: STATISTICAL METHODS IN PLANNING**

**Credits: 2–1–0**

Introduction to statistics-meaning, importance, scope, and limitations; Collection of data – objectives, scope, sources, classification: Methods of tabulation of data meaning, importance, prerequisites, types. Sampling theory and designing sample surveys – concepts, principles, types, methods, sampling errors.

Presentation of Data-methods of presentation, graphic presentation, types of charts, plotting a curve, rules for drawing curves, bar charts, pictography, histograms; Measures of central tendency-meaning and importance, mean, median, mode; Measures of dispersion – measures of dispersion – meaning and importance, range, quartile deviations, mean deviation, standard-deviation, Lorenz curve.

Correlation analysis- meaning and types; Methods of Correlation co-efficient - scatter diagram, Karl Pearson's co-efficient of correlation, Spearman's rank correlation, multiple and partial correlation; Regression analysis - meaning and purpose of regression, simple and multiple linear regression, co-efficient of determination; Time series analysis -meaning and importance, methods, graphs, semi-averages, least squares, moving average, ratio to proportion.

**Suggested Readings:**

1. Goon, A. M., M. K. Gupta and B. Das Gupta, (2002), Fundamentals of Statistics, Vol. II, World Press, Calcutta
2. Gupta, S.C., (2006), Statistical Methods, Sultan Chand & Sons, New Delhi
3. Gupta, S.C. and V. K. Kapoor, (2010), Fundamentals of Mathematical Statistics, 11<sup>th</sup> Ed., Sultan Chand & Sons, New Delhi
4. Gupta, S.P., (2009), Statistical Methods, 38<sup>th</sup> Ed., Jain Book Agency, New Delhi
5. Sancheti, D.C. & V.K. Kapoor, (2001), Statistics Theory Methods & Application, Sultan Chand & Sons, New Delhi

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)****(Under Credit Based Continuous Evaluation Grading System)****SPU 205: RESIDENTIAL SITE PLANNING****Credits: 2-0-6**

Each student in a group or individually shall be required to prepare a plan for a residential area (neighbourhood) of a city/town.

The exercise would cover the following aspects:

- Preliminary site investigation and analysis.
- Site inventory topography, soil characteristics, existing land use, site resources and physiographic conditions.
- Site suitability for development – slope, drains, building, roads and other infrastructure.
- Site in relation to the city and surrounding landuse.
- Data collections and mapping
- General planning guidelines
- Application of norms and standards for landuse, circulation and their infrastructure.
- Requirements
- Planning considerations and conceptual plan
- Site Plan – landuse, circulation, utility, networks, landscaping

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)****(Under Credit Based Continuous Evaluation Grading System)****SPU 206: GEOGRAPHIC INFORMATION SYSTEM****Credits: 1-0-4**

The students are required to understand the basic concepts of GIS and to represent geographical features in GIS. Concept of digital maps and its advantages, raster and vector maps, spatial and attributes data, various types of spatial and non-spatial analysis in urban planning using GIS. The students are required to learn about various data input methods in the ArcView of ArcGIS software, which includes geo-referencing, digitization, query building, spatial and non-spatial analysis, and final production of maps using GIS. For the purpose of digitization and data existing data source may be used. Exercises undertaken by the students will be submitted in the form of soft copy of problems, hard copy of some problems, and reports / assignments.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -III)  
(Under Credit Based Continuous Evaluation Grading System)**

**ESL-220: ENVIRONMENTAL STUDIES (Compulsory)**

**Credit: 3-0-0**

1. **The multidisciplinary nature of environmental studies:** Definition, scope & its importance, Need for public awareness.
2. **Natural resources:** Natural resources and associated problems.
  - a) **Forest resources:** Use of over exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
  - b) **Water resources:** Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
  - c) **Mineral resources:** Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
  - d) **Food resources:** World food problems, change caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problem, salinity, case studies.
  - e) **Energy resources:** Growing of energy needs, renewable and non-renewable energy resources, use of alternate energy sources, case studies.
  - f) **Land resources:** Land as a resource, land degradation, soil erosion and desertification.
  - g) Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles.
3. **Ecosystem:**  
 Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids.  
 Introduction, types, characteristic features, structure and function of the following ecosystems:
  - a) Forest ecosystem
  - b) Grassland ecosystem
  - c) Desert ecosystem
  - d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).
4. **Biodiversity and its Conservation:**  
**Definition:** Genetic, species and ecosystem diversity, Biogeographical classification of India.  
**Value of Biodiversity:** Consumptive use; productive use, social, ethical, aesthetic and option values.  
 Biodiversity of global, National and local levels, India as mega-diversity nation "Hot-spots of biodiversity."  
**Threats to Biodiversity:** Habitat loss, poaching of wild life, man wildlife conflicts  
 Endangered and endemic species of India.  
**Conservation of Biodiversity:** In situ and Ex-situ conservation of biodiversity.
5. **Environmental Pollution:**  
 Definition, Causes, effects and control measures of:
  - a) Air Pollution
  - b) Water Pollution
  - c) Soil Pollution
  - d) Marine Pollution
  - e) Noise Pollution
  - f) Thermal Pollution
  - g) Nuclear Hazards**Solid Waste Management:** Causes, effects and control measures of urban and industrial wastes.  
 Role of an individual in prevention of pollution.  
 Pollution case studies Disaster Management: Floods, Earthquake, Cyclone and Landslides
6. **Social Issues and Environment:**
  - \* From unsustainable to sustainable development
  - \* Urban problems related to energy
  - \* Water conservation, rain water harvesting, watershed management
  - \* Resettlement and rehabilitation of people; its problems and concerns. Case studies
  - \* Environmental ethics: Issues and possible solutions.
  - \* Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
  - \* Wasteland reclamation

- \* Consumerism and waste products
- \* Environmental Protection Act
- \* Air (prevention and Control of Pollution) Act
- \* Water (prevention and Control of Pollution) Act
- \* Wildlife Protection Act
- \* Forest Conservation Act
- \* Issues involved in enforcement of environmental legislation
- \* Public awareness

## 7. Human population and the environment

- \* Population growth, variation among nations
- \* Population explosion-Family welfare programme
- \* Environment and human health
- \* Human rights
- \* Value education
- \* HIV / AIDS
- \* Women and child welfare
- \* Role of information technology in environment and human health
- \* Case studies
- \* **Road Safety Rules & Regulations:** Use of Safety Devices while Driving, Do's and Don'ts while Driving, Role of Citizens or Public Participation, Responsibilities of Public under Motor Vehicle Act, 1988, General Traffic Signs
- \* **Accident & First Aid:** First Aid to Road Accident Victims, Calling Patrolling Police & Ambulance

## 8. Field Work: Visit to a local area to document environmental assets—river / forest / grassland hill / mountain. Visit to a local polluted site—Urban / Rural / Industrial / Agricultural. Study of common plants, insects, birds. Study of simple ecosystems—pond, river, hill slopes, etc. (Field work equal to 5 lecture hours)

### References:

1. Agarwal, K. C. 2001. Environmental Biology, Nidhi Publications Ltd., Bikaner.
2. Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.
3. Bharucha, E. 2004. The Biodiversity of India, Mapin Publishing Pvt. Ltd. Ahmedabad.
4. Brunner, R. C. 1989. Hazardous Waste Incineration, McGraw Hill Inc., New York.
5. Clark, R. S. 2000. Marine Pollution, Clarendon Press Oxford.
6. Cunningham, W. P., Cooper, T. H., Gorhani, E. & Hepworth, M. T. 2001. Environmental Encyclopedia, Jaico Publications House, Mumbai.
7. De, A. K. 1989. Environmental Chemistry, Wiley Eastern Ltd.
8. Down to Earth, Centre for Science and Environment, New Delhi.
9. Hawkins, R. E. 2000. Encyclopedia of Indian Natural History, Bombay Natural History Society.
10. Heywood, V. H & Waston, R. T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.
11. Jadhav, H. & Bhosale, V. M. 1995. Environmental Protection and Laws. Himalaya Pub.
12. Joseph, K. and Nagendran, R. 2004. Essentials of Environmental Studies, Pearson Education (Singapore) Pte. Ltd., Delhi.
13. Kaushik, A. & Kaushik, C. P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.
14. Miller, T. G. Jr. 2000. Environmental Science, Wadsworth Publishing Co.
15. Odum, E. P. 1971. Fundamentals of Ecology. W.B. Saunders Co., USA.
16. Rajagopalan, R. 2005. Environmental Studies from Crisis to Cure. Oxford University Press, New Delhi.
17. Sharma, B. K. 2001. Environmental Chemistry. Geol Publishing House, Meerut.
18. Sharma, J. P. 2004. Comprehensive Environmental Studies, Laxmi Publications (P) Ltd, New Delhi.
19. Sharma, P. D. 2005. Ecology and Environment, Rastogi Publications, Meerut.
20. Subramanian, V. 2002. A Text Book in Environmental Sciences, Narosa Publishing House, New Delhi.
21. Survey of the Environment. 2005. The Hindu.
22. Tiwari, S. C. 2003. Concepts of Modern Ecology, Bishen Singh Mahendra Pal Singh, Dehra Dun.
23. Townsend, C., Harper, J. and Michael, B. 2001. Essentials of Ecology, Blackwell Science.
24. Booklet on Safe Driving. Sukhmani Society (Suvidha Centre), District Court Complex, Amritsar.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)**  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 251: SPECIFICATIONS, ESTIMATION AND VALUATION**

**Credits: 2-1-0**

Definition, scope and importance of Estimation, Units, Method of Estimating, Items of work in a Building, Units of measurements and payments for various Items of work, Methods of Building Estimate, Building Estimate Problems for one or two room Buildings, Types of Estimates: Preliminary, Plinth Area, Cube Rate, Approximate Quantity, Detailed, Revised, Supplementary, Repair/Maintenance Estimates; Contingencies, Administrative approval, Quantity Survey

Concept of Analysis of Rates, Overhead Cost, Task out-turn, Labour Requirement, Problems of Analysis of Rates; Specifications: Concepts, General vs Detailed Specifications, Specifications for Earthwork, Brickwork in wall, Cement Concrete, RCC, Cement Concrete Floor, White washing, water supply network, Sewerage Network, Horticulture/Landscaping, Roads

Concept of Value and Valuation, Purpose of Valuation, Income vs Expenditure, various types of values of a Building: Scrap value, Salvage Value, Market Value, Book Value, Rateable Value, Capitalized Value, Year's Purchase, Annuity, Sinking Fund, Depreciation, Obsolescence, Methods of Valuation of a Building, Fixation of Rent, Principles of residential building and colony planning.

**Suggested Readings:**

1. Birdie, G.S. and J.S. Birdie, (2006), Water Supply and Sanitary Engineering, Dhanpat Rai Publishing Company, New Delhi.
2. Dutta, B.N., (2001), Estimating and Costing in Civil Engineering, UBS Publishers' Distributors Ltd., New Delhi.
3. Hanburg, William J, (1976), Estimating Building Construction; Quantity Surveying, Englewood Cliffs, Prentice Hall, U.K.
4. Kshirsagar, R.S., (2004), Sewerage and Sewerage Treatment Plant, A.K. Publications, New Delhi.
5. Public Works Department, (1987), Common Schedule of Rate, Government of Punjab – Amendments made in 2008.
6. Punmia, B.C., (1993), Building Construction, Laxmi Publications Pvt. Ltd, New Delhi.
7. Singh, Gurcharan and Singh, Jagdish, (2004), Estimating, Costing & Valuation, Standard Publishers, Delhi.

**B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-IV  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 252: REAL ESTATE MANAGEMENT**

**Credits: 2–1–0**

Definition of Real Estate and its importance in Urban & Regional Planning, Characteristics of Real Estate, Land Market and its type, Land supply & Demand. Land Development and Controls; Laws and Regulations related to ownership and tenancy, contract law, pricing, Transaction.

Landuse and development control, Land Taxation, Land record and information system. Land supply; Land acquisition and Urban Ceiling, Land Pooling, role of public, private and cooperative sector, land value and land speculation.

Effects of planning, legal financial and administrative measures on land value and infrastructure development. Betterment and worsenment. Land rent, Urban Land Policy, its contents, objectives instruments for its implementation, Task force on housing and Urban Development.

**Suggested Readings:**

1. Alan, E.W. (1985), "Urban Economics – An Introduction", Blackwell Publication, New York.
2. Arnott, Richard J, and Daniel P. McMillen (Ed.) (2008), "A companion to Urban Economics", Blackwell Publishing, U.K.
3. Lean, W (1982), "Aspects of Landuse Planning", Gonthic Publications, New Fersy
4. Mcdonald, John and Danial McMillen (2006), "Urban Economics and Real Estate: Theory and Policy", Blackwell Publishing, U.K.
5. Paul, B. N. (1977), "Urban Land Economics",The McMillan Press, London.
6. Ralicuff, Darlodwen (1992), "Land Economics", Michigan Publishers, New York.
7. Raleich, Barlowe (1980), "Land Resource Economics", Prentice Hall Publication, NewJersy.
8. Rateliffe, John, Micheal Stubbs and Mark Shepherd (2001), "Urban Planning and Real Estate Development (Natural and Built Environment)", Spon Press, New York.
9. Report of the Committee of Urban Land Policy (1965), Ministry of Health, Govt. of India.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)****(Under Credit Based Continuous Evaluation Grading System)****SPL 253: SURVEYING****Credits: 2-1-0**

Surveying - Definition, Types, Plain and Geodetic Surveying, Principal of Surveying, Precision and Accuracy in Surveying. Chain Surveying: Definition and classification of surveying principles of surveying, Different types and Instruments uses & their functions. Ranging, off-setting, corrections to be applied. Obstacles in chaining. Linear Measurements with Angles: Use of Compass. Bearing system and conversion, Use of prismatic compass.

Plane table Surveying: Study' and' use of' plane table for, surveying, equipment's', used in plane orientation of plane table in field. Different methods of plane tabling. Advantages of plane tabling. Theodolite Surveying: terms used, components of Theodolite, Use of instrument for measurements of Angles.

Levelling: Definition of various terms, Importance of Levelling, Dumpy level components and functioning, L-sectioning, X-sectioning,- preparation of profile and its relevance in Planning. Use of Dumpy level and preparation of L-section. Measurements through electronic instruments, Use and demonstration of TOTAL STATION. Use of EDM. Role of surveying in Preparation of Digital Data. Computation of areas using the surveying data, Imageries and Computation of areas.

**Suggested Reading:**

1. Carhart, Daniel, (2009), A Treatise on Plane Surveying, Bibliolife, Charleston
2. Duggal, S.K., (2004), Surveying, Tata McGraw-Hill, New Delhi
3. Kouchher, C.L., (1998), A Text Book of Surveying, Katson Publishing House, Ludhiana
4. Punmia, B.C., (2005), Surveying, Luxmi Publication Pvt. Ltd., New Delhi
5. Rangawala, S.C., (1991), Surveying and Leveling, Charotar Publishing House, New Delhi
6. Sharma, J.L., (1988), A Text Book of Surveying, CBS, New Delhi

**Note: Examination will be conducted as per Credit Scheme (Theory).**

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)**  
**(Under Credit Based Continuous Evaluation Grading System)**

**SPU254: Transportation Planning**

**Credits: 1-0-4**

Surveys relating to transportation aspects will be carried out: traffic volume survey, speed and delay studies, parking studies, pedestrian studies, road geometrics and road components, rotaries and signalised intersections.

Analysis of the data and presentation of the same through scale drawings and written documents; design of road sections, road junctions and rotaries. Preparation of area traffic circulation plan by studying the existing land use, existing circulation pattern, geometric design, and level of services provided by the networks and traffic management measures.

**B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-IV**  
**(Under Credit Based Continuous Evaluation Grading System)**  
**SPU 255: STUDY OF A TOWN**

**Credit: 2-0-6**

**General** The objective of the exercise is to orient the students to understand the importance of comprehensive planning process. The exercise will be completed by visiting a city, understanding the development perspective of the city in holistic manner, apply the map updating techniques, data capturing and conducting art of surveys. To high the planning Issues in Regional, City and Local Context of the city. Also to understand the potentials and opportunities for the growth and planned development of the city.

**Out Line of the work (for Teachers)**

**First Stage** Understanding the theoretical base of the city—Prevailing concept of urban planning and development, contents of the study of a city/town, best practices adopted in India (abroad-examples), Review of the previous works done, Outline of the planning laws. Stage of the Comprehensive Plans- Regional, City and Local Area Plans (LAP). Data Identification Kit: General data identification details and applications with clear understanding of Aspects, Indicators (field) for data collection, Relevance of the data, Possible Sources. Compilation of the Norms and Standards.

*(Preliminary base maps can be prepared using Images, Existing studies, G T Sheets, Entire frame for the work and possible Map reference of each aspects can be worked out with mutual discussion) Duration up to 2 weeks*  
 Field Studies

**Stage Two** Data Compilation in said format, Identifying correlation and cross tabular analysis, Linking Tabular data with detailed Maps, Possible overlay analysis, Application of Statistical techniques if possible.  
 Preparation of detailed Map- Regional, City and Local Area (selected pockets for Zonal Plans).

**Final Submission** Preparation of Detailed report- With clear use of references and approach adopted. Basis of analysis, Broad Chapter classification, briefing outline of each chapter, work details.

Delineation of region or Influence area of city may be concluded. Detailed Discussions of the work, Identifications of the Problems and Potentials in: Regional context (Settlements, Networks, Resources Uses, Siting etc.) City- Aspects as per discussion, Local- As per critical and priority in the approach adopted.  
 Application Planning Norms- Existing Planning procedure, Identification of GAPS etc.

Final Submission and review (Drawing, Maps, Report),

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)**

**(Under Credit Based Continuous Evaluation Grading System)**

**SPL 256: SOCIOLOGY OF SETTLEMENT (Elective)**

**Credits: 2-1-0**

Sociology as a science; Sociological imagination and rethinking; Applied sociology  
Functionalist perspective, Conflict perspective, Internationalist perspective; Culture of space and  
cultural ecology; Social structure and social control; Stratification and social inequality;

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), Public Participation,  
Household and Dwelling units, Different definitions and census of India, Demographic Data,  
Census of India and Tables

Resettlement and rehabilitation; Neighborhood pattern and development strategy; Rural and  
urban issues; Rural-Urban Continuum, Community based and workshop based methods; Gender  
and sex; Gender and implications for spatial planning

**Suggested Readings:**

1. N. Jayapalan Urban Sociology 2002 Atlantic Publishers & Distributors, New Delhi
2. William G. Flanagan 2010 Urban Sociology-images and Structures Rowman & Littlefield  
Publishers Inc
3. Mani Monto, L.S.Ganesh & K.Verghese 2005 Sustainability and Human Settlements:  
Fundamental Issues, Modeling and Simulation SAGE Publications Pvt. Ltd, New Delhi

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)****(Under Credit Based Continuous Evaluation Grading System)****SPL 257: MUNICIPAL SERVICES MANAGEMENT (Elective)****Credits: 2-1-0**

Urban growth – Municipal management – Administrative framework –Present scenario of various services and their management in ULBs – Current practices and deficiencies in water supply, SWM, Sewerage

Institutional aspects - Governmental organization – Central and State governmental agencies – Non-governmental organization – CBOs, concepts, scope, methods and application in various municipal services – Joint venture of Community and ULBs – Role of rag pickers – Public awareness

Financial aspects -Financing of water supply, sewerage and SWM projects – assessment of finance – Financial support of Central, State government and other financial institutions – Pricing of Municipal services – Cost recovery framework – SWM project evaluation techniques

**References**

1. Archana Ghose “Urban Environment Management” Local government and community action, Concept publishing company, New Delhi, 2003.
2. Rajeev Narayan, “Human Resources Development in Urban Administration” , Serials publication, New Delhi, 2006.
3. K.Aswathappa, “Human Resource Management”, Mc – Grow Hill companies, Third edition, 2007.

**B. TECH. (URBAN & REGIONAL PLANNING) (SEMESTER -IV)  
(Under Credit Based Continuous Evaluation Grading System)**

**SPL 258: SUSTAINABLE URBAN DEVELOPMENT (Elective)**

**Credits: 2-1-0**

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.

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.

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.

**Suggested Readings:**

1. Agarwal, K. C. 2001. Environmental Biology, Nidhi Publications Ltd. Bikaner.
2. Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.
3. Bharucha, E. 2004. The Biodiversity of India, Mapin Publishing Pvt. Ltd. Ahmedabad.
4. Cunningham, W. P., Cooper, T. H., Gorhani, E. & Hepworth, M. T. 2001. Environmental Encyclopedia, Jaico Publications House, Mumbai.
5. Down to Earth, Centre for Science and Environment, New Delhi.
6. Hawkins, R. E. 2000. Encyclopedia of Indian Natural History, Bombay Natural History Society.
7. Heywood, V. H & Waston, R. T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.
8. Kaushik, A. & Kaushik, C. P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.

9. Miller, T. G. Jr. 2000. Environmental Science, Wadsworth Publishing Co.
10. Sharma, J. P. 2004. Comprehensive Environmental Studies, Laxmi Publications (P) Ltd, New Delhi.
11. Sharma, P. D. 2005. Ecology and Environment, Rastogi Publications, Meerut.
12. Townsend, C., Harper, J. and Michael, B. 2001. Essentials of Ecology, Blackwell Science.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 301: PLANNING FOR CONSERVATION**

**Credits: 3-1-0**

Urban Process of urban decay demolition, its causes, intensity and character. Basic concepts of redevelopment & renewal. Conservation, meaning, techniques, importance and relevance in urban & regional planning. Conservation: Theories & Philosophies. Surveys & Studies for Conservation Plan for Urban, and Rural areas.

Concept of listed Buildings, Concept of Heritage zones, Preparation & Implementation of Conservation Plan, Integrating Conservation Plan with Master Plan; Integrating Tourism Plan of the City. Conservation movement; International Perspective, International Organizations; their role & functions; WHC, ICOMOS, ICCROM, CIPA. International Charters namely Venice Charter, Charter of the conservation of historic towns and urban areas. Conservation movement; National perspective National Organizations their role & functions Archeological Survey of India, Indian National Trust for Art and Cultural Heritage (INTACH) .

Legislation related to Conservation at national level & state of Punjab, Delhi Urban Arts Commission. Community participation in Conservation; Study of specific zoning regulation, building bye-laws and development controls for Conservation. Case studies at city level Amritsar, Hyderabad & York City (UK) and precinct level Katra/area of walled city, The Mall Shimla.

**Suggested Readings:**

1. Abdi Ali Mohammad (2008) “ Spatial planning as an Approach to Achieve sustainable development in Historic Cities” (website : [www.waset.org/journals/waste/v46/40.pdf](http://www.waset.org/journals/waste/v46/40.pdf))
2. Ashworth .G.J (2009) )“ Town walls , Walled Towns and Tourism : paradoxes and Paradigms”, Journal of Heritage Tourism , Vol 4(4) 299-314 (website :[www.ema.edu.ee](http://www.ema.edu.ee))
3. Conservation and Sustainability in Historic Cities, by Dennis Rodwell (2007). Blackwell, Oxford.
4. Dobby, Alan (1978), Conservation and Planning, Hutchinson, London.
5. Fielden, B.M (1989), Guidelines for Conservation: A technical Manual, INTACH, New Delhi.
6. Feilden, B.M. and Jukka Jokilehto (1998), Management Guidelines for World Cultural Heritage Sites, ICCROM, Rome.
7. Litwin .W.Stephen (2004) “ Streetscape improvements in an historic tourist city a second visit to King Street , Charleston , South Carolina” Tourism management 26(2005)421-429 (website : <http://www.sciencedirect.com/science/article/pii/S0261517704000421>)
8. Meller, Helen (1990), Patrick Geddes: Social Evolutionist and City Planner, Routledge, London.
9. Mohan, I (1992) “The world of walled cities: Conservation environmental pollution, urban renewal and Development Prospects” Mittal Publication New Delhi.
10. Mynor, Charles (1989), Listed Buildings and Conservation Areas, Longman, London.
11. Siddiqi W.H (2000) “Luchnow: The Historic City” Sundeep Prakashan, New Delhi.
12. Wiles Craig (2007) “ Consideration of Historic Authenticity In Heritage tourism Planning and Development” Proceedings of the 2007 Northeastern Recreation Research Symposium (Website : [nrs.fs.fed.us/pubs/gtr/gtr-nrs-P-23\\_papers/41wiles-p23.pdf](http://nrs.fs.fed.us/pubs/gtr/gtr-nrs-P-23_papers/41wiles-p23.pdf))

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 302: AERIAL PHOTOGRAPHY & REMOTE SENSING**

**Credits: 3-1-0**

Remote sensing basic and concepts-Types, sensors and satellite details, Remote Sensing Product Availability, Basic concepts of Photogrammetry Aerial Photographs: types, classification, procurement, interpretation, scale of Aerial Photographs. Stereoscopic effect of Aerial Photographs, Terms Used, Application of aerial photographs in urban & regional planning, Application and Use of Aerial Photograph Models: Map preparation - physiographical analysis, calculation of heights.

Relevance of remote sensing in Planning Satellite Imagery: types, electromagnetic radiation, effects of atmosphere, geometric and radiometric errors; Sensors for imagery: types: resolution, bands, quality; Introduction to Image Interpretation, Basic principles, steps in image interpretation; Application of HRSI in Planning: Preparation of models using Image interpretation, Change detections, Siting, and other analysis.

Leveling and Contours: Use of Dumpy levels for a project, terms and methods, Plotting of contours, Interpretation using convention techniques, Digital Elevation Model (DEM) generation (example). Fundamental concepts of Global position system (GPS), basic concepts of errors, theory, types, setting, recording data, transfer of GPS data into GIS; GPS and Total Station data Analysis for urban planning—examples in Cadastral Mapping, Local Area Plans, Property Taxing, Asset management System. (Case study examples).

**Practical Exercises:**

In Hand work on application of remote sensing in Land use studies (Application models preparation by students- residential densities, networks, areas prone to flooding, encroachments, open spaces, vegetation covers, site selection.(Use of digitation and existing topo-sheets to know change detection).

L-sectioning, X-sectioning,- preparation of profile and its relevance in Planning. Spot levels for Contours- Method of contouring, Measurements through electronic instruments, Use of GPS and preparation of Data using RS.

**Suggested Readings:**

1. David T. Lindgraw (1985), Landuse Planning in Remote Sensing, Martins Nijhoff Publishers, Netherlands.
2. George B. Korte (2001), The GIS Book. Onward Press, U.S.A.
3. Kang Tsung Chang (2006), Introduction to Geographic Information System, Tata McGraw Hill, India.
4. Mahavir (1998), Application of Remote Sensing in Urban and Regional Planning, ITC Netherland.
5. Sokhi BS (1999) Fundamentals of Aerial Photography and Remote Sensing, IIRS Publications.
6. Thomas M. Lillesand, Ralph W. Kiefer (1987), Remote Sensing & Image Interpretation, 2nd Ed., John Wiley & Sons, Singapore.

**Note: Examination will be conducted as per Credit Scheme (Theory).**

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 303: TRANSPORTATION PLANNING-II**

**Credits: 3-1-0**

Meaning, scope and objectives of transportation planning and its importance in urban and regional planning; Transportation and land use integration; Trip generation, distribution and assignment; Norms and considerations for bus and truck terminals. Transportation planning process- stages and surveys; Meaning, scope, objectives, process and surveys for comprehensive traffic and transportation plan and transport system management plan.

Urban transport policy-objectives and provisions. Urban transport systems—meaning, types and pre-requisites; Urban transport system and urban structure; Characteristics of multi model transport system including bus service, LRTS, MRTS and intermediate public transport; City size and sustainable transport options. Regional transport systems – meaning, types characteristics; Road, Rail, Air, Water.

Regional transport and spatial planning & development; Objectives and provisions for transportation in National Five Year Plans with special focus on 11<sup>th</sup> Five Year Plan. Transportation planning policies and guidelines for vulnerable - pedestrians, cyclists and handicaps; Road safety and transport environment – issues and guidelines; Organizational and financial mechanism for transportation; Motor Vehicle Act.

**Suggested Readings:**

1. Arasan, V, Thamizh (2004), “Transportation Systems Planning and Operation”, Allied Publishers Pvt. Ltd., Chennai.
2. Baluja, Rohit, (2010), “Road Traffic Legislation”, Institute of Road Traffic Education, New Delhi.
3. Guidelines on Low-cost Traffic Management Techniques for Urban Areas, (2001), Indian Roads Congress.
4. Indian Journal of Transport Management, CIRT, Pune.
5. Indian Highways (Journals), Indian Road Congress, New Delhi.
6. Kadiyali, L. R. (2011), “Traffic Engineering and Transport Planning”, Khanna Publishers, New Delhi.
7. Kanda, Arun and Others (2002), “Transportation Systems: Status and Directions”, Phoenix Publishing House Pvt. Ltd., New Delhi.
8. Motor Vehicle Act, 1988, Govt. of India.
9. Road Development Plan Vision: 2021, Ministry of Road Transport & Highways, India, New Delhi.
10. Urban Transport Policy (2006), Ministry of Surface Transport, Govt. of India, New Delhi.

**B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V**  
(Under Credit Based Continuous Evaluation Grading System)

**SPP 304: Planning Studio - V (GIS & Study of a Town)**

**Credit: 0-0-6**

**(a): Geographic Information System (6 Weeks)**

The students are required to understand the basic concepts of GIS and to represent geographical features in GIS. Concept of digital maps and its advantages, raster and vector maps, spatial and attributes data, various types of spatial and non-spatial analysis in urban planning using GIS. The students are required to learn about various data input methods in the ArcView of ArcGIS software, which includes geo-referencing, digitization, query building, spatial and non-spatial analysis, and final production of maps using GIS. For the purpose of digitization and data existing data source may be used. Exercises undertaken by the students will be submitted in the form of soft copy of problems, hard copy of some problems, and reports / assignments.

**(b): Study of a Town(9 Weeks)**

<b>General</b>	The objective of the exercise is to orient the students to understand the importance of comprehensive planning process. The exercise will be completed by visiting a city, understanding the development perspective of the city in holistic manner, apply the map updating techniques, data capturing and conducting art of surveys. To high the planning Issues in Regional, City and Local Context of the city. Also to understand the potentials and opportunities for the growth and planned development of the city.
<b>Out Line of the work (for Teachers)</b>	
<b>First Stage</b>	Understanding the theoretical base of the city—Prevailing concept of urban planning and development, contents of the study of a city/town, best practices adopted in India (abroad-examples), Review of the previous works done, Outline of the planning laws. Stage of the Comprehensive Plans- Regional, City and Local Area Plans (LAP).
	Data Identification Kit: General data identification details and applications with clear understanding of Aspects, Indicators (field) for data collection, Relevance of the data, Possible Sources. Compilation of the Norms and Standards. <i>(Preliminary base maps can be prepared using Images, Existing studies, G T Sheets, Entire frame for the work and possible Map reference of each aspects can be worked out with mutual discussion) Duration up to 2 weeks</i>
	Field Studies
<b>Stage Two</b>	Data Compilation in said format, Identifying correlation and cross tabular analysis, Linking Tabular data with detailed Maps, Possible overlay analysis, Application of Statistical techniques if possible. Preparation of detailed Map- Regional, City and Local Area (selected pockets for Zonal Plans).
<b>Final Submission</b>	Preparation of Detailed report- With clear use of references and approach adopted. Basis of analysis, Broad Chapter classification, briefing outline of each chapter, work details. Delineation of region or Influence area of city may be concluded. Detailed Discussions of the work, Identifications of the Problems and Potentials in: Regional context (Settlements, Networks, Resources Uses, Siting etc.) City- Aspects as per discussion, Local- As per critical and priority in the approach adopted. Application Planning Norms- Existing Planning procedure, Identification of GAPS etc.
	Final Submission and review (Drawing, Maps, Report),

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 305: PLANNING FOR MEGA PROJECTS**

**Credits: 3-1-0**

Mega projects—concepts: investment based, activity based; Mega projects - types and nature: buildings, roads, environment, and irrigation based etc.; Related concepts—SEZ, Free Trade Zones, Strategic importance; Mega projects and urban development, Mega projects and regional development. Mega projects and Indian urbanization system: urbanization trends in India and mega projects, metropolitan development in India.

Planning process, Siting and development, plan preparation of mega projects; Implications of mega projects, Trans-nation impacts of mega projects; Legal measures and mega projects: guidelines for mega projects, Mega projects in the context of national policies: housing, urbanization, and environment.

Infrastructure requirements for mega projects; Mega projects and city infrastructure system; Project financing: changing system of governance; role of public private partnership in mega projects. Case studies: Preparation of an inventory for a commercial, industrial, institutional, recreational or residential mega projects.

**Suggested Readings:**

1. Ganesan S. Ed. (2001) “Infrastructure Development and Financing”, Kanishka Publishing, New Delhi.
2. Kulwant Singh Ed. (1996) “Integrated Urban Infrastructure Development in Asia”. Oxford & IBH, New Delhi.
3. Kundu Amitabh Ed. (2000) “Inequality Mobility and Urbanization: China & India”. Manak Publications Pvt. Ltd., New Delhi.
4. Moss Timothy (2000) Marvin “Urban Infrastructure in Transition; Networks, Buildings, Plans Earthsian Publisher, UK.
5. Potter Robert B. (1985) “Urbanization and Planning in the 3rd world: Spatial Perceptions and Public”, Institute of Local Government Studies, University of Birmingham.
6. Verma S.P. Ed. (2004) “Infrastructure in India’s Development: Power, Transport and Communication”, Institute of Public Administration, New Delhi.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL – 306: PLANNING FOR TOURISM**

**Credits: 3-1-0**

Tourism: Definitions and Concepts, Relevance in Urban Planning; International, national, regional and local tourism; Forms of tourism: religious, historical/heritage, adventure, health, business, conferences, conventions, education: issues and implications. Emerging Trends: Different new types of concepts emerging in Tourism and its Dimensions.

Concept of Adventure, Types of adventure sports and tourism, Land based Adventure (Trekking, Mountaineering, Rock Climbing etc.). Water based adventure (Water surfing, white water rafting, para-sailing etc.) and Air based adventure (Parachute jumping, Gliding, para-gliding etc.). Renowned places, Planning considerations and standards adopted. Concept of eco-tourism and sustainable tourism and its Management.

The impacts of ecotourism in an area (positive and negatives), some best practiced ecotourism sites in world. Eco-tel and Eco resorts. Theme Parks. Rural and Urban Tourism. Renowned places, Planning consideration and standard adopted. National Tourism Policy, State Tourism Policy of Punjab, Chicago Convention, Warsaw Convention, Open Sky Policy, Bermuda Convention, Euro Agreement, Schengen Agreement, Tourism Charter. Case studies of tourist towns/cities Shimla, Amritsar, Goa & Katra (J&K).

**Suggested Readings:**

1. Dixit, M. (2007), "Tourism Products", Royal Publishers.
2. Gupta, SP, Lal, K. Bhattacharya (2002), "M. Cultural Tourism in India", DK Printers.
3. Hall, CM and Page, SJ (1998), "The Geography of Tourism and Recreation", Routledge.
4. Hawkins. R.E., Encyclopedia of India Natural History.
5. Michell, George, "Monuments of India", Vol. 1., London.
6. Oki Morihiro, (1998), "Fairs and Festivals", World Friendship Association, Tokyo.
7. Pearce, D.G. and Butler, (1999), "R.W. Contemporary Issues in Tourism Development", Routledge.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-V  
(Under Credit Based Continuous Evaluation Grading System)

**SPL-307 REAL ESTATE MANAGEMENT**

**Credits: 3-1-0**

Definition of Real Estate and its importance in Urban & Regional Planning, Characteristics of Real Estate, Land Market and its type, Land supply & Demand. Land Development and Controls; Laws and Regulations related to ownership and tenancy, contract law, pricing, Transaction.

Land use and development control, Land Taxation, Land record and information system. Land supply; Land acquisition and Urban Ceiling, Land Pooling, role of public, private and cooperative sector, land value and land speculation.

Effects of planning, legal financial and administrative measures on land value and infrastructure development. Betterment and worsenment. Valuation of Urban property, Land rent, Urban Land Policy, its contents, objectives instruments for its implementation, Task force on housing and Urban Development.

**Suggested Readings:**

1. Alan, E.W. (1985), "*Urban Economics – An Introduction*", Blackwell Publication, New York.
2. Arnott, Richard J, and Daniel P. McMillen (Ed.) (2008), "*A Companion to Urban Economics*", Blackwell Publishing, U.K.
3. Lean, W (1982), "*Aspects of Land Use Planning*", Gonthic Publications, New Jersey.
4. McDonald, John and Daniel McMillen (2006), "*Urban Economics and Real Estate: Theory and Policy*", Blackwell Publishing, U.K.
5. Paul, B. N. (1977), "*Urban Land Economics*", The McMillan Press, London.
6. Ralocuff, Darlodwen (1992), "*Land Economics*", Michigan Publishers, New York.
7. Raleigh, Barlowe (1980), "*Land Resource Economics*", Prentice Hall Publication, New Jersey.
8. Ratcliffe, John, Micheal Stubbs and Mark Shepherd (2001), "*Urban Planning and Real Estate Development (Natural and Built Environment)*", Spon Press, New York.
9. *Report of the Committee of Urban Land Policy* (1965), Ministry of Health, Govt. of India.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL-351 Planning Legislation**

**Credits: 3-1-0**

Concept of Law: definition of Law/Legislation, Bill, Ordinance, Act, Bye-laws, Rules and Regulations; Significance of law; Source of law; Legislative competence of State and Central legislatures; Property rights relating to ownership and use of land under the Constitution; Concepts of 'Eminent Domain, Police Power, Compensation, Betterment Levy and Development Charge, Arbitration. Planning Legislation: meaning, significance and contents; Evolution of planning legislation in India.

Development controls including zoning regulations, sub-division regulations, building bye-laws and periphery controls, Model Town and Country Planning Acts of 1960, 1985, 1996. Objectives and Contents of important acts related with planned development including the Land Acquisition Act, 1894, The Punjab Municipal Corporation (Amendment) Act, 1994, The Punjab Town Improvement Act, 1922, The Punjab Regional and Town Planning and Development Act, 1995(Amendment in 2006), The Delhi Development Act, 1957, The Punjab New Capital (Periphery) Control Act, 1952, The Punjab Apartment Property Regulation Act, 1995.

Environment Legislation: objectives and contents of acts concerning with pollution of water and air, protection of environment , clearance of slums, protection of forests and wild life, The Punjab Scheduled Road and Controlled Areas Restriction of Unregulated Development Act,1963, The Punjab District Planning Committees Act,2005, The Punjab Development of Damaged Areas Act, 1951, Coastal Regulation Zone. Recent Trends: The 73rd Constitution (Amendment) Act, The 74th Constitution (Amendment) Act, Impact of Constitutional Amendments on urban planning; An overview of the availability and efficiency of planning legislation in India, The future perspective, Planning legislation as a positive tool for regulation and promotion of planned development.

**Suggested Readings:**

1. Biswas, A.R. (1982),' Encyclopedic Law Dictionary', Eastern Law House, Calcutta.
2. Chawla, B.S. (2009), 'Punjab Urban Development Acts and Rules', Chawla Publication Pvt. Ltd., Chandigarh.
3. IT.P.I (1996), 'Urban Development Plans Formulation and Implementation (UDPFI) Guidelines', Vol. 2-A, New Delhi.
4. Jaiswal P.S & Jaswal N. (2003) 'Environmental Law–Environmental Protection, Sustainable Development and the Law', Pioneer Publication, Delhi.
5. Master Plan of Delhi
6. Ministry of Law and Justice, Govt. of India, (1996), 'The Constitution of India', New Delhi.
7. Pandey J.N. (1982), 'Constitutional Laws of India', Central Law Agency, Allahabad.
8. Sharma S.P. (1991), 'India Legal System', Mittal Publications, New Delhi.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 352 – METROPOLITAN PLANNING AND DEVELOPMENT**

**Credits: 3-1-0**

Introduction to metropolis and related concepts; Metropolitan development as a component of urbanization, Metropolis; its growth, scale and complexity, Common practices adopted in metropolitan cities, Contemporary Issues and problems in India Metropolitan cities-Housing, transport, industry, commercial, open spaces transport etc. Area of influence of Metropolis, metropolitan region and delineation techniques.

Metropolitan regional structure; its structure, its characteristics and components. Examples of current design and plans of few metropolitan cities especially in regional contexts. Primate city, degree of primacy and its phenomena Form and concept for metropolitan planning and development; Sheets, Galaxy, Core, Star, Ring and Multinucleated, Efficacy/application of metropolitan forms in Metropolitan centralization and decentralization processes. Modern thinkers and concept—Manual Castel and others.

Metropolitan planning: Special planning Measures, studies and surveys; techniques and contents for the preparation of Metropolitan plans. Tools and constraints in the implementation of Metropolitan development plan, administrative legal, financial setup and public participation in metropolitan plan making process. Metropolitan planning and development in India: General Urbanization Trends in India and Punjab, Study of planning and development efforts for Mega Cities (Calcutta, Bombay, Delhi, Madras) and other Metropolitan Cities of Punjab as Ludhiana, Amritsar and Chandigarh.

**Suggested Readings:**

1. Charles, M. Christiane and Robert Harper (1992), “Modern Metropolitan System”, Charles E Merrill Publish Co., U.S.A.
2. Johan, W Dickey (1985), “Metropolitan Transportation on Planning”, McGraw Hill Book Co., New Delhi.
3. Rao, M Partap Rao (1990), “Planning for Metropolitan Cities – A Suggestive Approach”, Concept, Delhi.
4. Ramachandran, R. (2000), “Urbanization and Urban System in India”, OxfordUniversityPress, U.K.
5. Sandhu, Ranvinder (2006), “Urbanization in India – A Sociological Approach”, Sage Publication, New Delhi.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 353: RURAL SETTLEMENT PLANNING & DEVELOPMENT**

**Credits: 3-1-0**

Definition, significance and scope of rural settlement planning, types, components and salient features of rural settlement and its Lal Dora boundary, Morphology of rural settlement. Socio-economic matrix of rural life- Poverty, unemployment, indebtedness, caste system. Inter dependence and efficiency of socio-economic sectors. Socio-economic transformation of rural life.

Issues and challenges related with housing, water supply and sanitation of rural settlements. National policies and programmes of rural settlement in planning and development in context of five year plans, projects and programmes. Rural settlement planning in the framework of urban, regional, district and block planning. Priorities and strategies for planning and development of rural settlements.

Stages and components of rural settlement structure/plan such as Model village, Habitat village, Focal village etc. Formulation of aims and objectives, survey and studies & requirements & their projections and implementation of such plans. Planning and Development by different agencies such as State Planning Board, District Planning Board, Zila Parishad, Block Samiti, Gram Panchayat, District Rural Development Agency- acts, powers & functions.

**Suggested Readings:**

1. Dhesi, Avtar (2008), *Rural Development in Punjab: A Success Story Gone Astray*, Rourledge India.
2. Gupta, K.R. (2004), *Rural Development in India*, (Vol.2), Atlantic Publishers and Distributors Pvt. Ltd.
3. Gupta, K.R. and Pransanjit Maiti, (2008), *Rural Development in India*, (Vol.3), Atlantic Publishers and Distributors Pvt. Ltd.
4. Kashyap, G.B. and J.P. Garg, (2008), *Rural India: Vision and Action*, 25 Vol., Vista International, New Delhi.
5. Kumar, Ghosh, (1991), *Management of Rural Development*, Anmol Publications Pvt. Ltd.
6. Tiwari, Satish, (2000), *Rural Development*, Anmol Publications Pvt. Ltd.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPP 354 Planning Studio -VI (Master Plan & Regional Study)**

**Credits: 0-0-6**

**(a) Master Plan (7 Weeks)**

<b>General</b>	<p>The objective of the exercise is to orient the students to understand the importance of comprehensive planning process. The exercise will be completed based on the study conducted in SPP 305. Preparation of Master Plan (<i>or Comprehensive Development Plan or Development Plan as the term applicable</i>) aiming at achieving rational utilization of land/resources by way of equitable distribution of functions and activities along with suitable strategies for plan implementation.</p> <p>It is required to solve the planning problems identified earlier, optimum use of the resources, and suggest a suitable plan and development strategies. The final proposals may include the proposed land use plans, traffic and transport strategies, infrastructure requirements and proposals of the city, administrative, financial measures adopted. What legal steps can be taken to improve the planning processes?</p>
<b>Out Line of the work (for Teachers)</b>	
<b>First Stage</b>	<p>Understanding the theoretical base of the city— As outlined in study part. Prevailing planning strategies adopted for cities. Best practices adopted in India (abroad-examples), Review of the previous works done, Outline of the planning laws-Guidelines for plans preparation. Planning Polices to be adopted at - Regional, City and Local Area Plans (LAP)</p>
	<p>Review of the region delineation, Planning Requirements: Identification of basis of Population Projections, Adoption of existing studies and pattern, Techniques used, General requirements identification, Relevance of the population data projections. Compilation and Application of the Norms and Standards.</p> <p><i>(Preliminary base maps can be amended using Images, Existing studies, G T Sheets, Entire frame for the work and possible proposed Map formats of each aspects can be worked out with mutual discussion) Duration up to 2-3 weeks</i></p>
<b>Stage Two</b>	<p>Identification of Planning Concept, Basis of strategies, Priority areas, future growth directions, Role of different agencies, Sources of Finances,</p>
<b>Final Submission</b>	<p>Preparation of Town Development Plan and identification of different functional zones/planning units along with the special zone/s, if any</p> <p>Preparation of Detailed report- With clear use of references and approach adopted. Basis of analysis, Broad Chapter classification, briefing outline of each chapter, work details. Phasing Plan, Plan implementation strategies covering resources mobilization and administrative system</p> <p>Report on Town Development Plan accompanied with maps, charts, diagrams and sketches.</p>
	<p>Final Submission and review (Drawing, Maps, Report).</p>

**B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI**

(Under Credit Based Continuous Evaluation Grading System)

**(b) Regional Study (8 Weeks)**

Students will be required to undertake the study of a region/district/block in holistic manner with a view to underline the basic issue pertaining to problems and prospects of development especially in spatial context. The study shall be covered under the following stages:

- Theoretical framework including norms and standards
- Identification of data
- Collection of data field visit
- Tabulation of data and presentation of base map
- Analysis of data aspect wise highlighting implications
- Identifying various resources of the region selected
- Drawing of conclusion highlighting the main issues.

The study shall be submitted in the form of detailed report illustrated with drawings, maps, charts and diagrams, photographs and sketches, highlighting the main features of the region.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPF 355 EDUCATIONAL TOUR-I**

**AUDIT COURSE**

All the students shall visit a historic city accompanied by a teacher in-charge. The purpose of this tour is to give exposure to the historical factors and forces responsible for shaping the historic cities along with the understanding of their present functional status. The scope and objective of this tour is to expose the students to functioning of various planning agencies in and specialized planning projects undertaken in historical cities. The city/town and duration of the tour shall be decided by BOC from time to time.

After the tour is over, the students shall submit the summarized tour report of 20 pages individually to the tour in-charge, which will be evaluated through viva-voce by the tour incharges.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 356 PLANNING FOR SOCIO-ECONOMIC INFRASTRUCTURE**

**Credits: 3-1-0**

Introduction: Relevance of Infrastructure for human settlement: social characteristics of an area and related infrastructure, economic characteristics of an area and related infrastructure. General planning issues related to the socio-economic infrastructure, Socio economic characteristics of rural areas and related infrastructure: its problems, issues, and the current scenario in India. Social Infrastructure in urban areas: Location attributes of social infrastructure: education, health.

General consideration for the planning of social infrastructure for Master Plan, comprehensive development plan, neighborhood plan and standards. Types and characteristics of work areas in cities, economic infrastructure and its contribution in development of the city: Guidelines for planning of economic infrastructure in residential, modern commercial areas, IT parks and other specialized areas.

Social characteristics and infrastructure requirements of focal villages: Types, categories / Provisions for infrastructure, locational attributes of rural infrastructure: Mandis, agriculture markets, specialized purchased centre and other allied agriculture support activities. Planning for socio economic infrastructure in cities /villages: general considerations, policies and programmes of Central government, state government, and local government regarding the social and economic infrastructure, case studies: social and economic infrastructure of small, large and rural areas.

**Suggested Readings:**

1. Arunachalam, P (2008), Special Economic Zone in India, Serials Publication, New Delhi.
2. India Infrastructure Reports (1996- 2010), Oxford University Press, USA.
3. Jetti , K. Narinder and Vishal Sethi (2007), Infrastructure Development in India , New Century Publications , New Delhi.
4. Keeble, Lewis (1972), Principals and Practice of Town and Country Planning, Estates Gazette, London.
5. Rakesh Mohan, (1997), India Infrastructure Report, Pp 217-259.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 357: DISASTER MANAGEMENT**

**Credits: 3-1-0**

Understanding Natural and Man-Made Disaster, Difference between Disaster and Hazard, Effect of Hazard, Concept of Disaster Management, Disaster Cycle, Understanding Risk concept and elements, classification of Risk, Prevention of Risk. Type of Disaster and their Impact, Regional and seasonal Profile of Disaster, Role of Urban Planning in Disaster Management, Disaster Phase, Disaster Management Planning.

Disaster Management in India, Preparing for Disaster, Disaster Response and Preparedness Plan, Remote area Planning. Vulnerability: Identification of Social and Economic Factor, Vulnerability analysis and Techniques, Identification of Vulnerable site, Disaster Site management, Implementation of Disaster Management Techniques, Post disaster Rehabilitation, warning system, Public Partnership in Disaster Management.

Assessment in disaster management, Role of Media in Disaster Reduction, Government structure for warning and emergency Response, Financial structure for Disaster Management, Logistics Management, Risk Assessment and analysis. Disaster Mitigation: action to reduce Risk, Mitigation measure and technique, policy and Act related to Disaster Management, Role of UNDP and UNDRO in Disaster Management, Norms and standards related to Disaster management, Rehabilitation, Recovery: Problems Related to Recovery Phase.

**Suggested Readings:**

1. Arya, A.K, (1994), Action Plan for Earthquake, Disaster, Mitigation in V.K, Sharma (ED), Disaster Management, IIPA Publication, New Delhi, 1994.
2. Bhandani, R.K, (2005) An Overview on Natural & Manmade Disaster & Their Reduction, CSIR, New Delhi.
3. Goel, S.L & R. Kumar (2001), Disaster Management, Deep and Deep Publications, New Delhi.
4. Gupta, M.C. (2001) Manuals on Natural Disaster Management in India, National center for Disaster Management, IIPM, New Delhi, 2001.
5. NDMA, (2005) National Disaster Act, 2005.
6. Singh, Tej (2006), Disaster Management Approaches and Strategies, Akanksha Publication House, New Delhi.
7. Singh, S, (2003) Disaster Management in Hills, Concept Publication Co., New Delhi.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VI  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 358: PLANNING FOR SPECIAL AREAS**

**Credits: 3-1-0**

Meaning, types and scale of special areas; Special areas as determinant of Urban & Regional Planning and Development; Issues and Challenges, resources and constraints of special areas. Nature, challenges, guidelines; for Natural hazards and disaster prone areas; hilly areas, coastal areas, desert areas, volcanic eruption areas and resources regions.

Special areas as man-made development attributes. Capital regions, industrial estate/regions tribal areas, Tourist Attraction and centers, border areas; Considerations and guidelines for planning and developing special areas; Norms, standards and approaches to plan and develop such areas.

Contemporary concepts: Challenges, considerations and guidelines; Technological breakthroughs, policies and programmes for Shopping Malls and Multiplexes, Information Technology Parks, Theme Parks, Special Economic Zone, Free Enterprise Zone, Dry ports and free ports. Utopian concepts: Scientific and technological probabilities to mould form and structure of future cities – space city, floating cities, underground and underwater cities; Case studies- Hill Area, Information Technology Park and Commercial areas.

**Suggested Readings:**

1. Arts, Jos and Saunders Angus Morrison (2004), *Assessing Impact: Handbook of EIA and SEA Follow-up*, CPL Scientific Publishing Services, U.K.
2. Clave, T. Anton. (2007), “The Global Theme Park Industry”, CPL Scientific, London.
3. Das Geeta (2009), *Special Economic Zones in India: Lessons from China*, Eastern Book Corporation, New Delhi.
4. Morris, Peter and Therivel, R.K. (2003), *Methods of Environmental Impact Assessment*, Spons Architecture Price Books, U.K.
5. Mistch J, William and James G. Goselwik (2007), *Wetlands*, Fourth Edition, John Wiley & Sons, New Jersey.
6. Singh, T. (2006), “Disaster Management Approaches and Strategies”, Akanksha Publishing House, New Delhi.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL-401 REGIONAL PLANNING**

**Credits: 3-1-0**

Concept of region, Need of regionalization, Techniques of delineating the regions, Concept of regional planning & its objective, Regional problems. Regional interaction- Rank size, rule of zip, Central place theories of Christaller, Losch,

Regional network-rail, road, irrigation, power, markets. Theories of regional development-balanced growth, unbalanced growth, regional multiplier, input output model, Cumulative causation theory, growth pole theory.

Formulation of regional plan; identification of plan objectives, Regional studies- Physical socio-economic infrastructure, legal- collection, classification and analysis of data, Norms and Standards for regional planning, Formulation of alternative plans. Evaluation of alternative plan. Implementation of regional plan, its tool's such as legal, administrative and financial. Selected case studies of Regional development – Rajasthan canal area, National Capital Region.

**Suggested Readings:**

1. Chand, Mahesh and V.K.Puri (1983), *Regional Planning in India*, Allied Publications, New Delhi.
2. Aggarwal, S.K., (2007), *Regional Development and Planning in India*, Concept Publishing Company, New Delhi.
3. Shekhar, Sudhanshu, (2004), *Regional Planning in India* (Set of two vols.), Anmol Publications Pvt. Ltd., New Delhi.
4. Misra, R.P., (1992), *Regional Planning: Concepts, Techniques, Policies and Caste-Studies*, Concept Publisher, New Delhi.
5. Shukla, Amitabh, (2000), *Regional Planning and Sustainability Development*, Kanishka Publisher Distributors, New Delhi.
6. Chaudhari, Roy, Jayasri, (2001), *An Introduction to Development and Regional Planning*, Orient Longman, Hyderabad.

B.TECH. (URBAN AND REGIONAL PLANNING) SEMESTER-VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL-402: ENVIRONMENTAL PLANNING AND MANAGEMENT**

**Credits: 3-1-0**

Concept Environment, Ecology, & Ecosystem, Concept of settlement as an Ecosystem; Natural resources, Types of natural resources, exploitation of resources, Impact of resources on economy, size and function of settlements, stakeholders in natural resources and development. Natural Environmental Hazards.

Considerations in Physical Planning for Natural Hazards: Landslides, Floods, Draught, Soil Erosions, Cyclones, Tsunami, Earthquake and Volcanic Eruptions; Protection of natural resources. Man-made Environmental Hazards, consideration in Physical Planning for Manmade Hazards: Air Pollution, Water Pollution, Land Pollution, Noise Pollution; Norms and Standards for Environmental Protection.

Environmental Planning – Concepts, spatial extent, Environmental regulations, environmentally sensitive & degraded areas, sources of pollution, existing environmental facilities, finding solutions – technological, management, and planning, environmental solution for drinking water, waste water, solid waste, hazardous waste, NPS pollution, schedule for putting plan into action. Environmental (Protection) Act-1986, Environment Impact Assessment – concept, need, techniques, Environmental movements - Chipko movement, Narmada Bachao Andolan, Earth summit.

**Suggested Readings:**

1. Centre for Science & Environment (2006), “State of India’s Environment – A Citizen Report”, CSE, New Delhi.
2. Mohan I (1989), “Environment Awareness & Urban Development”, Ashish Publication House, New Delhi.
3. Nathansen Pe Jerry A (2000), “Basic Environment Technologies”, Prentice Hall.
4. Pachauri R. K (1999), “Looking Back to Think Ahead”, TERI, New Delhi.
5. Sinha Subroto (2000), “Regional Environment Plans – Issues and Approaches”, TERI, New Delhi.
6. Sounier, Richard E and Richard A Meganch (2008), "Dictionary and Introduction to Global Environment and Governance", Earthscan London.
7. UDPFI Guidelines, Vol. 1 (1996),” Ministry of Urban Affairs & Employment”, GOI, New Delhi.
8. Current Five Year Plan Planning Commission, GOI, New Delhi.

**B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII**  
(Under Credit Based Continuous Evaluation Grading System)

**SPL – 403: Project Formulation, Monitoring & Evaluation**

**Credit: 3-1-0**

The concept of a project– definition and objective; Classification of Projects; Project identification, and their significance; Meaning, scope and significance of project formulation & its role in city and regional planning; Life cycle of a project. Project formulation – parameters and components of project formulation.

Techniques of project formulation – Feasibility analysis, Financial analysis, Cost–benefit analysis, Technical analysis, Operation & maintenance, Socio–cost–benefit analysis. Project Design and networks – Critical Path Method and Project Evaluation and review Technique, Project appraisal and report preparation. Project Monitoring – meaning, objectives and significance.

Monitoring techniques – Integrated reporting techniques, Mile–stone technique, Time and cost under run, cost overrun techniques, Unit index technique. Project evaluation – meaning, objectives, scope, stages, approach and steps of evaluation; Techniques of project evaluation: Financial analysis–discounted cash flow, net present value, Social cost–benefit analysis. Formulation, monitoring and evaluation of different types of projects as case studies – Housing, Integrated Development of Small and Medium Towns, JNNURM and Transportation projects.

**Suggested Readings:**

1. Chandra, Prasanna (2002), “Projects Planning, Analysis, Financing, Implementation, and Review”, Sage Publishers, New Delhi.
2. Harod Kerzner (2006), “Project Management–A System Approach to Planning, Scheduling and Control”, John Wiley & Sons, USA.
3. M. Shaghil &M. Mushtaqu (1993), “Project Formulation Concept & Approach”, Printwell, Jaipur.
4. M.Shaghil &M. Mushtaqu (1993), “Project Planning Management”, Vol. I, II, III, Printwell, Jaipur.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPE 404: INTERNSHIP (4 TO 5 WEEKS)**  
**(During Summer Vacation)**

**AUDIT COURSE**

All the students will be required to work in a planning office summer vacation (after 6<sup>th</sup> Semester) for a period of four to five weeks. The period of internship and placement of students shall be decided by the BOC from time to time in consultation with the Internship Coordinator. The objective of internship is to expose the students to the structure, powers and functions of different planning offices along with the exposure to the live planning objects.

Each student shall submit the internship report to the internship coordinator within one month from the completion of the internship. The reports will be evaluated by the internship coordinator through viva-voce examination.

**B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII**

(Under Credit Based Continuous Evaluation Grading System)

**SPP 405 PLANNING STUDIO – VII (Regional Plan & DPR)**

**Credits: 0-0-6**

**(A) Regional Plan (8 weeks)**

In continuation of the Planning Studio SPP 354 Regional Study, the students shall be required to prepare the Regional Plan for the region already studied. The scope of the regional plan shall include:

- (a) Formulation of Objectives
- (b) Planning Considerations
- (c) Land Utilization Plan
- (d) Hierarchy of Settlements
- (e) Communication Networks
- (f) Physical Infrastructure, Socio-Economic Infrastructure
- (g) Plan Implementation Strategies
- (h) Administrative, Legal & Financial Support

Regional plan shall to be submitted in the form of detailed report, illustrated with maps, charts, drawings, diagrams etc.

**(B) Preparation of A Detail Project Report (7 Weeks)**

The students shall undertake the preparation of projects in detail. The aim of the exercise is to understand a project while preparing. Detailed Project Report (DPR) of designed projects of various nature i.e. Commercial, Industrial, Institutional, Residential, Transportation or any other project. The exercise will be completed as per the following stages:

**a) Study of the Project**

The study of project is to highlight the prime objectives of the project and set Network priorities of the project.

**b) Preparation of Development Project**

Identify the components as major tasks of project and set their priority for the implementation with the help of PERT/CPM charts. The students shall be required to prepare cost estimates of the various identified tasks and total project cost along with the time frame. They shall identify the returns from the project, total seed money required, working capital and breakeven point on timeframe.

**c) Project Implementation and Monitoring Mechanism**

To identify agencies, financial and legal mechanism involved in the implementation of different components of the project.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL – 406: PROFESSIONAL PRACTICE**

**Credit: 3-1-0**

Introduction and importance of professional practice in Planning, Role of Planner in decision making process-relevant issues – generalist versus specialist, professional versus technocrat; planner as a decision maker versus planner as planning advisor. Aims & objectives of professional institutes such as Institute of Town Planner, India, Sister professional institute such as Institute of Engineers, Institute of Architecture.

Professional role and responsibility of a planning consultant; Professional ethics and code of conduct, Legal Backing for residential developments in Punjab. Registration, Licensing, Setting up of a professional practice, consultancy office; Organization composition and structure; Office infrastructure and equipment, Management skills; Engaging of personnel; Rendering subsidiary services & field work.

Study of Revenue Plans in context of layout plans and Conversion Tables. Various services rendered by professional planner; Conditions for engaging the services of a professional planner; Town Planning consultancy competitions of MOU; Consultancy agreements & contracts, Charges for normal and special professional services and their mode of payment. Relationship of the professional planner with clients, contractors, developers, public bodies and institutions; Copy rights, Disputes arbitrations; Handling of legal matters.

**Suggested Readings:**

1. Shahgill, M & Mushtaque, M. (1993), 'Project Management: Concept and Approaches', Printwel, Jaipur.
2. IT.P.I (1996), 'Urban Development Plans Formulation and Implementation (UDPFI) Guidelines', Vol. 2-A, New Delhi.
3. Chawla, B.S. (2009), 'Punjab Urban Development Acts and Rules', Chawla Publication (P) Ltd., Chandigarh.
4. Pandey J.N. (1982), 'Constitutional Laws of India', Central Law Agency, Allahabad.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 407 Community Development & Public Participation**

**Credit: 3-1-0**

Communities – meaning, characteristics and types; Community Organization- Meaning, goals and principles and its evolution; Community development – concepts, definition, meaning, need, history, principles, objectives and scope. Administrative and organizational arrangement for rural development from block to national level.

Panchayati Raj – origin, philosophy and characteristics. Constitution 73<sup>rd</sup> amendment and its implications. Role of co-operatives and rural banks, NABARD, District Rural Development Agency in rural development. Urban community development – meaning and scope.

Administrative and policy arrangements for urban development with reference to development authorities, constitution – 73<sup>rd</sup> amendment and its relevance to urban community development. Public participation in planning – its need & importance; Public participation at different stages of planning process.

**Suggested Readings:**

1. Ross, Murray, G (1955), Community Organization: Theory, Principles & Practice, Harper & Row, New York.
2. Mukherjee, Amitava, (Ed), (1995), Participatory Rural Appraisal, Methods & Application in Rural Planning, Vikas Publishing House, New Delhi.
3. Weil, M. (Ed), (1996), Community Oractice: Conceptual Models, The Haworth Press, New York.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL408: DEVELOPMENT POLICIES AND STRATEGIES**

**Credit: 3-1-0**

Concept of policy and development policy, components, content and characteristics of a good development policy. Constitutional provisions, central list, state list and concurrent list. Setup for Policy formulation in India.

Constitution, acts, institutions, and regulatory mechanisms. Development Policy formulation mechanism in India, five year plans at national and state level, various institutional levels for policy formulation, jurisdiction of a policy and conflicts.

Development strategy, concept, need, strategy vs. policy, changing strategies for development, strategy for planning, development and financing development, PPP model for urban development. Study of some development policies and strategies in India: housing policy, transport policy, telecommunication policy, JNNURM

**Suggested Readings:**

1. UDPFI Guidelines, Vol. 1 (1996), Min. of Urban Affairs & Employment, GOI, New Delhi.
2. Current Five Year Plan Planning Commission, GOI, New Delhi.
3. Latest World Development Report.
4. Punjab Development Report (2005), Planning Commission, GOI, New Delhi.
5. JNNURM Guidelines (2005), Ministry of Urban Development, Govt. of India.
6. India Infrastructure Reports (1996 to 2008), Oxford University Press, USA.
7. Manual on Water Supply and Treatment (1999), Ministry of Urban Development, Govt. of India.
8. Manual on Sewerage and Sewage Treatment, Central Public Health & Environmental Engineering Organization, Ministry of Urban Development, Govt. of India.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER -VIII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL451: GOVERNANCE AND FINANCE**

**Credit: 3-1-0**

Definition, objectives and scope of Governance: Basic principles and process of Governance; , Role of Governance in a developing economy. Theory and meaning of organization, Settlement planning, decision making process; Application of management techniques in urban & regional planning. Development Administration at National, Regional, State, District and Local levels and the process of decision making at various levels related to urban & regional planning.

Development and management; Urban & regional development management policies and programmes of Government of India, Priorities and provisions in the National Development Five Year Plans and their relevance in urban and regional planning. Functions, Powers, Structures and Resources of State level planning and development agencies and their performance; case studies of Punjab Urban Planning and Development authority (PUDA), Punjab State Industrial Development Corporation, (PSIDC), State Pollution Control Board (PPCB), Punjab Infrastructure Development Board (PIDB).

Functions, Powers, Structures, Resources and role of local level planning and development agencies (Municipal Bodies, Improvement Trusts and city/Urban development authorities) and their performance with special reference and coverage relating to such Government agencies in the State of Punjab. Financing development projects; different sources of funding, cost subsidization, Municipal financing; sources of revenue and items of expenditure, Taxation; meaning, canons of taxation, canons of expenditure, Causes and effects of poor financial status of Municipal bodies; measures to augment financial resources of urban local bodies, Financial resources mobilization at the State and Local level.

**Suggested Readings:**

- 1 Bhatia, H.L (2003), "Public Finance", Vikas Publishing House Pvt. Ltd., New Delhi.
- 2 Kumar, Anil Thakur & Md. Abdus Salam (2007), "Indian Public Finance and Twelfth Finance Commission – The Indian Economic Association", Deep & Deep Publications Pvt. Ltd., New Delhi.
- 3 Five Year Plans, Planning Commission, Government of India, New Delhi.
- 4 UDPFI Guidelines, Vol. 1 (1996)," Ministry. of Urban Affairs & Employment", GOI, New Delhi.
- 5 Reading Material on Development Management, Institute of Town Planner's India, New Delhi

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VIII  
(Under Credit Based Continuous Evaluation Grading System)

**SPL 452 PLANNING FOR REGIONAL INFRASTRUCTURE**

**Credit: 3-1-0**

Concept of region, types of regions – functional & formal, hierarchy of regions; need for infrastructure in regional perspective; Norms & Standards; changing scenario of infrastructure demand with emphasis on innovative approaches.

Policies & Programs related to infrastructure development at National & State level; Regional infrastructure related issues & priorities. Planning for infrastructure in a region – physical profile.

Demographic & socio-economic aspects, traffic & transportation; trade & commerce; agriculture & allied activities; tourism etc. Planning for infrastructure in a village – physical, social and economic. Current practices for regional infrastructure development; Case study of a region such as NCR.

**Suggested Readings:**

1. Rakesh Mohan, (1997), India Infrastructure Report.
2. Singhal, A., (1989), Evolution of Development and Development Administration Theory, Indian Journal of Rural Development, Vol. 35(4).
3. Report of Task Force on Planning & Development of Small & Medium Towns & Cities, Govt. of India, 1997.
4. Aggarwal, S.K., (2007), Regional Development & Planning in India, Concept Publishers, New Delhi.

B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VIII  
(Under Credit Based Continuous Evaluation Grading System)

**SPD453: PLANNING STUDIO–VIII (PLANNING DISSERTATION)**

**Credits: 5-0-20 (total 15)**

Based on the selection of project title and synopsis prepared as preliminaries in 7<sup>th</sup> Semester, each student shall prepare a detailed survey schedule, conduct survey & studies, analyze the data, work out alternative plans and design considerations, establish a criteria to finalize the plan, highlight detailed assumptions, considerations and theoretical perception of the plan and design of the study area. The plan proposals must include landuse plan, circulation plan, utilities and landscape plan alongwith urban design concepts and considerations.

No proposal shall be considered as complete unless its cost estimates are worked out, besides strategies to implement the project.

For final submission, each student shall be required to prepare a well documented project report on the lines of a technical report illustrated with drawings, maps, sketch and photograph. Distribution of marks and schedule for the Planning Project shall be decided by BOC from time to time.

The External Viva-voce examination should be through the external Examiners i.e. outside the Faculty

**B.TECH (URBAN AND REGIONAL PLANNING) SEMESTER-VIII**  
(Under Credit Based Continuous Evaluation Grading System)

**SPF 454 EDUCATIONAL TOUR-II**

**AUDIT COURSE**

Each student will be required to go for educational tour of at least two metropolitan cities in the company of a teacher in-charge during the seventh semester. The scope and objective of this tour is to expose the students to functioning of various planning agencies in metropolitan towns and specialized planning projects undertaken in metropolitan cities. The cities and duration of the tour shall be decided by BOC from time to time.

After the tour is over, the students shall submit the summarized tour report of 20 pages individually to the tour in-charge which will be evaluated through viva-voce by the tour in-charges/s.