Model Curriculum

for

Bachelor of Planning

2023

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj, New Delhi 110070

www.aicte-india.org

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PREFACE

The recent Budget 2022 speech of Smt. Nirmala Sitaraman, Hon'ble Union Finance Minister, Government of India focussed, amongst other things, on urban development and the need for reforms. Some key extracts of the Speech are as follows:

Urban Development:

1. *By the time of India @ 100, nearly half our population is likely to be living in urban areas. To prepare for this, orderly urban development is of critical importance. This will help realize the country's economic potential, including livelihood opportunities for the demographic dividend. For this, on the one hand we need to nurture the megacities and their hinterlands to become current centers of economic growth. On the other hand, we need to facilitate tier 2 and 3 cities to take on the mantle in the future. This would require us to reimagine our cities into centers of sustainable living with opportunities for all, including women and youth. For this to happen, urban planning cannot continue with a business-as-usual approach. We plan to steer a paradigm change.*

2. *A high-level committee of reputed urban planners, urban economists and institutions will be formed to make recommendations on urban sector policies, capacity building, planning, implementation and governance.*

Urban Planning Support to States:

3. *For urban capacity building, support will be provided to the states. Modernization of building byelaws, Town Planning Schemes (TPS), and Transit Oriented Development (TOD) will be implemented. This will facilitate reforms for people to live and work closer to mass transit systems. The Central Government's financial support for mass transit projects and AMRUT scheme will be leveraged for formulation of action plans and their implementation for facilitating TOD and TPS by the states.*

4. *For developing India specific knowledge in urban planning and design, and to deliver certified training in these areas, up to five existing academic institutions in different regions will be designated as centers of excellence. These centers will be provided endowment funds of ` 250 crore each. In addition,* ***AICTE will take the lead to improve syllabi, quality and access of urban planning courses in other institutions.***

The Budget speech also emphasised on PM Gatishakti, Vibrant Villages, Housing for All, mass transport, e-vehicles, land records management, etc., all of which have a major impact on cities, their planning, development and management.

In this background, the AICTE constituted a Committee with the following:

1. Prof. Dr. P.S.N. Rao, Director, SPA New Delhi - Chairman
2. Prof. Dr. P.M.V. Subbarao, Head, CRDT, IIT Delhi - Member
3. Prof. Umakant Dash, Director, IRMA, Anand - Member
4. Prof. Dr. Sanjukkta Bhaduri, HOD (UP), SPA New Delhi - Member
5. Prof. Dr. Pratap Rawal, Professor, College of Engg., Pune - Member
6. Dr. Roshni U Yehuda, President, IEAR, Mumbai - Member
7. Prof. Dr. P. Siva Ram, Professor (Retd.), NIRDPR, Hyderabad - Member
8. Ar. G. Shankar, Habitat Technology Group, Kerala - Member

In this context, the above committee met several times and reviewed the syllabus prepared by the AICTE in the year 2020 and made some changes. It is hoped that the revised model Syllabus given here would be able to shape the minds of the students to meet the challenges of our cities in the present and foreseeable future.

We hereby express our heartfelt thanks to Prof. T.G Sitharam, Chairman, Dr. Abhay Jere, Vice Chairman and Prof. Dr. Rajive Kumar, Member Secretary of AICTE for their advice and support. We also place on record our thanks to various officers of the AICTE namely Dr. Mamta Rani Agarwal, Advisor-I (P&AP), Dr. Dinesh Singh, Director (P&AP) and other office staff of AICTE for their excellent support.

SD/-
Prof. Dr. P.S.N. Rao
Chairman,
AICTE Committee on Urban Planning Reforms
and
Chairman, AIB TCP, AICTE June 2023

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COURSE STRUCTURE: GENERAL

COURSE STRUCTURE - GENERAL

Definition of Credit:

1 Hour Lecture (L) per week	1 Credit
1 Hour Tutorial (T) per week	1 Credit
1 Hour Practical (P) per week	0.5 Credit
2 Hours Practical (P) per week	1 Credit

A. Range of Credits:

In the light of the fact that a typical Model Four Year Under-Graduate Degree program in engineering has about 160 credits, the total number of credits proposed for the four-year Bachelor of Planning programme are also 160 i.e. approximately 40 credits / year x 4 years = 160.

B. AICTE Guidelines:

After successful completion of 160 credits, a student shall be eligible to get an Undergraduate Degree in Urban and Regional Planning. A student will be eligible to get Undergraduate Degree with Honours only if s/he completes additional university recommended courses equivalent to 20 credits. NPTEL Courses of 4 Weeks, 8 Weeks and 12 Weeks shall be of 2, 3 and 4 credits respectively through MOOCs. For registration to MOOCs courses, students shall follow NPTEL site at http://nptel.ac.in/ as per the NPTEL policy and norms. The students can register for these courses through NPTEL directly as per the courses being offered in odd and even semesters at the NPTEL. These NPTEL courses recommended by the respective university may be cleared during the Bachelor of Planning degree program and it is not necessary that one course in each semester is cleared. After successful completion of these MOOCs courses, the students shall provide their successful completion of NPTEL status and certificates to the university's controller of examinations through their college of study only. The students shall be awarded Honours Degree on successful completion of MOOCs based 20 credits only if s/he secures 7.50 or above CGPA and passed each subject of the degree program in single attempt without any grace marks.

C. Structure of Bachelor of Planning program:

The structure of Bachelor of Planning program shall have essentially the following categories of courses with the breakup of credits as given below:

S. No.	Category	Breakup of Credits
1.	Humanities and Social Science Courses	9
2.	Planning Core Courses	72
3.	Professional Elective Courses (Branch Specific Electives)	15
4.	Open Elective Courses (Cross Disciplines Elective)	15

5.	Project work, Seminar and Internship in Industry or elsewhere	49
6.	Audit Courses (non-credit) [Environmental Sciences, Indian Constitution, Sports & Yoga]	**0**
TOTAL		**160**

D. Course Code and Definition:

Course code	Definitions
L	Lecture
T	Tutorial
P	Practical
C	Credits

E. Course Level Coding Scheme:

Following terminology is used for subject codes:

Course Code	Definitions
BPH	Humanities and Social Science Courses
BPC	Planning Core Courses including Studios
BPPE	Professional Elective Courses (Branch Specific Electives)
BPOE	Open Elective Courses (Cross Discipline Electives)
BPPS	Project Work and Internship in Industry or Fieldwork, etc.
BPPT	Professional Training
BPAU	Audit Courses (Non-credit)
BPPTH	Thesis

Category-wise Courses

HUMANITIES AND SOCIAL SCIENCES COURSES

(i) Number of Humanities and Social Science Courses: **4**
(ii) Credits: **9**

S. No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPH 1.5	Technical Report Writing	1	1	0	I	2
2.	BPH 2.5	Economics for Planners	2	0	0	II	2
3.	BPH 2.6	Introduction to Social Sciences	3	0	0	II	3
4.	BPH 3.5	Demography	2	0	0	III	2
Total Credits							**9**

PLANNING CORE COURSES

(i) Number of Planning Core Courses including Studios: **30**
(ii) Credits: **72**

S. No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPC 1.1	Fundamentals of Urban and Regional Planning	3	0	0	I	3
2.	BPC 1.2	Techniques of Planning – I	2	1	0	I	3
3.	BPC 1.3	Quantitative and Qualitative Methods for Planners	1	1	0	I	2
4.	BPC 1.4	Basic Computer Applications	0	2	0	I	2
5.	BPC 2.1	Cities in History	2	0	0	II	2
6.	BPC 2.2	Spatial Data Infrastructure for Planning – I	2	1	0	II	3
7.	BPC 2.3	Planning Communication	1	2	0	II	3
8.	BPC 2.4	Site and Land Development	2	1	0	II	3
9.	BPC 3.1	Planning Theory – I	3	0	0	III	3
10.	BPC 3.2	Traffic and Transport Planning - I	2	0	0	III	2
11.	BPC 3.3	Techniques of Planning – II	2	1	0	III	3
12.	BPC 3.4	Urban and Regional Infrastructure Planning	3	0	0	III	3
13.	BPC 4.1	Planning Theory – II	3	0	0	IV	3
14.	BPC 4.2	Planning Practice - I	1	1	0	IV	2
15.	BPC 4.3	Traffic and Transport Planning – II	2	0	0	IV	2
16.	BPC 4.4	Ecology and Resource Planning	2	0	0	IV	2
17.	BPC 5.1	Housing	3	0	0	V	3
18.	BPC 5.2	Project Formulation, Appraisal and Management	2	0	0	V	2
19.	BPC 5.3	Spatial Data Infrastructure for Planning – II	2	0	0	V	2

20.	BPC 6.1	Environmental Planning	2	0	0	VI	2
21.	BPC 6.2	Land Economics and Location Theory	2	0	0	VI	2
22.	BPC 6.3	Urban Development Finance	2	0	0	VI	2
23.	BPC 6.4	Planning for Informal Sector and the Urban Poor	3	0	0	VI	3
24.	BPC 7.1	Introduction to Regional Planning	2	0	0	VII	2
25.	BPC 7.2	Planning Legislation – I	2	0	0	VII	2
26.	BPC 7.3	Rural Development and Management	2	0	0	VII	2
27.	BPC 7.4	Dissertation Writing	1	1	0	VII	2
28.	BPC 8.1	Planning Legislation – II	3	0	0	VIII	3
29.	BPC 8.2	Planning Practice – II	2	0	0	VIII	2
30.	BPC 8.3	Planning Ethics	2	0	0	VIII	2
TOTAL							**72**

PROFESSIONAL ELECTIVE COURSES

(i) Number of Professional Elective Courses: **5**
(ii) Credits: **15**

S. No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPPE 4.5	Professional Elective – I	3	0	0	IV	3
2.	BPPE 5.4	Professional Elective – II	3	0	0	V	3
3.	BPPE 6.5	Professional Elective – III	3	0	0	VI	3
4.	BPPE 7.5	Professional Elective – IV	3	0	0	VII	3
5.	BPPE 8.4	Professional Elective – V	3	0	0	VIII	3
Total Credits							**15**

Note: For detailed syllabus of Professional Elective Course, refer Appendix – I.

OPEN ELECTIVE COURSES

(i) Number of Open Elective Courses: **5**
(ii) Credits: **15**

S. No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPOE 4.6	Open Elective I	3	0	0	IV	3
2.	BPOE 5.5	Open Elective II	3	0	0	V	3
3.	BPOE 6.6	Open Elective III	3	0	0	VI	3
4.	BPOE 7.6	Open Elective IV	3	0	0	VII	3
5.	BPOE 8.5	Open Elective V	3	0	0	VIII	3
Total Credits							**15**

Note: For detailed syllabus of Open Elective course, refer Appendix – II.

In total five open electives are offered in five different semesters. However, each time we have included only one open elective subject in this curriculum because we expect that other departments such as planning schools like SPAs and full-fledged universities like GNDU Amritsar, Punjab would be also offering open electives. So the students would have the opportunity to choose from a number of open electives. This is specific to urban and regional planning only.

PROFESSIONAL TRAINING, PROJECT WORK, SEMINAR, FIELD VISIT

(i) Number of Professional Training, Thesis, Project Work, etc.: **11**
(ii) Credits: **49**

S No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPPT 3.6	Professional Training – I	-	-	-	III	2
2.	BPPT 5.6	Professional Training – II	-	-	-	V	3
3.	BPPT 7.7	Professional Training – III	-	-	-	VII	3
4.	BPPTH 8.0	Planning Thesis	0	0	12	VIII	6
5.	BPPS 1.0	Planning Studio – I: Area Appreciation and Space Perception	0	0	10	I	5
6.	BPPS 2.0	Planning Studio – II: Village Planning and Urban Neighbourhood Planning	0	0	10	II	5
7.	BPPS 3.0	Planning Studio – III: Land Use and Transport Planning	0	0	10	III	5

8.	BPPS 4.0	Planning Studio: Site Planning	0	0	10	IV	5
9.	BPPS 5.0	Planning Studio: Sub-City Plan	0	0	10	V	5
10.	BPPS 6.0	Planning Studio: Master Development Plan	0	0	10	VI	5
11.	BPPS 7.0	Planning Studio: Regional Plan	0	0	10	VII	5
TOTAL							**49**

AUDIT COURSES

(i) Number of Audit Courses: **2**
(ii) Credits: **0**

S. No.	Course Code	Course Title	L	T	P	Semester	Credits
1.	BPAU 1.1	Stress Management by Sports & Yoga	0	0	2	I	0
2.	BPAU 6.1	Environmental Science	3	0	0	VI	0
Total Credits							**0**

Note: These are mandatory non-credit courses.

INDUCTION PROGRAM

The essence and details of Induction Program can also be understood from the 'Detailed Guide on Student Induction program', as available on AICTE Portal, (Link:https://www.aicte-india.org/sites/default/files/Detailed%20Guide%20on%20Student%20Induction%20program.pdf). For more, refer **Appendix III.**

Induction program (mandatory)	Three-week duration
Induction program for students to be offered right at the start of the first year.	• Physical activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Department/Branch and Innovations

A. Mandatory Visits/ Workshop/Expert Lectures:

a. It is mandatory to arrange one industrial or field visit every semester.
b. It is mandatory to conduct a One-week workshop during the winter break after fifth semester on professional/ industry/ entrepreneurial orientation.
c. It is mandatory to organize at least one expert lecture per semester for each branch by inviting resource persons from domain specific industry.

B. Evaluation Scheme (Suggestive only):

a. **For Theory Courses:**
The weightage of Internal Assessment is 40 per cent and for End Semester Examination is 60 percent. The student has to obtain at least 40 per cent marks individually both in Internal Assessment and End Semester Examination to pass.

b. **For Practical Courses:**
The weightage of Internal Assessment is 60 per cent and for End Semester Examination is 40 percent. The student has to obtain at least 40 per cent marks individually both in Internal Assessment and End Semester Examination to pass.

c. For Summer Internship/Projects/Seminar, etc.
Evaluation is based on work done, quality of report, performance in viva-voce, presentation, etc.
The internal assessment is based on the student's performance in mid semester tests (two best out of three), quizzes, assignments, class performance, attendance, viva-voce in practical, lab record, etc.

C. Mapping of Marks to Grades

Each course (Theory/Practical) is to be assigned 100 marks, irrespective of the number of credits, and the mapping of marks to grades may be done as per the following table:

Range of Marks	**Assigned Grade**
91-100	AA/A^+
81-90	AB/A
71-80	BB/B^+
61-70	BC/B
51-60	CC/C^+
46-50	CD/C
40-45	DD/D
< 40	FF/F (Fail due to less marks)
-	F^R (Fail due to shortage of attendance and therefore, to repeat the course)

SEMESTER WISE STRUCTURE

SEMESTER I

S. No.	Course Code	Course Title	L	T	P	C
THREE WEEKS MANDATORY INDUCTION PROGRAM						
1.	BPC 1.1	Fundamentals of Urban and Regional Planning	3	0	0	3
2.	BPC 1.2	Techniques of Planning – I	2	1	0	3
3.	BPC 1.3	Quantitative and Qualitative Methods for Planners	1	1	0	2
4.	BPC 1.4	Basic Computer Applications	0	2	0	2
5.	BPH 1.5	Technical Report Writing	1	1	0	2
6.	BPPS 1.0	Planning Studio – I: Area Appreciation and Space Perceptions	0	0	10	5
7.	BPAU 1.1	Stress Management by Sports & Yoga	0	0	2	0
TOTAL			**7**	**5**	**12**	**17**

SEMESTER II

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 2.1	Cities in History	2	0	0	2
2.	BPC 2.2	Spatial Data Infrastructure for Planning – I	2	1	0	3
3.	BPC 2.3	Planning Communication	1	2	0	3
4.	BPC 2.4	Site and Land Development	2	1	0	3
5.	BPH 2.5	Economics for Planners	2	0	0	2
6.	BPH 2.6	Introduction to Social Sciences	3	0	0	3
7.	BPPS 2.0	Planning Studio – II: Village Planning and Urban Neighbourhood Planning	0	0	10	5
TOTAL			**12**	**4**	**10**	**21**

SEMESTER III

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 3.1	Planning Theory – I	3	0	0	3
2.	BPC 3.2	Traffic and Transport Planning - I	2	0	0	2
3.	BPC 3.3	Techniques of Planning – II	2	1	0	3
4.	BPC 3.4	Urban and Regional Infrastructure Planning	3	0	0	3
5.	BPH 3.5	Demography	2	0	0	2
6.	BPPT 3.6	Professional Training – I	-	-	-	2
7.	BPPS 3.0	Planning Studio: Land Use and Transport Planning	0	0	10	5
TOTAL			**12**	**1**	**10**	**20**

Note: *Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.*

SEMESTER IV

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 4.1	Planning Theory – II	3	0	0	3
2.	BPC 4.2	Planning Practice - I	1	1	0	2
3.	BPC 4.3	Traffic and Transport Planning - II	2	0	0	2
4.	BPC 4.4	Ecology and Resources Planning	2	0	0	2
5.	BPPE 4.5	*Professional Elective – I*	3	0	0	3
6.	BPOE 4.6	*Open Elective – I*	3	0	0	3
7.	BPPS 4.0	Planning Studio: Site Planning	0	0	10	5
TOTAL			**14**	**1**	**10**	**20**

Any one from the following subjects has to be taken as a *Professional Elective – I:*
1. Advanced Spatial Data Infrastructure for Planning
2. Public Policy and Politics in Planning

The following subject is an *Open Elective – I:*
1. Reading and Comprehending Spaces

SEMESTER V

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 5.1	Housing	3	0	0	3
2.	BPC 5.2	Project Formulation, Appraisal and Management	2	0	0	2
3.	BPC 5.3	Spatial Data Infrastructure for Planning – II	2	0	0	2
4.	BPPE 5.4	*Professional Elective – II*	3	0	0	3
5.	BPOE 5.5	*Open Elective – II*	3	0	0	3
6.	BPPT 5.6	Professional Training – II	-	-	-	3
7.	BPPS 5.0	Planning Studio Sub-City Plan	0	0	10	5
TOTAL			**13**	**0**	**10**	**21**

Any one from the following subjects has to be taken as a *Professional Elective – II:*
1. Spatial Justice
2. Participatory Integrated Urban Development

The following subject is an *Open Elective – II:*
1. Sustainable Cities and Regions

Note: *Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.*

SEMESTER VI

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 6.1	Environmental Planning	2	0	0	2
2.	BPC 6.2	Land Economics and Location Theory	2	0	0	2
3.	BPC 6.3	Urban Development Finance	2	0	0	2
4.	BPC 6.4	Planning for Informal Sector and the Urban Poor	3	0	0	3

5.	BPPE 6.5	*Professional Elective – III*	3	0	0	3
6.	BPOE 6.6	*Open Elective – III*	3	0	0	3
7.	BPPS 6.0	Planning Studio: Master Development Plan	0	0	10	5
8.	BPAU 6.1	Environmental Science	3	0	0	0
TOTAL			**18**	**0**	**10**	**20**

Any one from the following have to be taken as a *Professional Elective-III:*
1. Real Estate Development and Management
2. Climate Change, Disaster Risk and Resilience

The following subject is an *Open Elective – III:*
1. Metropolitan Planning and Development

SEMESTER VII

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 7.1	Introduction to Regional Planning	2	0	0	2
2.	BPC 7.2	Planning Legislation – I	2	0	0	2
3.	BPC 7.3	Rural Development and Management	2	0	0	2
4.	BPC 7.4	Dissertation Writing	1	1	0	2
5.	BPPE 7.5	*Professional Elective – IV*	3	0	0	3
6.	BPOE 7.6	*Open Elective – IV*	3	0	0	3
7.	BPPT 7.7	Professional Training – III	-	-	-	3
8.	BPPS 7.0	Planning Studio: Regional Plan	0	0	10	5
TOTAL			**13**	**1**	**10**	**22**

Any one from the following have to be taken as a *Professional Elective-IV:*
1. Landscape Planning and Design
2. Heritage, Renewal and Redevelopment

The following subject is an *Open Elective – IV:*
1. Institutions and Planning

Note: Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.

SEMESTER VIII

S. No.	Course Code	Course Title	L	T	P	C
1.	BPC 8.1	Planning Legislation - II	3	0	0	3
2.	BPC 8.2	Planning Practice – II	2	0	0	2
3.	BPC 8.3	Planning Ethics	2	0	0	2
4.	BPPE 8.4	*Professional Elective – V*	3	0	0	3
5.	BPOE 8.5	*Open Elective - V*	3	0	0	3
6.	BPPTH 8.0	Planning Thesis	0	0	12	6
TOTAL			**13**	**0**	**12**	**19**

Any one from the following have to be taken as a *Professional Elective – V:*
1. Water Security and Planning
2. Universally Accessible Built Environments

The following subject is an *Open Elective – V:*
1. Urban Governance and Management

SEMESTER – I

SEMESTER I

Course Code	BPC 1.1
Course Title	**Fundamentals of Urban and Regional Planning**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:
To introduce to students, the basic concepts and rationales of planning, plan making processes, planning organizations, and theories of urbanization.

Course Contents:

Unit 1: Rationales of Planning and Planning as a Discipline
Various definitions of town and country planning; Goals, objectives and components of planning; Benefits of planning; Planning as a discipline and multidisciplinary nature of planning; Different roles of planners.

Unit 2: Foundations of Planning
Orthodoxies of planning; Components of sustainable urban and regional development; Reasoning and its forms in planning; Planning knowledge and its various forms; Arguments for and against planning; Economic and societal aspects as bases of town and country planning.

Unit 3: Development Plans and Planning Organizations
Defining development plan; Types and scope of development plans: regional plan, master plan, zonal plan, town planning scheme, layout plan; Structure plan, district plan, action area plan, subject plan; Hierarchy of plans and its significance; Development regulations; Local government of India; District Planning Committees and Metropolitan Planning Committees; Different development authorities and other organizations like improvement trusts.

Unit 4: Theories of Urbanization and Role of Planning Organizations
Theories of urbanization including Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other latest theories; Land Use and Land Value Theory of William Alonso; Meanings and forms of globalization; Characteristics of a global city.

Text Books and References:

1. Alexander, E.R. (1987) Planning as Development Control: Is That All Urban Planning Is For? Town Planning Review, Vol. 58, No. 4, pp. 453-467.
2. Baer, W.C. (2007) General Plan Evaluation Criteria: An Approach to Making Better Plans, Journal of the American Planning Association, Vol. 63, Issue 3, pp. 329-344.
3. Branch, M.C. (2018) Comprehensive City Planning: Introduction and Explanation, Routledge. First Edition published in 1985.

4. Kasarda, J.D. and Crenshaw, E.M. (1991) Third World Urbanization: Dimensions, Theories, and Determinants, Annual Review of Sociology, Vol. 17, pp. 467-501.
5. King, A. (1976) Colonial Urban Development: Culture, Social Power, and Environment, Routledge and Kegan Paul, New York.
6. Klosterman, R.E. (1985) Arguments for and Against Planning, Town Planning Review, Vol. 56, No. 1, pp. 5-20.
7. Patel, S.B. (1997) Urban Planning by Objectives, Economic and Political Weekly, Vol. 32, No. 16, pp. 822-826.
8. Roberts, T. (2002) The Seven Lamps of Planning [with Comments] by Cliff Hague, Glyn Roberts and Lesley Punter, Town Planning Review, Vol. 73, No. 1, pp. 1-15.
9. Vidyarthi, S. (2018) Spatial Plans in Post-liberalization India: Who's making the plans for fast-growing Urban Regions? Journal of Urban Affairs, DOI: 10.1080/07352166.2018.1527658

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate understanding about the foundational concepts and rationales of planning, learn processes affecting preparation, content and types of development plans.
- To develop knowledge of theories of urbanization.

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Course Code	BPC 1.2
Course Title	**Techniques of Planning – I**
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

This course introduces students to know the data requirements for planning and undertake surveys and map data collected for a neighbourhood and a city and present it in a coherent and analytical manner.

Course Contents:

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

Understanding difference between data, information and knowledge; Distinction between facts and opinions; Reliable sources of data and information; Data requirements for urban and regional planning; Sources of primary and secondary data; Overview of data availability from different sources including Census of India, NSSO, etc.

Unit 2: Data Collection Methods - Socio-Economic Surveys

Questionnaire design, design of sample surveys, types of sampling, measurement scales, data coding and data verification; Qualitative data collection methods: focus group surveys, individual interviews, observations, ethnographic methods; Validity and reliability of data.

Unit 3: Data Collection Methods - Physical Surveys and Mapping

Physical surveys for the preparation of base maps at different scales, contents of base maps; Land use classifications; Techniques for conducting field surveys for land use, building use, density and other surveys needed for planning; Use of information, communication and technology (ICT) based data collection methods.

Unit 4: Data Presentation

Preparation of tables and charts; Interpreting statistical, qualitative and spatial data to identify trends, patterns and processes; Communication of data through presentations, reports, etc.

Text Books and References:

1. Berke, P.R. and Goodschalk, D.R., Kaiser, E.J. and Rodriguez, D.A. (2006) *Urban Land Use Planning*, University of Illinois Press, Champaign, Illinois. Fifth Edition.
2. Dandekar, H.C. (ed.) (2019) *The Planner's Use of Information*, Routledge, New York. Third Edition.

3. Guthrie, G. (2010) *Basic Research Methods: An Entry to Social Science Research*, Sage, Los Angeles.
4. Krueckeberg, D.A. and Silvers, A.L. (1974) *Urban Planning Analysis: Methods and Models*, Wiley, London.
5. Monmonier, M. (1996) *How to Lie with Maps*, University of Chicago Press, Chicago.
6. Wang, X., Rainer, A. and Hofe, V. (2007) *Research Methods in Urban and Regional Planning*, Springer, Berlin.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop the skills for preparing a base map at different scales and representation of relevant planning information on it.
- To know data requirements for planning and to demonstrate skills for undertaking surveys.
- To produce data through tables, charts and reports.

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Course Code	BPC 1.3
Course Title	**Quantitative and Qualitative Methods for Planners**
No. of Credits	2 (L: 1; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To comprehend various techniques and methods of quantitative analysis relevant for planning.
- To show how these techniques could be used to identify planning problems and help in taking planning decisions.
- To expose students to various qualitative analysis techniques and their relevance for planning practice and research.

Course Contents:

Unit 1: Correlation and Regression Analysis

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

Unit 2: Statistical Inference and Chi-Square Test and Analysis of Variance

Types of estimation; Point, interval, testing of hypothesis, statistical hypothesis, simple and composite tests of significance, null hypothesis, alternative hypothesis; Types of errors, level of significance, critical region; Two tailed and one tailed tests, large and small sample tests for mean and proportion; Chi-square distribution: applications of chi-square distribution; Test of goodness of fit; ANOVA distribution; Use of SPSS; Applications in planning.

Unit 3: Mathematical Programming Techniques

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

Unit 4: Qualitative Methods

Dimensions of qualitative research; Designing qualitative research; Terms and principles in qualitative data analysis; Content analysis; Narrative analysis; Discourse analysis for planning.

Text Books and References:

1. Gelman, A. and Hill, J. (2006) *Data Analysis Using Regression and Multilevel and Hierarchical Models*, Colombia University Press, New York.
2. Molugaram, K. and Rao, G.S. (2017) *Statistical Techniques for Transportation Engineering,* BSP Books Pvt. Ltd. Published by Elsevier, London.
3. Kambo, N.S. (2008) *Mathematical Programming Techniques*, Affiliated East-West Press Pvt. Ltd. New Delhi.
4. Braun, V. and Clarke, V. (2013) *Successful Qualitative Research: A Practical Guide for Beginners*, Sage, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate use of quantitative and qualitative techniques for planning analysis.
- To show knowledge about interpreting findings from such analysis to pursue planning decisions.

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Course Code:	BPC 1.4
Course Title	**Basic Computer Applications**
No. of Credits	2 (L: 0; T: 2; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To introduce to students' applications of computer software for report writing, data analysis and presentations required for planning.
- To expose students to the use AutoCAD and similar software to prepare drawings and presentations.

Course Contents:

Unit 1: Introducing Computer Application in Planning

Introduction to Computer Applications in Planning; Various software packages, Utility of computers in planning assignments, Current trends in planning with respect to use of computer applications.

Unit 2: Advanced Features of MS Word

Use of MS Word in report preparation, Adding and updating table of contents, Spell check, thesaurus, working with columns, tabs and indents, creation and working with tables, margins and space management in a document; Adding references and graphics; Importing and exporting across various formats; Creating questionnaires using macros.

Unit 3: Advanced Features of MS Excel

Defining data and database management; Working with census data; Data analysis using various functions and tools; Creating formulas, using formulas, cell references, replication, sorting, filtering, functions; Preparation of charts and graphs, creating trend lines, and simple macros.

Unit 4: Introduction to AutoCAD

Concept of mapping and drafting techniques; Introduction to AutoCAD; Understanding the fundamental concepts and terminologies used in AutoCAD; Tools for digitization; Modifying tools; Layers' creation and management; Creating blocks, annotation, and scaling; Plotting and printing with hands on exercises.

Text Books and References:

1. Anderson, T. and Hart Davis, G., (2010) *Beginning Microsoft Word 2010*, Springer, New York.
2. Bill, J. (2016) *Advance Excel 2016 in Depth*, BPB Publications, New Delhi.

3. Fitzgerald, J. and Richard, P. (2016) *Introduction to AutoCAD*, Pearson Education, London.
4. Tickoo, S. (2019) *AutoCAD 2020 Workbook*, BPB Publications, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To design and produce written reports using software, and perform analysis of data.
- To compose data in the form of graphs, charts and also able to prepare maps, plans and sketches to present planning information.

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Course Code	BPH 1.5
Course Title	**Technical Report Writing**
No. of Credits	2 (L: 1; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

This course intends to equip the students to present their work through reports and learn how to critically examine literature review for the purposes of developing an understanding about a particular topic.

Course Contents:

Unit 1: Written communication
Language and communication, differences between speech and writing, distinct features of speech, distinct features of writing, Reading Skills to find out particular information and get the gist through notes, letters, articles, reports. English comprehension, paraphrasing, summarising and editing.

Unit 2: Undertaking Literature Review
Identification of credible journals, books, reports, etc.; How to read literature; Styles of referencing such as Harvard Style of Referencing, APA, etc., Understanding an argument, developing your own interpretations What is an argument, validity and strength of arguments, common fallacies of reasoning, use and abuse of language in reasoning,

Unit 3: Format and Elements of Reports
Type; Types of reports, difference between technical, scientific, legal and other types of communication; specific characteristics of writing technical reports. Preliminaries: contents, preface, acknowledgements, list of tables and figures; Key words and indexing, Body: introduction, sections and sub-sections, or chapters, conclusions and recommendations; Appendices; References; knowledge of indexing and available reference materials

Unit 3: Writing a Report
Developing a coherent structure for a term paper and report; Introductory, developmental, transitional and concluding paragraphs, linguistic unity, coherence and cohesion, descriptive, narrative, expository and argumentative writing. Report writing,

Text Books and References:

1. Machi A.L., McEvoy B.T. (2016) *Literature Review: Six Steps to Success*, Corwin (Sage), New Delhi.

2. Kousoulas, C.A. (2019) *Writing for Planners: Handbook for Students and Professionals in Writing, Editing, and Document Production*, CRC Press, New York.
3. Macris, N. (2002) *Writing in Planning English: Writing Tips for Urban and Environmental Planners*, Routledge, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the ability to undertake literature review.
- To demonstrate written communication skills in English.
- To show knowledge about the elements of a report and correct ways of citing sources.
- To show knowledge and ability of structuring a report.

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Course Code	BPPS 1.0
Course Title	**Planning Studio – I: Area Appreciation and Space Perceptions**
No. of Credits	5 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:
First semester studio will focus on understanding basic terminologies in planning through study of different areas. It would also focus on developing observation and mapping skills.

Course Contents:

Elements of a city: Understanding various building blocks of a city; Developing understanding about city planning elements using movies, lectures and city tours.

Distance and Area Perception: Developing an understanding about distance and area and translating the same to scale on drawings.

Space Perception: Study of areas with varying characters to appreciate the concepts of built form, activities and people. Appreciate various elements of built form such as plot sizes, FAR, densities, building heights and open spaces; Understanding how built form supports various activities in different areas.

Neighbourhood Perception: Mapping of a neighbourhood and appreciating the basic characteristics of a neighbourhood; Creation of base maps, recording and presenting information on maps, both manually and digitally.

Text Books and References:

1. Brownill, S. (ed.) (2017) Localism and Neighbourhood Planning, Policy Press, Bristol.
2. Parker, G., Salter, K. and Wargent, M. (2019) Neighbourhood Planning in Practice, Lund Humphries Publishers, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop an understanding of the key components of a city and show familiarity familiar about the basic planning terminologies.
- To show understanding of different patterns and forms that forms the physical fabric of a city.
- To express awareness of planners' sensibilities.
- To develop skills to prepare technical drawings and maps for small areas.

- To develop ability to visualize areas in two and three dimensions and draw them accurately.
- To show ability to observe, record, map and present different activities and spaces.

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Course Code	BPAU 1.1
Course Title	**Stress Management by Sports & Yoga**
No. of Credits	0 (L: 0; T: 0; P: 2)
Internal Assessment	0 Marks
End Semester Assessment	0 Marks
Total Assessment Marks	0 Marks

Course Objective(s):

- To make the students understand the importance of sound health and fitness principles as they relate to better health.
- To expose the students to a variety of physical and yogic activities aimed at stimulating their continued inquiry about Yoga, physical education, health and fitness.
- To create a safe, progressive, methodical and efficient activity based plan to enhance improvement and minimize risk of injury.
- To develop among students an appreciation of physical activity as a lifetime pursuit and a means to better health.

Course Contents:

- **Introduction to Physical Education**
  - Meaning & definition of Physical Education
  - Aims & Objectives of Physical Education
  - Changing trends in Physical Education
- **Olympic Movement**
  - Ancient & Modern Olympics (Summer & Winter)
  - Olympic Symbols, Ideals, Objectives & Values
  - Awards and Honours in the field of Sports in India (Dronacharya Award, Arjuna Award, Dhayanchand Award, Rajiv Gandhi Khel Ratna Award etc.)
- **Physical Fitness, Wellness & Lifestyle**
  - Meaning & Importance of Physical Fitness & Wellness
  - Components of Physical fitness
  - Components of Health related fitness
  - Components of wellness
  - Preventing Health Threats through Lifestyle Change
  - Concept of Positive Lifestyle
- **Fundamentals of Anatomy & Physiology in Physical Education, Sports and Yoga**

- Define Anatomy, Physiology & Its Importance
- Effect of exercise on the functioning of Various Body Systems. (Circulatory System, Respiratory System, Neuro-Muscular System etc.)

- **Kinesiology, Biomechanics & Sports**
  - Meaning & Importance of Kinesiology & Biomechanics in Physical Edu. & Sports
  - Newton's Law of Motion & its application in sports.
  - Friction and its effects in Sports.
- **Postures**
  - Meaning and Concept of Postures.
  - Causes of Bad Posture.
  - Advantages & disadvantages of weight training.
  - Concept & advantages of Correct Posture.
  - Common Postural Deformities – Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis.
  - Corrective Measures for Postural Deformities
- **Yoga**
  - Meaning & Importance of Yoga
  - Elements of Yoga
  - Introduction - Asanas, Pranayama, Meditation & Yogic Kriyas
  - Yoga for concentration & related Asanas (Sukhasana; Tadasana; Padmasana & Shashankasana)
  - Relaxation Techniques for improving concentration - Yog-nidra
- **Yoga & Lifestyle**
  - Asanas as preventive measures.
  - Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana, Bhujangasana, Sharasana.
  - Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana.
  - Back Pain: Tadasana, Ardh Matsyendrasana, Vakrasana, Shalabhasana, Bhujangasana.
  - Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pavan Muktasana, Ardh Matsyendrasana.
  - Asthema: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana.
- **Training and Planning in Sports**
  - Meaning of Training
  - Warming up and limbering down
  - Skill, Technique & Style
  - Meaning and Objectives of Planning.
  - Tournament – Knock-Out, League/Round Robin & Combination.

- **Psychology & Sports**
  - Definition & Importance of Psychology in Physical Edu. & Sports
  - Define & Differentiate Between Growth & Development
  - Adolescent Problems & Their Management
  - Emotion: Concept, Type & Controlling of emotions
  - Meaning, Concept & Types of Aggressions in Sports.
  - Psychological benefits of exercise.
  - Anxiety & Fear and its effects on Sports Performance.
  - Motivation, its type & techniques.
  - Understanding Stress & Coping Strategies.
- **Doping**
  - Meaning and Concept of Doping
  - Prohibited Substances & Methods
  - Side Effects of Prohibited Substances
- **Sports Medicine**
  - First Aid – Definition, Aims & Objectives.
  - Sports injuries: Classification, Causes & Prevention.
  - Management of Injuries: Soft Tissue Injuries and Bone & Joint Injuries
- **Sports / Games**

  Following subtopics related to any one Game/Sport of choice of student out of: Athletics, Badminton, Basketball, Chess, Cricket, Kabaddi, Lawn Tennis, Swimming, Table Tennis, Volleyball, Yoga etc.
  - History of the Game/Sport.
  - Latest General Rules of the Game/Sport.
  - Specifications of Play Fields and Related Sports Equipment.
  - Important Tournaments and Venues.
  - Sports Personalities.
  - Proper Sports Gear and its Importance.

Text Books/References:

1. Modern Trends and Physical Education by Prof. Ajmer Singh.
2. Light On Yoga by B.K.S. Iyengar.
3. Health and Physical Education – NCERT (11th and 12th Classes)

Course Outcomes: On successful completion of the course the students will be able to:

1. Practice Physical activities and Hatha Yoga focusing on yoga for strength, flexibility, and relaxation.
2. Learn techniques for increasing concentration and decreasing anxiety which leads to stronger academic performance.
3. Learn breathing exercises and healthy fitness activities
4. Understand basic skills associated with yoga and physical activities including strength and flexibility, balance and coordination.

5. Perform yoga movements in various combination and forms.
6. Assess current personal fitness levels.
7. Identify opportunities for participation in yoga and sports activities.
8. Develop understanding of health-related fitness components: cardiorespiratory endurance, flexibility and body composition etc.
9. Improve personal fitness through participation in sports and yogic activities.
10. Develop understanding of psychological problems associated with the age and lifestyle.
11. Demonstrate an understanding of sound nutritional practices as related to health and physical performance.
12. Assess yoga activities in terms of fitness value.
13. Identify and apply injury prevention principles related to yoga and physical fitness activities.
14. Understand and correctly apply biomechanical and physiological principles elated to exercise and training.

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SEMESTER – II

SEMESTER II

Course Code	BPC 2.1
Course Title	**Cities in History**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:
History informs the present in various ways. The chief objective of this subject is to understand historical processes of human settlements and development of different patterns. Second, to understand common characteristics of settlements in different time periods, and to appreciate influences of political, economic, technological, social and cultural factors in shaping the city and its role in shaping these societal processes.

Course Contents:
Unit 1: History and Historical Processes
Significance of studying historical processes; Interpreting history for planning purposes; Concept of time as a dimension of built form; Human settlements as a material expression of civilizational development.

Unit 2: Settlements in History
Cities in India from ancient, medieval to colonial era; ancient and Medieval planning in India and their common and distinct elements; Colonial history, built form and town planning; Colonialism and the modernist city in India.

Unit 3: Urban Processes
Criteria of location and development of towns in Asian history; Political, economic, technological, social and cultural factors shaping settlements through history; Indian city typologies and study of urban growth, decline, renewal in different cities based on functions, locations, etc.

Unit 4 History of Cities in India and South Asia
Evolution of cities in India and South Asia, Urban patterns and trends, similarities and differences from Indian cities; Historical challenges and interventions in Indian and Asian cities; Examples and case studies. Indian knowledge systems in city planning.

Text Books and References:

1. Banga, I. (1991) *The City in Indian History,* Manohar Publishers and Distributors, New Delhi.
2. Beverley, E. (2011) Colonial Urbanism and South Asian Cities, Social History, Vol. 36, No. 4, pp. 482–497.

3. Bosselmann, P. (2008) *Urban Transformation,* Island Press, Washington, D.C.
4. Chandavarkar, R. (2009) *History, Culture, and the Indian City*, Cambridge University Press, New Delhi.
5. Geddes, P. (1915) *Cities in Evolution,* Williams and Norgate, London.
6. Gallion, A.B. (1950) *The Urban Pattern,* John Wiley and Sons, London.
7. Gooptu, N. (2001) *The Politics of the Urban Poor in Early Twentieth-Century India*, Cambridge University Press, Cambridge.
8. Heitzman, J. (2008) *The City in South Asia*, Routledge, London.
9. Kenoyer, J. (1998) *Ancient Cities of the Indus Valley Civilization*, Oxford University Press, New Delhi.
10. King, A. (1976) *Colonial Urban Development: Culture, Social Power, and Environment,* Routledge and Kegan Paul, New York.
11. Kostof, S. (1993) *The City Shaped: Urban Patterns and Meanings through History*, Bullfinch Publishing, Stockholm.
12. Mumford, L. (1961) *The City in History: Its Origins, Its Transformations, and Its Prospects*, Mariner Books, New York.
13. Richards, J. (1993) *The Mughal Empire*, Cambridge University Press, New Delhi.
14. Sharma, Y. and Malekandathil, P. (2014) *Cities in Medieval India,* Primus Books, New Delhi.
15. Smith, M.L. (2003) *The Social Construction of Ancient Cities,* Smithsonian Books, Washington, D.C.

Course Outcomes: Upon the completion of this course, the students would be able:

- To analyse historical processes for overview of urban settlements and their various urban patterns.
- To identify common elements for categorization of urban patterns based on different parameters.
- To demonstrate familiarity with chronological evolution of different cities and their functional and spatial characteristics in different time periods.
- To develop understanding about various urban processes and different parameters affecting the functioning of a city in terms of its character and pattern.

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Course Code:	BPC 2.2
Course Title	**Spatial Data Infrastructure for Planning – I**
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

- To expose students to the modern techniques of remote sensing and photointerpretation required for planning.
- To provide exposure to the students to the available spatial data and organizations involved in providing planning information and also to impart skills for the use of this planning information.

Course Contents:

Unit 1: Remote Sensing and Photo Interpretation
Remote Sensing: Definition, aerial and satellite remote sensing; Aerial photo-interpretation, qualitative and quantitative elements of photo-interpretation; Satellite remote sensing, geo-stationary and sun-synchronous satellites, principles of electro-magnetic radiations, resolutions; Introduction to digital image processing; salient features of popular remote sensing satellites; Applications in planning along with laboratory exercises

Unit 2: Photogrammetry
Limitations of traditional surveys in planning; Photogrammetry as an alternative tool for surveying; Aerial photographs, and their classification; Principles of stereoscopic vision; Basic instruments like Stereopair, Pocket and Mirror Stereoscopes, Parallax Bars; Principles of photogrammetry, Measurement of heights and depths; Introduction to digital photogrammetry.

Unit 3: Planning Information Systems
Systems approach to planning as basis for planning information systems; Systems, hierarchy, types; Data and information, value of information, information flows and loops; Information sharing and security; Information systems, types, limitations; New sources of data such as big data and real data.

Unit 4: Human Settlements and Planning Information Systems
Information needs, scales and levels of human settlements; Preconditions for using planning information systems; Introduction to various planning information systems; Introduction to spatial data infrastructure; Planning information systems in India:

NNRMS, NUIS, National Urban Observatory, Municipal information systems, land information systems, cadastre systems; Tools for spatial data handling; Introduction to GIS; BHUVAN; Agencies responsible for generating spatial data.

Text Books/References:

1. Lillesand, T., Kiefer, R.W., and Chipman, J. (2011) *Remote Sensing and Image Interpretation*, Wiley, London.
2. Weilberg M. (ed.) (2016) *Photogrammetry and Remote Sensing*, Syrawood Publishing House, New York.
3. Ralph, M.S., George, W. R. (2016) Fundamentals of Information Systems, Cengage Learning, Boston.
4. Herold, M. and Gamba, P. (2009) *Global Mapping of Human Settlement: Experiences, Datasets, and Prospects*, CRC Press, Taylor and Francis, Boca Raton, Florida.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate skills about the use of remote sensing and photointerpretation for the preparation of land use and land cover maps.
- To show the ability to use planning information for making planning decisions.

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Course Code:	BPC 2.3
Course Title	**Planning Communication**
No. of Credits	3 (L: 1; T: 2; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:
The primary objective of this course is to develop verbal, visual and interpersonal communication skills.

Course Contents:
Unit 1: Visual Communication – Drawings

Visual studies about use of line, shape, form, texture, colour, composition, and scale in cities and buildings, streets, cities with special emphasis on rhythms, balance, harmony and proportion etc.; Sketching as a tool for communication; Techniques of preparation of base maps at area, city and regional level; Presentation of planning information through maps, thematic maps

Unit 2: Verbal Communication
Language and communication; Differences between speech and writing, distinct features of speech; Body language, eye contact, speech, and spoken expression, Elements of a good verbal presentation.

Unit 3: Photography and Model Making

Photography as a tool for visual information; Images and history; Developing basic understanding of photography, use of camera and its functions; Elements of good photographs; Understanding of different materials for models and built form models to understand the concepts learnt in the studio; A study of basic land and built forms through models, and presentation models.

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

Listening as an active skill; Types of listeners; Listening for general content; Listening to fill up information; Intensive listening; Listening for specific information; Can intensive listening improve understanding.

Text Books/References:

1. Sontang, S. (2014) *On Photography*, Penguin, Delhi.
2. Jardin, V. (2017) *Street Photography: Creative Vision behind the Lens*, Routledge, New York.
3. Goleman, D. (2009) *Emotional Intelligence*, Bloomsbury, New York.
4. Zakia, R.D. and Page, D. (2010) *Photographic Composition: A Visual Guide*, Focal Press, Massachusetts.
5. Field, K. (2018) *Cartography*, ESRI Press, California.
6. Hashimoto, A. and Clayton, M. (2009) *Visual Design Fundamentals: A Digital Approach, Charles River Media*, Needham Heights, M.A.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show ability to appreciate the basic elements of composition in drawings and photographs.
- To demonstrate the ability to prepare base maps at different scales.
- To demonstrate the ability to prepare a model for a given area.
- To identify and name feelings and become aware of patterns of communication of the self.

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Course Code:	BPC 2.4
Course Title	**Site and Land Development**
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

To develop basic understanding about land development with a particular focus on surveys, geology and hydrology.

Course Contents:

Unit 1: Fundamentals of Surveying

Principles of surveying, types of surveying, classification of surveys and maps; Plan versus map, accuracy versus precision, sources and kinds of errors; Least squares adjustments and applications; Key principles of land surveying, basics of chain surveying, basics of levelling; Modern methods and instruments, accessories, operations, EDM without reflecting prisms; Total Station: types, instrument description, field techniques, traversing, motorized total stations, field procedures for total stations in topographic surveys. Use of drones for surveying.

Unit 2: Topographical Surveying: Concepts and Techniques and GPS

Definitions and procedure for topographic surveying, uses of topographical maps; Relief, methods of representing relief, contours and contour intervals, characteristics of contours, methods of locating contours and interpolation of contours; Dam surveys; Various satellites used by GPS: Differential GPS, Fundamentals of GPS, Application of GPS: GPS Receivers, Hand held GPS Receiver – Function – Field procedure.

Unit 3: Geology

Geological structure, land forms, weathering, landslides and mass wasting; Instability of hill slopes; Land and terrain suitability for various types of development; Earthquakes, seismic zoning, disaster prevention and other planning considerations.

Unit 4: Hydrology

Ground Water: Concept and role in urban and regional planning in different types of terrains; Hydrologic cycle; Groundwater bearing properties of different lithological formations, surface water, reservoirs and springs; Artificial recharge and ground water mound; Hydrological features in relation of seepage, fluctuation of water table and hydrographs, geological structure and underground passages for water supply; Hydrology and its links with planning; Implications on site selection and development.

Text Books and References:

1. Beer, A.R. and Higgins, C. (2000) *Environment Planning for Site Development: A manual for sustainable local planning and design*, Second Edition, E and FN Spon, London.
2. Dewberry, S.O. (2008) *Land Development Handbook: Planning, Engineering, and Surveying*, Third Edition, McGraw Hill, New York.
3. Syms, P. (2010) *Land Development and Design*, Wiley, Oxford.

Course Outcomes: Students are expected to acquire the following knowledge and skills:

- To show knowledge and skills about land surveys by actually conducting land surveys by using a range of methods and technologies.
- To demonstrate knowledge and skills about geological and hydrological aspects of land development.

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Course Code:	BPH 2.5
Course Title	**Economics for Planners**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

Formal planning activity is focussed on master plan making and policy implementation. This results in the distribution of critical resources such as land and built environment. Therefore, it is imperative that planners have a good knowledge of macro-economic aspects. Keeping this in view, the main objective of this course is to comprehend and analyse the significance of economic aspects for planning cities and regions.

Course Contents:

Unit 1: Definition and Scope of Economics in Planning

Central problems of economics; Micro and macro-economic decisions, and use of economics in planning; Basic economic concepts relevant to urban and regional planning and related sectors; Relationship between economic forces and planning.

Unit 2: Theory of Demand and Supply

Laws of demand and supply; Elasticity of demand and supply, and its uses in urban and regional planning.

Unit 3: Theory of Firm Production

Perfect and imperfect markets, and market demand and supply; Pricing under different market conditions; Theory of production, factors of production, costs, scale of production; Economies of scale; Economies of agglomeration.

Unit 4: Concepts of Income, Employment and Money

Classical and modern approaches; Growth and development indicators; Measures of national income; Defining development and under development through various approaches.

Text Books/References:

1. Basu, K. and Maertens, A. (eds.) (2011) *The Concise Oxford Companion to Economics in India*, Oxford University Press, New Delhi.
2. Bertaud, A. (2018) *Order without Design: How Markets Shape Cities*, MIT Press, Massachusetts.
3. Behrman, J. and Srinivasan, T.N. (1995) *Handbook of Development Economics*, Volumes I-III, Elsevier Science, Amsterdam.
4. Clark, G.L., Feldman, M.P., Gertler, M.S., Wójcik, D. and Kaiser, A. (eds.) (2018) *The New Oxford Handbook of Economic Geography*, Oxford University Press, Oxford.
5. Duranton, G., Henderson, J.V., and Strange, W.C. (2015) *Handbook of Regional and Urban Economics, Volume 5*, Elsevier, Amsterdam.
6. Feldman, M.M.A. (1987) What Kind of Economics for What Kind of Planning? *Journal of the American Planning Association*, Vol. 53, Issue 4, pp. 427-429.
7. Jacobs, J. (1970) *The Economy of Cities*, Random House, New York.
8. Jenkins, R., Kennedy, L., Mukhopadhyay, P., & Pradhan, K. (2015) Special Economic Zones in India: Interrogating the Nexus of Land, Development and Urbanization, Environment and Urbanization Asia, Vol. 6, No. 1, pp. 1–17.
9. Klosterman, R.E. (1985) Arguments for and against planning, *Town Planning Review,* Vol. 56, No. 1, pp. 5-20.
10. Mayer, P. (1993) An Economist's Work in a City Planning Department, *Business Economics,* Vol. 28, No. 2, pp. 55-58.
11. Mohanty, P. (2019) *Planning and Economics of Cities: Shaping India's Form and Future*, Sage, New Delhi.
12. Windsor, D. (1986) Why planners need economics, *Journal of the American Planning Association*, Vol. 52, Issue 3, pp. 260-261.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the basic knowledge about macro-economic aspects of the Indian economy and its relationship with urban and regional planning.

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Course Code:	BPH 2.6
Course Title	**Introduction to Social Sciences**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:
Planning and social sciences are inseparable because planning heavily draws its central ideas from these subjects, particularly, geography, political science, sociology and philosophy, among others. Thus the main objective of this subject is to acquaint students with some of the foundational ideas of these social sciences as these ideas work as the foundation of planning.

Course Contents:

Unit 1: Geography
Human activities such as primary secondary, tertiary and quaternary; Resources and development; Basic land forms; Territory, space and place; Geographies of scale; Links between geography and planning.

Unit 2: Philosophy
Core concepts of philosophy including basic understanding of terms like epistemology, aesthetics, philosophy of action, social philosophy, dialectical materialism, ethics, aesthetics, and lifeworld; Indian philosophers and their big ideas; Types of reasoning and knowledge; Philosophy as a method for enquiry; Links between philosophy and planning.

Unit 3: Sociology
Society and its characteristics; Idea of community and its elements; Social systems, social institutions and their functions, social groups, social segregation; Urban and rural society; Links between sociology and planning.

Unit 4: Political Science and Theory
Politics and political theory; Basic understanding of the concepts of freedom, liberalism and neoliberalism; Equity and equality, social justice, rights and citizenship, the right to the city and village.

Text Books/References:
1. Brown, C. and Eckersley, R. (eds.) (2018) *The Oxford Handbook of International Political Theory,* Oxford University Press, New Delhi.
2. Choudhry, S., Khosla, M. and Mehta, P.B. (eds.) *The Oxford Handbook of the Indian Constitution*, Oxford University Press, New Delhi.
3. Daniels, P.W., Bradshaw, M., Shaw, D., Sidaway, J. and Hall, T. (eds.) 2016) *An Introduction to Human Geography*, Pearson, London.

4. Ganeri, J. (ed.) (2012) *The Oxford Handbook of Indian Philosophy*, Oxford University Press, New Delhi.
5. Kincaid, H. (2012) *The Oxford Handbook of Philosophy of Social Science,* Oxford University Press, New Delhi.
6. Short, J.R. (2016) *An Introduction to Political Geography*, Routledge, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To express the basic knowledge of named social sciences and relationship of this knowledge with the core ideas of urban and regional planning.

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Course Code:	BPPS 2.0
Course Title	**Planning Studio – II: Village Planning and Urban Neighbourhood Planning**
No. of Credits	5 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

This studio intends to develop vocabulary in planning and develop an ability to observe, record and present data in meaningful ways with the purpose of understanding planning issues.

Course Contents:

Neighbourhood Study

This component is divided in two parts. In the first part students undertake a study of different land uses other than the residential land use. Through land use case studies, students are expected to develop understanding of basic principles of land use planning such as categorization, hierarchy, permissibility, compatibility, etc. and supporting infrastructure required for various land uses.

Second part of this component focusses on residential land use. Building on the understanding of residential neighbourhood developed in the previous semester, students would also develop an understanding of typologies of residential development with respect to build form, evolution, ownership, etc. and requirements of facilities and infrastructure in residential areas.

Students are expected to apply data collection methods learnt in Planning Techniques class including primary surveys to understand different activities, socio-economic conditions, and infrastructure availability.

Village Study

Village study would involve an analysis of a rural settlement by comprehending social, economic, physical and political aspects. This exercise would also focus on the understanding of the history of a village and its people, basis of spatial organisation of a village and its transformations over the years. The study would also involve understanding of land administration in the village. This would further include understanding of land between abadi area and revenue boundary of a village. Lastly, a study of government schemes for the entire village would be undertaken. Students would be expected to develop sensitivity to development issues in a rural settlement.

Text Books and References:

1. Berke, P. and Goodschalk, D.A., (2006) *Urban Land Use Planning*, University of Illinois Press, Champaign, Illinois.
2. Jodhka, S.S. (ed.) (2012) *Village Society*, Orient Blackswan, Hyderabad.
3. Talen, E. (2012) *City Rules: How regulations affect urban form*, Island Press, Washington.
4. Stevens, N.J., Salmon, M.P., Walker, H.G., and Stanton, A.N. (2008) *Human Factors in Land Use Planning and Design*, CRC Press, New York.
5. Sheth, A., and Panchal, N. and Patel, S.B. (2007) Urban Layouts, Densities and the Quality of Urban Life, *Economic and Political Weekly* Vol. 42, No. 26, pp. 2725-2736.
6. Vidyarthi, S. (2015) *One Idea Many Plans: An American City Design Concept in Independent India***,** Routledge, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To explain the basic terminologies in planning.
- To apply data collection methods in field surveys.
- To identify ways in which we observe, record and present data in meaningful ways.
- To demonstrate familiarity with the functioning of a neighbourhood and a village through processes of experiential learning.

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SEMESTER – III

SEMESTER III

Course Code:	BPC 3.1
Course Title	**Planning Theory – I**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

This subject builds on the 'Fundamentals of Urban and Regional Planning' taught in the first semester. The main objective of this subject is to introduce planning theory and its critical aspects such as rationality, globalization, modernism, postmodernism, sustainability, participation, implementation and evaluation. The second objective of this subject is to critically understand various forms cities have taken under variegated societal regimes.

Course Contents:

Unit 1: Theory, Planning Theory and Paradigm Development
Definitions of theory in general; Definitions of planning theory including theory of planning, theory in planning and theory about planning; Definition of paradigm and its various stages of development by Kuhn; Significance of planning theory.

Unit 2: Participation in Planning
Public interest and its forms; History and significance of public participation; Methods of public participation; Impediments to public participation and conditions for effective public participation; Public participation and empowerment; Participation, policy formulation and implementation.

Unit 3: Sustainability, Rationality and Globalization and Theories of City Development
Sustainability and rationality in planning; Components of sustainable urban and regional development; Globalization, modernism and postmodernism debate; Pragmatism in planning; Regime theory and urban politics; Compact city approach: concept, advantages and limitations; Forms of cities in developing world, Forms of cities in the developed world; Forms of cities in the former and present socialist countries.

Unit 4: Planning, Implementation and Evaluation
Need for evaluation; Inseparability of planning and evaluation; Planning theories and evaluation; Methods of evaluating development plans; Theories of implementation of planning policies and development plans.

Text Books/References:

1. Alexander, E.R. (2000) Rationality Revisited: Planning Paradigms in a Post-Postmodernist Perspective, *Journal of Planning Education and Research*, https://doi.org/10.1177/0739456X0001900303
2. Alexander, E.R. (2006) *Evaluation in Planning: Evolution and Prospects*, Routledge, London.
3. Alexander, E.R. (1989) Planning and plan implementation: notes on evaluation criteria, *Environment and Planning B: Planning and Design*, Vol. 16, pp. 127-140.
4. Baer, W.C. (1997) General Plan Evaluation Criteria: An approach to making better plans, *Journal of the American Planning Association*, Vol. 63, No. 3, pp. 329-344.
5. Breheny, M.J. and Hooper, A.J. (eds.) (1985) *Rationality in Planning: Critical Essays on the Role of Rationality in Urban and Regional Planning*, Pion, London.
6. Cornwall, A. (ed.) (2011) *The Participation Reader*, Zed Books, London.
7. Goodchild, B. (1990) Planning and the Modern/Postmodern, Debate, *Town Planning Review*, Vol. 61, No. 2, pp. 119-137.
8. Hull, A., Alexander, E.R., Khakee, A. and Woltzer, J. (eds.) (2012) *Evaluation for Participation and Sustainability in Planning*, Routledge, London.
9. Irving, A. (1993) The Modern/Postmodern Divide and Urban Planning, *University of Toronto Quarterly*, Vol. 62 Issue 4, pp. 474-487
10. Kaza, N. (2018) Vain Foresight: Against the Idea of Implementation in Planning, *Planning Theory*, pp. 1-18. https://doi.org/10.1177/1473095218815201
11. Quick, K.S. and Bryson, J.M. (2016) 'Public Participation', in Jacob Torbing and Chris Ansell (eds.) Handbook in Theories of Governance, Edward Elgar Press, London.
12. Ren, X. and Keil, R. (2018) *The Globalization Cities Reader*, Second Edition, Routledge, London.
13. Newman, P. and Kenworthy, J. (1999) *Sustainability and Cities*, Island Press, Washington, D.C.
14. Sassen, S. (ed.) (2002) *Global Networks, Linked Cities*, Routledge, New York.
15. Sassen, S. (2001) *The Global City*, Princeton University Press, Princeton.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge of some of the core concepts of planning theory.
- To develop critical understanding of various forms cities developed under diverse societal regimes.

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Course Code:	BPC 3.2
Course Title	**Traffic and Transport Planning – I**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To understand the concepts of mobility, transport modes, travel patterns, transport networks and their relationships to urban forms.
- To teach how to do various traffic and transportation surveys and their analyses, which will help in preparing circulation and network management plans.

Course Contents:

Unit 1: Introducing Transport Planning
Transport planning and management; Principles of sustainable mobility; Transport modes, PT, IPT, NMT and their importance; Traffic, travel and their measures and characteristics; Relationship between transport networks and urban form.

Unit 2: Transport Surveys
Uses and applications of transport surveys; Methods of conducting, analysing and presenting transport surveys such as traffic volume survey, speed studies, pedestrian and walkability studies, PT and IPT studies, parking studies, and origin and destination survey. Use of modern technology for conducting various surveys.

Unit 3: Traffic Planning and Engineering
Urban and rural road hierarchy, understanding of networks analysis; cross-sectional elements, junctions; Street furniture and landscaping; Cycling and pedestrian infrastructure, norms, standards and guidelines; Pedestrian friendly design and planning principles; PT and IPT stops, locations and planning principles.

Unit 4: Transport Systems Management
Traffic management methods, applications, advantages and disadvantages; Concept and importance of travel demand management; Methods of demand management.

Text Books/References:

1. Giuliano, G. and Hanson, S. (eds.) (2017) *The Geography of Urban Transportation*, Fourth Edition, Guildford, London.

2. Kadiyali L.R. (1999) *Traffic Engineering and Transport Planning*, Khanna Publishers, New Delhi.
3. Rodrigue, J.P. (2013) *The Geography of Transport Systems*, Third Edition, Routledge, London.
4. Sarkar P.K., Maitri V. and Joshi G.J. (2014) *Transportation Planning: Principles, Practices and Policies*, Prentice Hall India Learning Private Limited, New Delhi.
5. Saxena, S.C. (1989) *A Course in Traffic Planning and Design*, Dhanpat Rai and Sons, New Delhi.
6. Verma, A. and Ramanayya, T.V. (2014) *Public Transport Planning and Management in Developing Countries*, CRC Press, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To identify traffic and transportation planning problems of a human settlement based on various traffic and transportation surveys and their interpretations.
- To show the ability to prepare circulation and traffic management plans for human settlements.

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Course Code:	BPC 3.3
Course Title	**Techniques of Planning – II**
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

- To expose students to techniques required for analysis and presentation of data for understanding and identification of issues, prospects and potentials for development for the preparation of different levels of development plans.
- To provide exposure to students about techniques of plan preparation, plan evaluation, and public participations in planning.

Course Contents:

Unit 1: Data Analysis, reasoning and relationships

Data tabulation; Statistical methods, frequency distribution, classification, mean, median, mode, correlation; Content analysis: discourses and narratives; Land use classification systems; Planning standards, population and economic analysis; Land suitability analysis, housing analysis, and development of indicators.

Unit 2: Techniques for Plan Preparation

Types and levels of plans, hierarchy of plans, planning process; Forecasting techniques, extrapolation techniques, cohort component techniques, economic analysis techniques; Goal formulation; Developing planning standards; Urban growth models and their uses in forecasting.

Unit 3: Methods of Plan Evaluation

Cost benefit analysis, planning balance sheet, logical framework approach; Plan evaluation techniques; Purpose of models, types of decision models, linear programming models, threshold analysis; Agent based decision models, Multi-criteria decision models; Plan monitoring and outcome evaluation techniques.

Unit 4: Public Participation Techniques

Purposes of participation; Types and methods of participation; Challenges and issues in the use of participatory methods in planning.

Text Books/References:

1. Kelley R.M. (1988) *Planning Techniques (Basic and Advanced)*, Kelley Communication Development, Indiana University Press, Bloomington, Indiana.
2. Jepson, E.J. and Jerry W. (2016) *Fundamentals of Plan Making: Methods and Techniques*, Routledge, New York.
3. Field, B. and MacGregor, B.D. (2018) *Forecasting Techniques for Urban and Regional Planning*, Taylor and Francis Group, London.
4. Klosterman R.E. (1990) *Community Analysis and Planning Techniques*, Rowman and Littlefield Publishers, Lanham, Maryland.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the ability to perform planning data analysis, and make presentations.
- To identify issues and potentials for any type of development plan and project.
- To demonstrate the ability to provide technique based inputs for plan evaluation involving public participation.

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Course Code:	BPC 3.4
Course Title	**Urban and Regional Infrastructure Planning**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

- To facilitate planning students to understand the role of planner in infrastructure planning and to introduce basics of urban and regional infrastructure planning.
- To give exposure to students for taking up innovative techniques for the provision of infrastructure.

Course Contents:

Unit 1: Concepts and Terminologies in Infrastructure Planning
Role of physical planner in planning of urban, rural and regional infrastructure; Objectives of infrastructure planning and its implications for public health and environmental protection; Infrastructure networks at urban, rural, and regional level; Manual, code and standards for different infrastructure given by various agencies.

Unit 2: Storm Water System

Understanding hydrology, its classification, hydrological cycle, urban water cycle; Types of precipitation and its measurement techniques, rainfall analysis; Surface water runoff, measurements of runoff, hydrograph, discharge from small and big rivers; Watershed planning and management; Flood frequencies, and flood protection measures in urban and rural areas; Layout and design of storm water systems; Rain water harvesting system at area level and beyond.

Unit 3: Water Supply, Sanitation and Sewerage Systems

Sources of water and intakes; Treatment, quality and quantity, area requirements of components of water supply system; Water distribution system; Water requirements for different land uses, factors affecting water demand, per capita requirements and variations; Planning for various uses of water; 24x7 water supply, water conservation methods, Methods of sanitation; Off-site and on-site sanitation and technology; Low cost appropriate technologies; Standards for Indian cities; Sewerage system networks and layout planning; Sewage disposal methods, location criteria and capacity; Case studies of innovative sanitation approaches, Organic sewage treatment including root zone treatment, etc.

Unit 4: Solid Waste Management and Other Services

Solid waste management in Indian cities, quantity of solid wastes and their characteristics; Methods of solid waste management, collection, transportation and disposal; Land filling, composting, and other methods of pre and post treatment; Location and cost aspects of different methods of solid waste disposal systems; Community participation and involvement of NGOs in efficient solid waste management; Telecommunication services: Locational criteria for mobile phone towers; Gas and oil pipelines; Electric substations requirements, capacity, location and space requirements. Vormi Composting and other organic methods of waste management, e-waste management, use of various modern technologies.

Text Books and References:

1. Parkin J. and Sharma D. (1999) *Infrastructure Planning*, T. Telford, London.
2. Santen J.D. and Liptan, T.W. (2017) *Sustainable Storm Water Management: A Landscape Driven Approach to Planning and Design*, Timber Press, Portland, Oregon.
3. Sperling M.V. (1996) *Wastewater Characteristics, Treatment and Disposal*, IWA Publishing, London.
4. Chandrappa R., Das D.B. (2012) *Solid Waste Management: Principles and Practice*, Springer, Heidelberg.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills about techniques of infrastructure planning.
- To apply this knowledge for the preparation of different kind of development plans and projects at different scales.

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Course Code:	BPH 3.5
Course Title	**Demography**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

Planners heavily rely on the study of demographic aspects for making any kind of development plan for human settlements, districts and regions. The primary objective of this subject, therefore, is that students understand and develop analytical capacities for most of the demographic aspects of human settlements, districts and regions. The second objective is that students are taught to comprehend the vital statistics from diverse sources and how they relate to urbanization policies and plans.

Course Contents:

Unit 1: Study of Population

Evolution of population studies, development in the field of demography as a separate discipline, contributions of the key demographers; Understanding demographic approaches and key demographic principles including study of population size, determinants of population size, population structure and composition; Spatial distribution of population, measures of population distribution and concentration, factors affecting population distribution and density; Demographic trends at global, national, regional and city scale; Census definitions, levels and types of demographic data, methods and sources of demographic data; Introduction to census and registration data, census methodology across various countries, accessing and using census information available at various levels and recent developments in census enumeration.

Unit 2: Vital Demographic Statistics

Defining and understanding trends of vital statistics such as fertility, mortality, migration, demographic balancing equation; Defining migration, theories of migration and population movement, types of migration, causes and consequences of population movement; effects of migration in the composition of population, migration trends in developing countries; Population growth and decline; Techniques of population projections and forecast i.e. arithmetic, geometric, exponential, logistic; Advantages and limitations in these methods, and key assumptions; Concept of life table, techniques for preparing life table, its uses and limitations; Computation of survival rates, life expectancy; Concept of cohorts and generation of cohort table and its uses.

Unit 3: Urbanization Trends and Patterns

Defining urbanization; History and patterns of urbanization in the world and in India; Mughal and British influences on Indian cities and regions; Post-independence urbanization, process of urbanization as influenced by socio-cultural, political, economic and administrative factors; Problems and challenges of urbanization, determinants of urbanization, factors influencing urbanization, impact of urbanization on cities and its surrounding areas and methods of measuring urbanization; Census definitions of urban places, formal and functional classification of urban places; Understanding concepts like primate city, rank-size rule, rural-urban dichotomy and continuum, and rural-urban fringe.

Unit 4: Urbanization Policies and Strategies

Need for urbanization policies, urbanization policies across the world, key features and components of urbanization policies in India, basic issues in urbanization policies; Role of government and key stakeholders like various levels of government in managing rapid urbanization in India; Latest developments in formulating urbanization policy in India, current programmes and schemes, key demographic challenges for urban and regional planners.

Text Books and References:

1. Ahluwalia, I.J., Kanbur, R. and Mohanty, P.K. (eds.) (2014) *Urbanisation in India: Challenges, Opportunities and the Way Forward*, Sage, New Delhi.
2. Bose, A., Singh, V.K., Adhikary, M. and Haldar, A. (1992) *Demographic Diversity of India: 1991 Census State and District Level Data*, South Asia Books, New Delhi.
3. Majumdar, P.K. (2013) *India's Demography: Changing Demographic Scenario in India*, Rawat Publications, Jaipur.
4. Poston, D.L. and Micklin, M. (eds.) (2005) *Handbook of Population*, Sage, London.
5. Ramachandran, R. (1989) Urbanization and urban systems in India, Oxford University Press, New Delhi.
6. Sivaramakrishnan, K.C., Kundu, A. and Singh, B.N. (2007) *A Handbook of Urbanization in India*, Oxford University Press, New Delhi.
7. Weinstein, J. and Pillai, V.K. (2017) *Demography: The Science of Population*, Second Edition, Rawat Publications, Jaipur.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show capabilities to decipher and analyse all important demographic aspects as these would be used to make all sorts of development plans.
- To demonstrate skills to examine all vital demographic data from diverse sources and analyses of demographic aspects through tools such as rank size rule etc.
- To show knowledge of urbanization policies and plans, and their relationship with planning.

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Course Code	:	BPPT 3.6
Course Title	:	**Professional Training - I**
Number of Credits	:	02

Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.

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Course Code:	BPPS 3.0
Course Title	**Planning Studio: Land Use and Transport Planning**
No. of Credits	05 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

With a mix of field visits and studio classes involving theory, the main objective of this subject is to teach students about techniques and methods of traffic and transportation planning required for the preparation of traffic circulation plan and mobility plan.

Course Contents:

This studio focuses on the interrelationship between transportation and land uses, and related economic, social and environmental issues. The key learning objectives are:

- To appreciate the difference between travel demand and transport supply.
- As part of travel demand, to learn techniques for assessment, mitigation and management of traffic impact of current and proposed development.
- To understand key techniques for management and enhancement of transport supply.

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

Travel Patterns Study involves analysis of the mobility profile of residents and workers within an area, modes used, trip lengths, trip purpose, etc. Origin destination survey includes analysis by comparing travel patterns with socio economic condition, housing typologies and private vehicle ownership. This will also include public opinion on traffic, noise, accessibility and local environment.

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

Transport Supply Analysis will diagnose the key transportation issues in an area by undertaking studies for analysing traffic volume, journey speed, parking, pedestrian movement and access to public transport. A study about the adequacy of transport infrastructure vis-à-vis travel demand studies undertaken earlier.

Impact of transport on local environment involves analysis of noise, emissions, safety and quality of life; Developing indicators; Consideration of the needs of excluded groups such

as children, elderly and women; Development of strategies consisting of planning, design and management measures.

Text Books and References:

1. Kadiyali L.R. (1999) *Traffic Engineering and Transport Planning*, Khanna Publishers, New Delhi.
2. Sarkar, P.K., Maitri, V. and Joshi, G.J. (2014) *Transportation Planning: Principles, Practices and Policies*, Prentice Hall India, New Delhi.
3. Verma, A. and Ramanayya, T.V. (2014) *Public Transport Planning and Management in Developing Countries,* CRC Press, London.
4. Relevant codes of Indian Road Congress, New Delhi

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate skills and knowledge to prepare traffic and transportation plan, circulation plan or traffic management plan for a human settlement.

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SEMESTER – IV

SEMESTER IV

Course Code:	BPC 4.1
Course Title	**Planning Theory - II**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

The chief objective of 'Planning Theory – II' is to critically examine major theories of planning.

Course Contents:

Unit 1: Scientific Rationalism and Planning
Defining instrumental rationality; Systems view of planning; Chief characteristics of Comprehensive Rational Planning Model and implications for planning practice; Systematic and systemic change.

Unit 2: Advocacy Planning, Equity Planning and Political Economy Theories
Meaning, historical background and purposes of Advocacy Planning Model; Main features of Advocacy Planning Model; Relevance for planning practice; Equity and its various definitions; Major components of the Equity Planning Model; Implications on the role of planners in planning practice; Defining the term political economy; Role of the state in planning; Contributions of David Harvey, Manuel Castells and others; Richard Foglesong and the property contradiction.

Unit 3: Collaborative and Communicative Planning
Various components of Collaborative Planning Model; Contributions of Patsy Healey and Judith Innes and others; Deliberative policy analysis; Role of trust in planning; Planning as persuasive storytelling; Pragmatic planning theory.

Unit 4: Human Development Approach
Defining functioning and capabilities; Exploring relevance of Amartya Sen and Nussbaum's capabilities to planning; Role of planning and planners in enhancing capabilities of the poor; Capabilities perspective on slums and squatters; Feminist planning theory; Planning, caste and religion; Planning rights and responsibilities.

Text Books/References:

1. Agarwal, B., Humphries, J. and Robeyns (eds.) *Capabilities, Freedom, and Equality: Amartya Sen's work from a gender perspective*, Oxford University Press, New Delhi.
2. Allmendinger, P. (2009) *Planning Theory*, Palgrave Macmillan, New York.

3. Clavel, P. (1994) The Evolution of Advocacy Planning, *Journal of American Planning Association*, Vol. 60, No. 2, pp. 146–149.
4. Davidoff, P. (1965) Advocacy and Pluralism in Planning, *Journal of the American Institute of Planners*, Vol. 31, No 4, pp. 331–338.
5. Faludi, A. (1973) *Planning Theory*, Pergamon Press, New York.
6. Fincher, R. and Iveson, K. (2008) *Planning and Diversity in the City*, Palgrave Macmillan, New York.
7. Fukuda-Parr, S. and Shiva Kumar, A.K. (eds.) (2009) *Handbook of Human Development: Concepts, measures, and policies*, Oxford University Press, New Delhi.
8. Healey, P. (1997) *Collaborative Planning: Shaping Places in Fragmented Societies*, Macmillan Press Limited, London.
9. Hoch, C. (2019) *Pragmatic Spatial Planning: Practical Theory for Professionals*, Routledge, New York.
10. Krumholz, N. and Forester, J. (1990) *Making Equity Planning Work: Leadership in the public sector*, Temple University Press, Philadelphia.
11. Kumar, A. and Paddison, R. (2000) Trust and Collaborative Planning Theory: The Case of the Scottish Planning System, International Planning Studies, Vol. 5, No. 2, pp. 205-223.
12. McLoughlin, J.B. (1969) *Urban and Regional Planning: A Systems Approach*, Faber and Faber, London.
13. Sandercock, L. (1998) *Towards Cosmopolis: Planning for Multicultural Cities*, Wiley, New York.
14. Sager, T. (2013) *Reviving Critical Planning Theory: Dealing with pressure, neo-liberalism, and responsibility in communicative planning*, Routledge, New York.
15. Sandercock, L. (1998) *Cosmopolis II: Mongrel Cities*, Continuum, New York.
16. Sen, A. (1999) *Development as Freedom*, Alfred A Knopf, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show knowledge of planning theories, and if possible, demonstrate application of these planning theories to Indian planning practices.
- To develop an understanding about human development approach and its significance to urban and regional planning in India.

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Course Code:	BPC 4.2
Course Title	**Planning Practice – I**
No. of Credits	2 (L: 1; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:
This course intends to provide an understanding of the nature of planning practice in India and issues inherent in it.

Course Contents:

Unit 1: Planning as a Profession

Definition of profession; Planning as a profession and Role of a Planner in society, different roles of planner in practice; Planner in relation with other professions

Unit 2: Nature of Planning Practice

Nature of planning practice in general and in Indian context; Changing global context and planning practice; Evolution of planning in India.

Unit 3: Framework of Planning Practice

Legal framework for planning in India, planning and development organisations at Central, state and local level; planning practice in private sector; Scope of work in planning practice, fees and other terms and conditions of planning work.

Unit 4: Planning Practice Cases

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

Text Books/References:

1. Verma, N. (1995) What is Planning Practice? The Search of Suitable Categories, *Journal of Planning Education and Research*, Vol. 14, pp. 178 – 182.
2. Stevens, N.J., Salmon, M.P., Walker, H.G. and Stanton, A.N. (2008) *Human Factors in Land Use Planning and Design*, CRC Press, New York.

3. Kulshreshtha, S.K. (2012) *Urban and Regional Planning in India: A Handbook for Professional Practice*, Sage, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the ability to distinguish between profession and business and limitations of planning as a profession.
- To show familiarity with public and private planning practices in India and their legal contexts.
- To develop competencies to understand planning issues for technically examining planning proposals.

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Course Code:	BPC 4.3
Course Title	**Traffic and Transport Planning – II**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To understand types, form and components of urban and regional transport systems.
- To study transport policy and transport economics for urban and regional transport systems.

Course Contents:

Unit 1: Transport Policy

Evolution of transport policy in India, current transport policy in India, Asian perspective on transport policy; Interactions between transport and other policy areas; Land use and transport policies: Translation of national policy in city and local level plans.

Unit 2: Urban Transport System

Urban form and transport systems; Impact of land use on transport and vice versa; Transport and quality of life planning for transport in cities and towns; Data requirements and planning techniques, travel behaviour and its determinants, choice modelling, influencing travel behaviour, land use transport models for cities; Provision of new mass transit in cities; Specific challenges of small towns and big cities; Roles and responsibilities of various agencies; Provision for freight transport.

Unit 3: Regional Transport System

Planning for regional transport systems; Data requirements and planning techniques; Importance of accessibility in regional transport planning; Indicators of accessibility to

basic services; Planning parameters for road, rail, air and water transport systems; Locational parameters for regional transport nodes; Roles and responsibilities of various agencies.

Unit 4: Transport Economics

Pricing and funding of transport services and systems; Socio-economic appraisal of transport projects; Techniques for estimating direct and indirect road user costs benefits; Monetization of costs and benefits; Investment criteria and public private partnerships in the transport sector.

Text Books and References:

1. Stopher, P. and Stanley J. (2014) *Introduction to Transport Policy: A Public Policy View*, Edward Elgar Publishing Ltd., Northampton, Massachusetts.
2. Grava, S. (2002) *Urban Transportation Systems*, McGraw Hill Professional, New York.
3. Verma, A. (2010) *Integrated Public Transportation System*, VDM Verlag.
4. Chris, N. (ed.) (2015) *Handbook of Research Methods and Applications in Transport Economics and Policy*, Edward Elgar Publishing Ltd, Cheltenham.

Course Outcomes: Upon the completion of this course, the students would be able:

- To analyse and evaluate critically issues and problems related to urban and regional transport systems.
- To show the ability to address these issues through policy and financial resource planning for implementation of effective transport plans and projects.

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Course Code:	BPC 4.4
Course Title	**Ecology and Resource Planning**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To provide knowledge about ecology, climate change and resource planning.
- To expose students to techniques of analysis of ecological parameters of human settlements, districts and regions.

Course Contents:

Unit 1: Comprehending Ecology

Meaning and scope of ecology; Evolution of ecology, components of nature and basic concepts and processes of ecology; Resources and human settlements' impact on advanced agricultural methods, urbanization and industrialization of nature; Urban ecosystem approach, its evolution and significance; Soil, water, land, vegetation and energy resources and their development and management; Defining ecologically sensitive areas, ESA as a resource for development; Impact of development on coastal areas, forests, hills and river ecology; Legislation and policies for the management of ecologically sensitive regions; Case studies for the management of ecologically sensitive areas in India.

Unit 2: Quantitative Ecology

Introduction to quantitative ecology; Identification of ecological parameters for planning at different levels like site planning, settlement planning and regional planning; Data needs and formats for data collection; Types of analysis required for evolving ecological parameters; Ecological footprints and carrying capacity.

Unit 3: Climate Change

Cities and climate change; Impact of built environment and transportation on greenhouse gas emissions; Role of planning in climate change mitigation and adaptation; Management tools for sustainable retrofitting infrastructure; Critical review of policies and regulations in India regarding climate change; Examples of climate change plans where mitigation and adaptation strategies are translated into concrete actions; Emerging technologies; National policy framework on climate change, carbon credits and trade, carbon footprints.

Unit 4: Resource Planning Development and Management

Endowments, types of resources, exhaustive and renewable resources development; Utilization and conservation of national, technological and human resources; Resource management, recycling of resources and resource equilibrium; Water resource management, waste land management; Rural industrialization and use of non-conventional energy in rural development; Major resource development programmes in India; Case studies of resource development projects in agriculture, forestry, minerals, water, etc.

Text Books and References:

1. Agarwal S.K. (2011) *Fundamentals of Ecology*, APH Publishing Corporation, New Delhi.
2. Schneider, D.C. (1994) *Quantitative Ecology: Spatial and Temporal Scaling*, Academic Press, London.
3. Sethi, M. (2017) *Climate Change and Urban Settlements: A Spatial Perspective of Carbon Footprint and Beyond*, Routledge, Oxon.
4. Wurbs, A.R. (ed.) (2013) *Water Resources: Planning, Development and Management*, InTech, Rijeka.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate skills to analyse ecological parameters of any human settlement, district or region.
- To apply these skills and knowledges for the preparation of development plans and projects integrating the ecological issues.

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Course Code	:	BPPE 4.5
Course Title	:	**Professional Elective I**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

Any one course from following options can be opted under 'Professional Elective I':

1. Advanced Spatial Data Infrastructure for Planning
2. Public Policy and Politics in Planning.

Refer Appendix I on Professional Electives.

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Course Code	:	BPOE 4.6
Course Title	:	**Open Elective I**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

The following subject is an 'Open Elective-I'
1. Reading and Comprehending Spaces

For syllabus, Refer Appendix II on Open Electives.

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Course Code:	BPPS 4.0
Course Title	**Planning Studio: Site Planning**
No. of Credits	05 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

Objective of this studio is to undertake a sector level subdivision and plan for a residential site with sensitivity to its immediate as well as the city context within the sector.

Course Contents:

Sector Planning

Through developing an understanding of the city level context and with specific focus on housing issues, students are required to prepare a subdivision plan for an identified sector of not less than 50 ha. with an emphasis on the basics of densities, land subdivision, street layout, built form, facility distribution and integration of these elements with socio-economic profile and housing options as a response to the context. This exercise will allow the students to do analysis of demographic, socio-economic and physical characteristics of an area, to help them develop concepts that are relevant to the context of a site. Factors such as location and type of land uses and infrastructural facilities are required to be considered along with the existing and proposed future growth of an area. Entire work plan of the studio would include the following steps:

Site Planning

Second stage of the studio would include selection of a residential plot not less than 5 ha for a detailed site plan within the context of proposed sector plan. The proposal will be

presented and will include identification of issues, explanation of the concept, site layout, landscape plan, site services plan, node details, housing details, unit designs, roads, parking and other relevant details, project cost outline, along with physical model of the site plan. The final submission may include a written report of the entire work with relevant analysis, plans and drawings.

Text Books and References:

1. LaGro, J.A. Jr. (2013) *Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design*, Third Edition, Wiley International, New York.
2. Lynch, K. (1984) *Site Planning*, Third Edition MIT Press, USA.
3. McHarg, I. (2008) Design with Nature, Twenty Fifth Edition, Wiley International, New York.
4. Russ, T. (2009) *Site Planning and Design Handbook*, Second Edition, McGraw Hill, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To summarize different elements of subdivision layouts and site planning
- To develop sensitivity to the site and city contexts.
- To apply development regulations at subdivision and site level.
- To plan for housing, services and landscape for a small site.

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SEMESTER – V

SEMESTER V

Course Code:	BPC 5.1
Course Title	**Housing**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

This is an introductory course to housing. The objectives of the course are to provide students with an understanding of nature of housing problems and how housing need is assessed and how government policies and development regulations affect housing outcomes particularly for the poor.

Course Contents:

Unit 1: Introduction
Housing: definition, housing as a verb and noun; Housing in relation to planning; Concepts of housing stock, need, demand, shortage; An overview of housing situation; Urban and rural housing scenario in India; Housing as a component of social and economic development; Key challenges of housing provision including housing for the poor, emergence of slums, unauthorised colonies, gentrification, displacement, National Housing and Habitat Policy.

Unit 2: Housing Project Formulation
Understanding the community; Determinants of housing form including physical, social, economic, technical and aesthetic; Development options and housing; Housing costs, standards, densities and FAR; Housing projects and city level housing provisions, Affordable housing policies and projects

Unit 3: City Level Housing Studies
Components of housing, housing subsystems; Administrative, legal and financial frameworks for housing development; Processes of housing development; Analysis of housing stress; Concepts of affordability and target identification.

Unit 4: Policy and Legislative Framework
Evolution of housing policy in India; Components of housing policy at national and state level; Approaches to housing provision for the poor, special groups and other vulnerable groups.

Text Books and References:

1. Hardoy, J.E. and Satterthwaite, D. (1989) *Squatter Citizen: Life in the Urban Third World,* Routledge, London.
2. Cedric, Pugh. (1990) *Housing and Urbanisation: A Study of India*, Sage, New Delhi.
3. Kohli, V.K. (2007) *Housing Finance Agencies in India*, Deep and Deep, New Delhi.
4. Jenkins, P., Smith, H. and Wang, Y.P. (2007) Planning and Housing in the Rapidly Urbanizing World, Routledge, New York.
5. Mukhija, V. (2003) *Squatters as Developers, Slum Redevelopment in Mumbai*, Ashgate, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To analyse the existing housing situation in a city.
- To show familiarity with national housing policies and other related housing provisions.
- To demonstrate understanding about the relationships between housing markets, housing standards and incomes.
- To develop knowledge about housing needs for the poor in India.
- To develop Knowledge about housing programmes and projects for the poor and their outcomes.

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Course Code:	BPC 5.2
Course Title	**Project Formulation, Appraisal and Management**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To expose students to techniques of project formulation, appraisal and management.
- To provide inputs to students for learning project evaluation, monitoring and implementation.

Course Contents:

Unit 1: Introduction to Project Formulation, Appraisal and Management

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

Unit 2: Project Formulation

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

Unit 3: Project Appraisals

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

Unit 4: Project Implementation, Monitoring and Evaluation

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

Text Books/References:

1. Agrawal, R. and Mehra, Y.S. (2017) *Project Appraisal and Management*, Taxmann Publisher, New Delhi.
2. Mattoo, P.K., (1978) *Project Formulation in Developing Countries*, South Asia Books, New Delhi
3. Johansson, P. and Kriström, B. (2016) *Cost-Benefit Analysis for Project Appraisal*, Cambridge University Press, Cambridge.
4. Gudda, P. (2011) *A Guide to Project Monitoring and Evaluation*, Author House, Bloomington, Indiana.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show knowledge about evaluating and monitoring of implementation of development projects.
- To demonstrate skills for the preparation of detailed reports of development projects.

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Course Code:	BPC 5.3
Course Title	**Spatial Data Infrastructure for Planning – II**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

To provide technical inputs for the use of GIS in planning and perform planning analyses using Geographic Information Systems as a tool.

Course Contents:

Unit 1: Introduction to Geographic Information Systems (GIS)

Introduction to Geoinformatics, concepts and definitions of GIS; Components and functions of GIS; Understanding maps and layers; Understanding vector and raster datasets, map elements; Data types and requirements, sources of data and data handling techniques; Significance of GIS and its key application areas; Current developments and practices.

Unit 2: Introduction to GIS Software

Introduction to GIS software, exploring Graphical User Interface (GUI); Supporting files and formats; Identifying toolbar and available tools and techniques for performing spatial analysis; Introduction to geo-referencing, relevance of adding spatial information to scanned images, topo sheets and satellite images; Understanding spatial and attribute data types; Creating a project in GIS software, creating or adding layers; Digitization methods, organization of layers, importing and exporting data.

Unit 3: Data Analysis Techniques

Understating data analysis tools and techniques; Learning tools and techniques available in the GIS software for spatial and attribute data analysis; Exercises on adding database in attribute table; Adding information from other sources; Creating charts and graphs; Statistics summary, calculating geometry, query builder, buffering or proximity analysis, and overlay analysis; Using relevant extensions for spatial analysis, 3D analysis, etc.

Unit 4: Displaying Data

Understating map elements, adding and changing symbology; Labelling and annotations; Creating map layouts; Inserting map scale, legend, title, north symbol; Creating grids and saving layouts; Printing and exporting maps as images., Use of AI, ML and Big data for planning.

Text Books/References:

1. Chang K.T. (2017) *Introduction to Geographic Information Systems*, McGraw Hill Education, New York.
2. Singleton, A.D., Spielman, S. and Folch, D. (2018) *Urban Analytics (Spatial Analytics and GIS)*, Sage, Thousand Oaks, California.
3. Okabe, A. (ed.) (2005) *GIS-based Studies in the Humanities and Social Sciences*, CRC Press, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills to prepare maps in GIS platform, and to show the ability to perform planning analyses on GIS platform.
- To develop skills to be used in a planning decision support system.

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Course Code	:	BPPE 5.4
Course Title	:	**Professional Elective II**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

Any one from the following subjects has to be taken as a Professional Elective – II:

1. Spatial Justice
2. Participatory Integrated Urban Development

Refer Appendix I on Professional Electives.

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Course Code	:	BPOE 5.5
Course Title	:	**Open Elective II**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

The following subject is an Open Elective – II:

1. Sustainable Cities and Regions

For syllabus, Refer Appendix II on Open Electives.

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Course Code	:	BPPT 5.6
Course Title	:	**Professional Training - II**
Number of Credits	:	03

Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.

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Course Code:	BPPS 5.0
Course Title	**Planning Studio: Sub-City Plan**
No. of Credits	05 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

Purpose of this studio is to understand the relationship between different hierarchies of plans and to know the level of detailing required at zone or local level.

Course Contents:

This studio provides a link between site level and city level plans. This level details out land allocations and planning proposals given in statutory plans at the city level. It should help students to see interrelations amongst different sectors at the city level and how these need to be translated through detailed plans so as to achieve city level statutory plan objectives.

In this studio, students also develop familiarity with the legal frameworks for planning, concepts of master plan, comprehensive development plan, structure plan, sector plan, zonal plan, and their plan making processes. We adopt the approach to develop lower hierarchy plans such as zonal plan, ward plan and town planning scheme within the framework of a given master plan and relevant town planning or development acts. The study and development of relevant planning standards for different land uses is also carried out. Detailing of specific sites in proposed zonal plans covering different land uses and finally preparation of detailed project reports would complete the studio exercise.

Text Books and References:

1. Berke, P. and Goodschalk, D.A. (2006) *Urban Land Use Planning*, University of Illinois Press, Champaign, Illinois.
2. Talen, E. (2012) *City Rules: How regulations affect urban form*, Island Press, Washington.
3. Sanyal, B., and Deuskar, C. (2012) 'A Better Way to Grow? Town Planning Schemes as a Hybrid Land Readjustment Process in Ahmedabad, India', in G.K. Ingram and Y.H. Hong (eds.) *Value Capture and Land Policies*, pp. 149–82, Lincoln Institute of Land Policy, Cambridge, MA.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show knowledge about the hierarchy of development plans and their purposes.
- To show knowledge about reading and interpreting master development plan documents.
- To generate information across sectors and levels in order to develop proposals in the form of a local area plan.

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SEMESTER – VI

SEMESTER VI

Course Code:	BPC 6.1
Course Title	**Environmental Planning**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:
To expose students to diverse concepts of sustainable development, community based environmental planning, environmental justice, and global environmental challenges.

Course Contents:

Unit 1: Sustainable Development
Origin of the term sustainable development and its diverse interpretations; Role of different actors from bottom-up to top-down, weak versus strong sustainability; Participatory challenges: green democracy versus participatory managerialism; Mainstreaming of sustainable development and its integration with development; Sustainable development agenda and different models of planning: planning models which emphasise delivery against sustainability targets i.e. linear rational model, those which emphasise collaboration i.e. integration of different forms of knowledge and expertise, and those which see planning as arena for debate and emphasise learning for sustainability.

Unit 2: Land Use Planning and Community-based Environmental Planning
Relationship between land use, infrastructure and natural environment; Land use and environmental protection; Community-based environmental protection; Ecosystem management; Integrated water resource management; Hazard mitigation; Ecological restoration; Land conservation; A bottom-up approach; Responsive and context-sensitive plans incorporating local knowledge, enhancing local ownership; Define communities and understanding inequalities within communities; Capacities of communities; Relationships with other scales for environmental planning.

Unit 3: Environmental Justice and Land Use Planning
Origins of environmental justice movements; Understanding location of polluting industries in ethnic minority neighbourhoods; Distribution of environmental ills and benefits by using GIS mapping; Recognition of diversity and identities of actors; Procedural and distributive justice and participation; Economic, social and political processes in urban and regional development for creating more environmentally just society; Urban and rural poor in developing countries and environmental justice issues; Environmental Impact Assessment in India; Introduction to Strategic Environment Assessment.

Unit 4: Global environmental problems and local planning
Debates over climate change, forests and biodiversity depletion, water scarcity and food scarcity; International environmental negotiations and treaties like 1987 Montreal Protocol, 1992 Rio Convention on Biological Diversity, 1997 Kyoto Protocol, MDGs, SDGs, etc.; Local environmental planning issues like green building certification, non-motorised transportation infrastructure, rainwater harvesting, grey water recycling, urban agriculture, etc.

Text Books and References:

1. Pekmezovic, A., Walker, G. and Walker J. (2019) *Sustainable Development Goals: Harnessing Business to Achieve the SDGs through Finance, Technology and Law Reform*, John Wiley and Sons, New Jersey.
2. Randolph, J. (2003) *Environmental Land Use Planning and Management*, Island Press, Washington D.C.
3. Amanda, K. (2017) *Environmental Justice and Land Use Conflict*, Taylor and Francis, London.
4. Gupta, K.R. and Maiti, P. (2009) *Global Environment: Problems and Policies*, Atlantic Publisher, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show knowledge about the integration of sustainable development and other environmental theories into a development plan.
- To demonstrate knowledge and skills to prepare environmental plans for human settlements.

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Course Code:	BPC 6.2
Course Title	**Land Economics and Location Theory**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

Land and the institution of private property are foundational to the efficient working of the capitalist system. In this line of thinking, the primary objective of this subject is to teach students about land and property development and the functioning of their markets. On theoretical side, students will be taught the basics of land economics including location theories as they pertain to land uses and property.

Course Contents:

Unit 1: Introduction to Land Economics
Economics concepts of land, objectives and scope of land economics; relevance for spatial planning; economic principles of land use; economic rent, land use and land values, market mechanism and land use pattern.
Unit 2: Development of Land and Real Property
Process of land development; Cost of development; Source of finance, financial calculation for private developers; Real property and its salient characteristics.

Unit 3: Real Property Markets
Heterogeneity and imperfections, valuation of real property – principles and practices; private ownership and social control of land; disposal of land; land development charges and betterment levy; land use restrictions, compensation and requisition taxation of capital gain on land versus public ownerships, economic aspects of land policies at various levels of decision making.

Unit 4: Factors Influencing Locational Decisions and Economic Analysis
Analysis of location of specific uses like residential, industrial, commercial and institutional in the light of location theories in intra-regional and inter-regional context; Techniques of cost benefit analysis of urban development programme, social costs and benefits, monetization of various costs and benefits, difference between financial and economic analysis.

Text Books and References:

1. Church, R.L. and Murray, A.T. (2009) *Business Site Selection, Location Analysis, and GIS,* Wiley, Hoboken, New Jersey.

2. Evan, A. (2004) *Economics and Land Use Planning*, Wiley-Blackwell, Hoboken, New Jersey.
3. Glatte, T. (2015) Location Strategies: Methods and their methodological limitations *Journal for Engineering, Design and Technology*, Vol. 13, Issue 3, pp. 435 – 462.
4. Harvey, J. (1996) *Urban Land Economics*, Fourth Edition, Macmillan, London.
5. Isard, W. (1956) *Location and Space–Economy: A General Theory Relating to Industrial Location, Market Areas, Land Use, Trade, and Urban Structure,* MIT Press, Cambridge.
6. Nachem, I. (2007) *The Complete Guide to Financing Real Estate Developments*, McGraw-Hill, New York.
7. Ryan-Collins, J., Lloyd, T., and Macfarlane, L. (2017) *Rethinking the Economics of Land and Housing*, Zed Books, London.
8. Wu, J. and Duke, J.M. (2014) *The Oxford Handbook of Land Economics*, Oxford University Press, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop knowledge about the nature of land and property development, and real estate markets as well as land economics including location theories.
- To show the relevance and use of this knowledge for the preparation of development plans and projects.

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Course Code:	BPC 6.3
Course Title	**Urban Development Finance**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

Development finance is critical to the actualization of planning policies and projects as is political prioritization. The main objective of this subject is to critically explain and discuss the idea of development finance, its various forms and sources, techniques to raise funds, and the working of financial markets. Understanding functioning of the variegated financial organizations is also one of its objectives.

Course Contents:

Unit 1: Multiple Finances
Nature and composition of income and expenditure, limitations and need for revenue enhancements; Expenditure control methods and mechanisms; Budgetary allocation from central and state governments for urban development; Assistance from foreign donors and multinational agencies; Market access; Pool finance and prerequisite conditions for accessing non-traditional funds; Multilateral and bilateral funding from international organisations. An overview of plan and non-plan financing (Planning Commission, NITI Aayog and Finance Commission); Categorisation of Municipal Sources of Revenue: Internal versus external revenue, capital versus revenue receipt; Municipal finance assessment framework; Reforms in municipal finance, rationalisation of user charges; Ring fencing; Streamlining municipal tax administration; Monetary exaction, land exactions, debt financing, Public private partnerships, role of financial intermediaries, municipal bond, municipal budget, performance budget, gender budget, fiscal indicators: RDR, FAR and EDR; Municipal accounting and auditing

Unit 2: Additional Funding sources
Types of partnership approaches; Privatization of civic services; public private partnership (PPP) mechanisms; Types of contracts and ownerships; Emerging cost effect technology interventions; User charged projects; Pricing of services.

Unit 3: Resources Based on Achievement of Urban Reforms
Role of state government and urban local bodies; City's Challenge Fund; Urban reforms; Implications on resources, incentive fund and state level pooled finance development fund, urban development funding through market mechanisms, capital markets, elements of corporate finance, Urban bonds, etc.

Unit 4: Institutional Capacity Enhancement and Urban Reforms

Better finance management, management process; Accounting and budgeting, asset management, receivables management, cost centre approach; Computerization as tool for resource enhancement; Role of Management Information Systems; Financial operating plan, city corporate plan; Development of urban indicators; Infrastructure pricing and financing: financing mechanisms in addition to tax and grants; Private public partnerships like BOT, BOOT, BOLT etc.; Impact fee and subsidies.

Text Books and References:

1. Biekpe, N., Cassimon, D. and Mullineux, A. (eds.) (2017) *Development Finance and its Innovations for Sustainable Growth*, Palgrave Macmillan, New York.
2. Mathur, O.P. (2005) 'Impact of Globalization on Cities and City-Related Policies in India', in H. Richardson, W. Harry, and C. Chang-Hee (eds.) *Globalization and Urban Development* (pp. 43–58), Springer, Berlin.
3. Mathur, O.P. (2006) 'Urban Finance', in *3i Network, India Infrastructure Report*, Oxford University Press, New Delhi.
4. Oxford University Press, New Delhi (pp 82-105)
5. Mathur, O.P., Thakur, D., and Rajadhyaksha, N. (2009) *Urban Property Tax Potential in India*, National Institute of Public Finance and Policy, New Delhi.
6. Mathur, O.P. (2018) *The Financing of Urban Infrastructure Issues and Challenges*, Background Note, Ministry of Finance, Government of India, New Delhi.
7. Mishra, A.K. and Mohanty, P.K. (2018) Urban infrastructure financing in India: applying the benefit and earmarking principles of taxation, *Journal of Social and Economic Development*, DOI: 10.1007/s40847-018-0059-1
8. Mohanty, P.K. (2016) *Financing Cities: Municipal reforms, fiscal accountability and urban infrastructure*, Sage, New Delhi.
9. Rao, P.S.N. and Srivastava G.K. (2005). Municipal Finance in India, Kanishka Publishers, New Delhi.
10. Peterson, G.J. (2007) *Financing Cities: Fiscal responsibility and urban infrastructure in Brazil, China, India and South Africa*, Sage, New Delhi.
11. Singh, K. and Ta'I, B. (eds.) (2000) Financing and Pricing of Urban Infrastructure, New Age Books Publishers (P) Ltd, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge of development finance, its various forms and sources, techniques to raise funds, and the working of financial markets.
- To show critical understanding of the functioning of variegated financial organizations.

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Course Code:	BPC 6.4
Course Title	**Planning for Informal Sector and Urban Poor**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Course Objective:

This course intends to develop an understanding about issues of urban poverty and informal sector and to critically examine various policy approaches.

Course Contents:

Unit 1: Urban Poverty

Dimensions of urban poverty, measurement of poverty, magnitude of problem; MDGs and SDGs, defining the poverty line, urban versus rural poverty; Causes and consequences of urban poverty, slums; Urban poverty alleviation programmes.

Unit 2: Approaches for Alleviation of urban poverty

Theoretical perspectives on poverty alleviation; Evolution of approach to poverty alleviation in global context and in India; Policies for the urban poor in India since independence; Five year plans and current policy approaches.

Unit 3: Concept, causes and consequences of Informal Sector

Concept of informal sector and informality; Types of informal sector and role of informal sector in cities, Spatial focus on informal sector; Socio-economic deprivation and informal sector; Poverty and informality in historic areas; Policies and practices in dealing with the informal sector in India e.g. National Policy on Urban Street Vendors, NCEUS, others); Informal and formal networks and interdependence.

Unit 4: Planning for Informal sector

Policy framework for addressing the challenges of informal economy; Planning provisions and norms; Policies governing informal sectors of economy e.g. household industry, street vending, etc. and its implications for city planning.

Text Books and References:

1. Agnotti, T. (2018) *Metropolis 2000: Planning, Poverty and Politics,* Routledge, New York.
2. Breman, J. (2016) *At Work in the Informal Economy of India: A Perspective from the Bottom Up*, Oxford University Press, New Delhi.
3. Bromley, R. (2013) *The Urban Informal Sector: Critical Perspectives on Employment and Housing Policies*, Pergamon Press, Oxford.

4. Mazumdar, D. (1976) *The Urban Informal Sector*, World Bank Staff Working Paper No. 43, World Bank, Washington, D.C.
5. McFarlane, C. (ed.) (2016) *Urban Informalities: Reflections on the Formal and Informal*, Routledge, New York.
6. Nussbaum, M. and Sen, A. (eds.) (1993) *The Quality of Life*, Clarendon Press, Oxford.
7. Satterthwaite, D. and Mitlin, D. (2013) *Reducing Urban Poverty in the Global South*, Routledge, New York.
8. Sen, A. (2000) *Development as Freedom*, Alfred A. Knopf, New York.
9. Sen, K. and Rajesh, R.S.N. (2016) *Out of the Shadows? : The Informal Sector in Post-reform India*, Oxford University Press, New Delhi.
10. Sethuraman, S.V. (1976) Jakarta*: Urban Development and Employment*, ILO, Geneva.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate critical understanding about the concepts of urban poverty and informal sector.
- To evaluate critically the success of different approaches to dealing with urban poverty.
- To show familiarity with various policies and programmes on urban poverty and various organizations dealing with urban poverty.
- To demonstrate an understanding of how planning intervenes to deal with the issues of urban and rural poverty.

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Course Code	:	BPPE 6.5
Course Title	:	**Professional Elective III**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

Any one from the following have to be taken as a Professional Elective-III:

1. Real Estate Development and Management
2. Climate Change, Disaster Risk and Resilience

Refer Appendix I on Professional Electives.

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Course Code	:	BPOE 6.6
Course Title	:	**Open Elective III**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

The following subject is an Open Elective – III:

1. Metropolitan Planning and Development

For syllabus, Refer Appendix II on Open Electives.

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Course Code:	BPPS 6.0
Course Title	**Planning Studio: Master Development Plan for a Town or City**
No. of Credits	05 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

The chief objective of this studio is to train students to prepare a master development plan of a town or a city or a metropolis.

Course Contents:

The study for this studio exercise shall be limited to the preparation of a comprehensive development plan of an urban settlement. The programme may carry a predetermined focus such as planning for tourism, energy conservation, heritage conservation etc. The studio programme is designed to expose the student to: Study and establish appropriate planning standards, techniques of population projection, Identification of the data to be collected and the sources thereof, organising surveys and collecting socio-economic, traffic and other data, Projecting the future with different scenarios and identification of 'action areas' (i.e., specific problems related with housing, services, circulation, etc.), Preparation and presentation of all relevant drawings and reports of complete comprehensive development plan proposal.

Practical Training

Training is an integral part of learning in real life situations. Following the closure of the 6th semester, each student is required to undertake a six-week professional training, during summer vacations, in an organization duly approved by the training coordinator. The work undertaken during this training shall be presented by the students in the training seminar before the faculty. Training will be supervised by a faculty and will be duly marked.

Text Books and References:

1. Bureau of Indian Standards (2005) *National Building Code of India*, Bureau of Indian Standards, New Delhi
2. Delhi Development Authority (2007) *Master Plan for Delhi, 2021*, DDA, New Delhi.
3. Ministry of Urban Development (1996) *The Urban Development Plan Formulation and Implementation (UDPFI) Guidelines,* Government of India, New Delhi.

4. Ministry of Urban Development (2015) *The Urban and Regional Development Plan Formulation and Implementation (URDPFI) Guidelines,* Government of India, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To analyse the existing policy and planning literature on urban development plans, and to examine field survey data and information.
- To plan and design different future scenarios, priorities of development, action areas, phasing and monitoring, and to propose governance structures for the implementation of the plan.
- To produce spatial policies, and to make planning proposals along with a land use plan for a selected urban settlement.

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Course Code:	BPAU 6.1
Course Title	**Environmental Science**
No. of Credits	0 (L: 3; T: 0; P: 0)
Internal Assessment	0 Marks
End Semester Assessment	0 Marks
Total Assessment Marks	0 Marks

Course Objective: People working in industries or elsewhere essentially require the knowledge of environmental science so as to enable them to work and produce most efficient, economical and eco-friendly finished products.

- Solve various engineering problems applying ecosystem to produce eco – friendly products.
- Use relevant air and noise control method to solve domestic and industrial problems.
- Use relevant water and soil control method to solve domestic and industrial problems.
- To recognize relevant energy sources required for domestic and industrial applications.
- Solve local solid and e-waste problems.

Course Content:

Unit-1: Ecosystem

- Structure of ecosystem, Biotic & Abiotic components.
- Food chain and food web.
- Aquatic (Lentic and Lotic) and terrestrial ecosystem.
- Carbon, Nitrogen, Sulphur, Phosphorus cycle.
- Global warming -Causes, effects, process, Green House Effect, Ozone depletion.

Unit–2: Air and, Noise Pollution

- Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refrigerants, I.C., Boiler).
- Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator).
- Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler.
- Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000.

Unit-3: Water and Soil Pollution

- Sources of water pollution, Types of water pollutants, Characteristics of water pollutants Turbidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation.
- Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor, Tertiary Method: Membrane separation technology, RO (reverse osmosis).
- Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste.

Unit– 4: Renewable sources of Energy

- Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate collector. Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer. Solar stills.
- Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas.
- Wind energy: Current status and future prospects of wind energy. Wind energy in India. Environmental benefits and problem of wind energy.
- New Energy Sources: Need of new sources. Different types new energy sources. Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.) Concept, origin and power plants of geothermal energy.

Unit-5: Solid Waste Management, ISO 14000 & Environmental Management

- Solid waste generation- Sources and characteristics of: Municipal solid waste, E-waste, biomedical waste.
- Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries. Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous waste.
- Air quality act 2004, air pollution control act 1981 and water pollution and control act1996. Structure and role of Central and state pollution control board.
- Concept of Carbon Credit, Carbon Footprint.
- Environmental management in fabrication industry.
- ISO14000: Implementation in industries, Benefits.

Text Books/References:

1. S.C. Sharma & M.P. Poonia, Environmental Studies, Khanna Publishing House, New Delhi.
2. C.N. R. Rao, Understanding Chemistry, Universities Press (India) Pvt. Ltd., 2011.
3. Arceivala, Soli Asolekar, Shyam, Waste Water Treatment for Pollution Control and
4. Reuse, McGraw Hill Education India Pvt. Ltd., New York, 2007, ISBN:978-07-062099-
5. Nazaroff, William, Cohen, Lisa, Environmental Engineering Science, Willy, New York, 2000, ISBN 10: 0471144940.
6. O.P. Gupta, Elements of Environmental Pollution Control, Khanna Publishing House, New Delhi

7. Rao, C. S., Environmental Pollution Control and Engineering, New Age International Publication, 2007, ISBN: 81-224-1835-X.
8. Rao, M. N. Rao, H.V.N, Air Pollution, Tata McGraw Hill Publication, New Delhi, 1988, ISBN: 0-07- 451871-8.
9. Frank Kreith, Jan F Kreider, Principles of Solar Engineering, McGraw-Hill, New York; 1978, ISBN: 9780070354760.
10. Aldo Vieira, Da Rosa, Fundamentals of renewable energy processes, Academic Press Oxford, UK; 2013. ISBN: 9780123978257.
11. Patvardhan, A.D, Industrial Solid Waste, Teri Press, New Delhi, 2013, ISBN:978-81-7993-502-6
12. Metcalf & Eddy, Waste Water Engineering, McGraw Hill, New York, 2013, ISBN: 077441206.
13. Keshav Kant, Air Pollution & Control, Khanna Publishing House, New Delhi (Edition 2018)

Open source software and website address:

1. www.eco-prayer.org
2. www.teriin.org
3. www.cpcp.nic.in
4. www.cpcp.gov.in
5. www.indiaenvironmentportal.org.in
6. www.whatis.techtarget.com
7. www.sustainabledevelopment.un.org
8. www.conserve-energy-future.com

Teachers should use the following strategies to achieve the various outcomes of the course.

- Different methods of teaching and media to be used to attain classroom attention.
- Massive open online courses (MOOCs) may be used to teach various topics/sub topics.
- 15-20% of the topics which are relatively simpler of descriptive in nature should be given to the students for self-learning and assess the development of competency through classroom presentations.
- Micro-projects may be given to group of students for hand-on experiences.
- Encouraging students to visit to sites such as Railway station and research establishment around the institution.

Course Outcomes: At the end of the course student will be able to

1. Understand the ecosystem and terminology and solve various engineering problems applying ecosystem knowledge to produce eco – friendly products.
2. Understand the suitable air, extent of noise pollution, and control measures and acts.
3. Understand the water and soil pollution, and control measures and acts.
4. Understand different renewable energy resources and efficient process of harvesting.

5. Understand solid Waste Management, ISO 14000 & Environmental Management.

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SEMESTER – VII

SEMESTER VII

Course Code:	BPC 7.1
Course Title	**Introduction to Regional Planning**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

The main objective of this subject is to introduce regional planning to students by focussing on the idea of a region, its types, regional planning models and techniques, spatial distribution of settlements, regional development and planning processes.

Course Contents:

Unit 1: Regions and Types of Regions
Defining a region, types of regions; Delineation of regions; Metropolitan region, structure of a metropolitan region, area of influence and dominance, shadow regions; Trickle down effects; Rural-urban fringe, its structure, growth and implications.

Unit 2: Spatial Distribution of Settlements
Settlement in regional; context; spatial models of location, size and spacing of settlements; Central Place Theory; Characteristic of rural – urban fringe; rural– urban continuum; inter – urban inequalities; Regional interaction: Rank Size Rule, Settlement patterns and analysis; Loschian theory; Regional networks.; Gravity model, classification of settlements; Delineation of Regions, institutional scalogram.

Unit 3: Regional Development
Regional development; Balanced and unbalanced development; Underdevelopment; Regional multiplier, input-output model; Cumulative causation theory; Core-periphery model; Growth poles and centres; Regional planning projects such as corridor development, road development projects, port development projects, airports and metro rail projects, etc.

Unit 4: Planning Processes
Regional planning processes: Identification of plan objectives; collection, classification and analysis of data; Norms and standards for regional planning; Formulation of alternative plan proposals with respect to population distribution, location of new regional economic activities, infrastructure, plan implementation, etc.; Selected case studies in regional development.

Text Books and References:

1. Glasson, J. (1978) *An Introduction to Regional Planning: Concepts, Theory and Practice*, University of California, Berkeley.
2. Glasson, J. and Marshall, T. (2007) *Regional Planning*, Routledge, London.
3. Mishra, R.P., Sundaram, K.V. and Prakasa Rao, V.L.S. (1974) *Regional Development Planning in India: A New Strategy*, Rawat, Jaipur.
4. Misra, R.P. (1978) *Regional Development Planning in India: A New Strategy*, Vikas Publishing House, New Delhi.
5. Plane, D.A., Mann, L.D., Button, K. and Nijkamp, P. (2007) *Regional Planning*, Edward Elgar Publishing, Cheltenham.
6. Routra, J.K. (1993) Urban and regional planning in practice in India, *Habitat International*, Vol. 17, Issue 3, pp. 55-74.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills about regions and their types, regional planning models and techniques.
- To analyse spatial distribution of settlements, status of regional development and nature of planning processes.

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Course Code:	BPC 7.2
Course Title	**Planning Legislation – I**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

This is an introductory course to understand the basic concepts of law and relevant constitutional provisions for urban and regional planning. This course will expose the students to urban and regional planning statutes and legal frameworks for land acquisition and development.

Course Contents:

Unit 1: Concept of Law

Sources of law including custom, legislation and precedent; Meaning of the term of law, legislation, ordinance, bill, act, regulations and byelaws; Significance of law and its relationship to urban and regional planning; Benefits of statutory backing for planning at all levels.

Unit 2: Indian Constitution

Concepts and contents of the Indian Constitution, Constitution of India and town planning, article 21; Rights and their implications for planning; Fundamental provisions regarding property rights; Overview of legal tools connected with urban and regional planning and development; Model town planning laws. 73rd and 74th Amendments to the Constitution and their implications.

Unit 3: Statutory Framework for Planning and Development Law

Land ownership and land titling, Evolution of town planning legislation, town planning laws, Current amendments in planning and development laws; Related laws such as environment and infrastructure laws.

Unit 4: Statutory Framework for Land Acquisition and Assembly

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

Text Books and References:

1. Lakshimikanth, M. (2007) *Indian Polity*, Tata McGraw Hill, New Delhi.
2. Bhattacharya, M. (2001) *New Horizons of Public Administration*, Jawahar Publishers and Distributors, Gurgaon.
3. Needham, B. (2006) *Planning, Law and Economics: An investigation in the rules we make for using land*, Routledge, London.
4. McAuslan, P. (2019) *Bringing the Law Back in: Essays in Land*, Law and Development, Routledge, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge about sources of law and basic terminologies in law.
- To show knowledge about the implications of relevant articles of the Constitution of India on town planning.
- To show understanding about the statutory nature of town and country planning.
- To examine and analyse specific case laws on land, planning and development.

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Course Code:	BPC 7.3
Course Title	**Rural Development and Management**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

Significance of rural development and management could not be better explained than the fact that a majority of Indian still live in rural areas. The chief objective of this subject is to introduce rural development and management by concentrating on understanding the idea of rural development, and how we planned for rural areas and people after 1947 to 2020. Second, we seek to teach students how institutions of local self-government developed after the most important amendment to the Constitution of India was made in 1992.

Course Contents:

Unit 1: Introduction to Rural Development
Meaning, nature and scope of development; Nature of rural society in India; Hierarchy of settlements; Social, economic and ecological constraints for rural development, rural resources, culture and society, rural economy including agriculture, animal husbandry, etc.

Unit 2: Roots of Rural Development in India
Rural reconstruction and Sarvodaya programme before independence; Impact of voluntary effort and Sarvodaya Movement on rural development; Constitutional direction, directive principles; Panchayati Raj - beginning of planning and community development; National extension services.

Unit 3: Post Independence Rural Development
Balwant Rai Mehta Committee - three tier system of rural local Government; Need and scope for people's participation and Panchayati Raj; Ashok Mehta Committee - linkage between Panchayati Raj, participation and rural development; Five Year Plans and Rural Development; 73rd Constitution Amendment Act, including – XI Schedule, devolution of powers, functions and its implications; Critical appraisal of government initiatives and their implementation.

Unit 4: Planning for Rural Areas
Planning process at National, State, Regional and District levels; Planning, development, implementing and monitoring organizations and agencies; Urban and rural interface -

integrated approach and local plans; Development initiatives and their convergence; Special component plan and sub-plan for the weaker section; Micro-eco zones; Data base for local planning; decentralized planning; Sustainable rural development, various rural development programmes, Vibrant Villages programme, RURBAN Mission .

Text Books and References:

1. Gandhi, F.V. (2018) *A Rural Manifesto: Realizing India's Future through her Villages*, Rupa, New Delhi.
2. Gupta, K.R. (2010) *Rural Development in India*, Atlantic Publishers, New Delhi. Volume 4.
3. Jodhka, S.S. (2018) *A Handbook of Rural India*, (Readings on the Economy, Polity and Society), Orient Black Swan, New Delhi.
4. Jodhka, S.S. and Simpson, E. (2019) *India's Villages in the 21st Century: Revisits and Revisions*, Oxford University Press, New Delhi.
5. Ministry of Rural Development (2017) *Sustainable Rural Development*, Ministry of Rural Development, Government of India.
6. Paul, S.K. (2015) *Rural Development: Concept and Recent Approaches*, Concept Publishing Company Private Limited, New Delhi.
7. Singh, K. and Shishodia, A. (2019) *Rural Development: Principles, Policies, and Management*, Fourth Edition, Sage, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop knowledge about rural development and management with a particular focus on the evolution of the idea of rural development.
- To demonstrate knowledge about how rural areas were planned from 1947 to 2020.
- To show knowledge about how institutions and organizations of local self-government developed after 1992.

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Course Code:	BPC 7.4
Course Title	**Dissertation Writing**
No. of Credits	2 (L: 1; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

The main objective of dissertation is to prepare students to develop an understanding around a planning issue through literature review.

Course Contents:

Purpose of dissertation writing is to introduce to the students to learn about research methods and to develop competencies for critically examining a topic of their interest and present it credibly before the faculty. This is also a preparatory stage for the students to get enough knowledge and skills for carrying out a thesis project of their choice. Furthermore, the purpose is also to take students from a point at which they have general ideas about their topic for undertaking thesis project and develop research questions, structure, research strategy and present critical analysis of existing literature on a topic of their interest.

Text Books and References:

Healey, P. and Silva, E. (2015) *The Routledge Handbook of Planning Research Methods*, Routledge, New York.
McVoy, B.T. and Machi, A.L. (2009) *The Literature Review: Six Steps to Success*, Corwin Press.
Flyvbjerg, B., Landman, T. and Schram, S (eds.) (2012) *Real Social Science*, Cambridge University Press, Cambridge.
White, P. (2017) *Developing Research Questions,* Second Edition, Macmillan International, New York.
Ward, K. (2020) *Researching the City: A Guide for Students*, Sage, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop knowledge about how to systematically organize ideas for a particular research topic.
- To identify different perspectives on a particular research topic.
- To examine and analyse critically literature on a particular research topic.

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Course Code	:	BPPE 7.5
Course Title	:	**Professional Elective IV**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

Any one from the following have to be taken as a Professional Elective-IV:
1.Landscape Planning and Design
2.Heritage, Renewal and Redevelopment

Refer Appendix I on Professional Electives.

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Course Code	:	BPOE 7.6
Course Title	:	Open Elective IV
Number of Credits	:	3 (L: 3; T: 0; P: 0)

The following subject is an Open Elective – IV:
1. Institutions and Planning

For syllabus, Refer Appendix II on Open Electives.

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Course Code	:	BPPT 7.7
Course Title	:	**Professional Training - III**
Number of Credits	:	03

Students will undergo professional training in a department approved organization on a project for 2 months. This will be supervised training by a senior professional from the organization. Satisfactory completion of training will be mandatory for the award of a degree. Training will be evaluated by the faculty.

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Course Code:	BPPS 7.0
Course Title	**Planning Studio: Regional Plan**
No. of Credits	05 (L: 0; T: 0; P: 10)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

The primary objective of this studio is to teach how to prepare a regional plan. Prior to the preparation of a regional plan, students will be taught about the type and nature of regions, substance of a regional plan, types of regional plans and nature of projects of regional planning importance.

Course Contents:

We begin by understanding the role and relevance of regional planning in the country including planning nature of planning at district and sub district level, which would also involve critical appraisal of district and sub district plans. Formulation of goals, objectives, methodology, identification of data sources, analysis of data available, field surveys and preparation of schedules would form another important step in the preparation of a regional plan. Field work involving visit to the field study area, conduct of field surveys, collection of data from secondary sources, sectorally and block wise is the next step. After coming back from the field, the students would perform a detailed data analysis, identification of potential thrust areas and development issues in each sector and block. Appropriate strategic planning, settlement development pattern, development programmes would be evolved. Regional planning proposals for integrated and balanced development along with desired financial commitments at block level would form a critical part of the regional development plan.

Text Books and References:

1. Appiah-Opoku, S. (2010) 'Urban and Regional Planning', in Barney Warf (ed.) *Encyclopaedia of Geography*, Sage, London. Six Volumes.
2. Calthorpe, P. and Fulton, W. (2001) *The Regional City: Planning for the End of Sprawl*, Island Press, Washington, D.C.
3. Glasson, J. (1978) *An Introduction to Regional Planning: Concepts, Theory and Practice*, University of California, Berkeley.
4. Glasson, J. and Marshall, T. (2007) *Regional Planning*, Routledge, London.
5. Plane, D.A., Mann, L.D., Button, K. and Nijkamp, P. (2007) *Regional Planning*, Edward Elgar Publishing, Cheltenham.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills required for the preparation of a regional development plan.

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SEMESTER – VIII

SEMESTER VIII

Course Code:	BPC 8.1
Course Title	**Planning Legislation – II**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	150 Marks

Course Objective:

Building on the earlier course on Planning Legislation, the main purpose of this course is to understand (i) how master plan as statutory documents interprets constitutional provisions and (b) to appreciate the interface between planning law and other laws.

Course Contents:

Unit 1: Planning and Development Law and Statutory Plans

Statutory nature of comprehensive plans and its implications, Plan Preparation and Modification process, Case laws related to matters related to plan preparation, change of land use, implementation and enforcement. Laws related to Town Planning Schemes, Municipal Acts, Development Authorities Acts, other relevant Acts.

Unit 2: Planning Law and Environment laws

Current legislation related to environment, Air Act, Water Act, Environment Protection Act, Biodiversity Act and other Acts. Interface and conflicts between town planning, environment laws; Case laws.

Unit 3: Planning Law and Heritage Laws

Current legislation related to heritage, ancient monuments, urban art, Interface and conflicts between town planning, and heritage legislation; Case laws.

Unit 4: Real Estate and other related laws for development

Real Estate (Regulation and Development) Act, 2016 and other relevant acts at a particular time, for example, Special Investment Region Act, Community Participation Law. Consumer Protection Act.

Text Books and References:

1. Anindita, M. (2019) *The Legal Right to Housing in India*, Cambridge University Press, Cambridge.
2. Brand, C. (2001) *Planning Law*, Cavendish Publishing Limited, Singapore.
3. Jariwala, C.M. (not dated) Environmental Justice: The Directions and Outcome, *Indian Journal of Environmental Law*, Vol. 1, pp. 15-30.
4. Ghosh, S. (2019) (ed.) *Indian Environmental Law: Key Concepts and Principles*, Orient Blackswan, Hyderabad.
5. Mishra, Girish K and Rao, P.S.N. (2005) Housing Legislation in India, Kanishka Publishers, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge about the role of statutory master plans in translating constitutional provisions.
- To show familiarity with environment and heritage laws and other relevant acts.
- To develop knowledge about the implications of environment and heritage laws for town planning laws.

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Course Code:	BPC 8.2
Course Title	**Planning Practice – II**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

The main objective of the course is to familiarise students with the nature of planning practice in the Indian context and develop an understanding of responsibility of planning professionals and ethical behaviours expected from planners. The subject also intends to make students familiar with the requirements of setting up an organization for planning practice.

Course Contents:

Unit 1: Comprehending Planning Practices
Defining planning practices; Forms of planning practices and their implications; Debates about planning practices; What is a proper planning practice?

Unit 2: Reflective planning practice
Concept of reflective practice as given by Donald Schon; Espoused-theory and theory-in-use; Reflection in and on action; Approach and methods of reflective practice, concept of reframing; Reflective practice in the Indian context.

Unit 3: Deliberative planning practice
Concept of deliberative practice; Study of decision making processes; comprehending competing interests and interest groups; Understanding power relations and group dynamics in deliberative practice; Deliberations and negotiations in development plans, policies and projects.

Unit 4: Professional Engagement and Office Administration

Tenders, Contracts, Formulation of Project Proposals., Scope of work and Professional fees for different types of planning practice, setting up of planning firms, official correspondence, office management practices.

Text Books and References:

1. Barrett, C.D. (2001) *Everyday Ethics for Practicing Planners, American Institute of Certified Planners*, Chicago.
2. Forester, J. (1999) *The Deliberative Practitioner: Encouraging Participatory Planning Processes*, MIT Press, Massachusetts.

3. Kulshreshtha, S.K. (2012) *Urban and Regional Planning in India: A Handbook for Professional Practice*, Sage, New Delhi.
4. Saccoccia, S. (2016) *Planning Practice*, MIT Press, Massachusetts.
5. Schön, D. (1983) *The Reflective Practitioner: How professionals think in action*, Temple Smith, London.
6. Thomas, H. and Healey, P. (1991) *Dilemmas of Planning Practice: Ethics, legitimacy, and the validation of knowledge*, Avebury, Farnham, Surrey.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop knowledge about the underlying values of the planning profession and show how to recognize ethical dilemmas.
- To show knowledge about the processes of ethical decision making.
- To develop an understanding about the concept of reflective practice.
- To show the importance of dialogue among competing interests around a planning proposal.
- To list the requirements for setting up a planning practice.

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Course Code:	BPC 8.3
Course Title	**Planning Ethics**
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

This course intends to develop sensitivity to ethical issues in planning and development and develop an understanding of processes of ethical decision making.

Course Contents:

Unit 1: Understanding Ethics

Defining ethics; Human values and moral reasoning; Perspectives on ethics; Branches of ethics; Ethics and social identities; Defining the idea of a profession and ethics in the modern professions.

Unit 2: Understanding Ethical Decision Making

Understanding human behaviour; Substance of ethical behaviour; Development stages of ethical behaviour; Ethical decision making: power of frames, routines and strong situations; Examples of ethical and unethical decision making in planning organisations.

Unit 3: Development of Ethics in Planning

Distinction between professional ethics, ethics in planning and planning ethics; Learning from theory; Understanding contributions of the key planning scholars to planning ethics.

Unit 4: Ethical Dilemmas in Planning Practice

Defining and recognising ethical dilemmas; Planning practice and ethical dilemmas, resolution of ethical dilemmas; Cases of ethical dilemmas in planning; Code of professional conduct; Examples of codes of conduct of different countries including India.

Text Books and References:

1. Singer, P. (2010) *Practical Ethics*, Cambridge University Press, Cambridge.
2. Richards, J.R. (1980) *The Skeptical Feminist,* Routledge, New York.
3. Harding, C.G. (ed.) (2017) *Moral Dilemmas and Ethical Reasoning*, Routledge, New York.
4. Paul, R. and Elder, L. (2013) *The Thinker's Guide to Ethical Reasoning: Based on Critical Thinking Concepts and Tools*, Foundation of Critical Thinking, Tomales, CA. Second Edition.
5. Barrett, C.D. (2017) *Everyday Ethics for Practicing Planners*, Routledge, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate familiarity with different philosophical approaches to ethical behavior.
- To show knowledge about the various elements of ethical reasoning.
- To develop the ability to recognize an ethical dilemma.
- To show knowledge about the ethical decision making processes.

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Course Code	:	BPPE 8.4
Course Title	:	**Professional Elective V**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

Any one from the following have to be taken as a Professional Elective – V:

1.Water Security and Planning

2.Universally Accessible Built Environments

Refer Appendix I on Professional Electives.

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Course Code	:	BPOE 8.5
Course Title	:	**Open Elective V**
Number of Credits	:	3 (L: 3; T: 0; P: 0)

The following subject is an Open Elective – V:

1. Urban Governance and Management

For syllabus, Refer Appendix II on Open Electives.

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Course Code:	BPPTH 8.0
Course Title	**Planning Thesis**
No. of Credits	06 (L: 0; T: 0; P: 12)
Internal Assessment	300 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	400 Marks

Course Objective:

Creation of new knowledge is essential for innovation in any profession, planning is no different. New knowledge gets created through research using credible research methods. So, building on the subject of 'Dissertation', the main objective of 'Planning thesis' is to teach students about how conduct a research systematically, starting with making a choice of a research topic through to literature review to field work, analysis of field data, synthesis of literature and field work findings, drawing conclusions and making recommendations.

Course Contents:

Each student of Bachelor of Planning is required to prepare a thesis on a subject concerning urban, rural or regional planning and development. Each research topic would be approved by the faculty and finalized through discussions within the department. Thesis will provide an opportunity to the student to synthesize knowledge and skills acquired by her through learning of various theories and practices during the last three and half year. The students will be required to present their work orally, graphically and through written report. The student will also be required to present her thesis before the external jury appointed by the concerned planning school, institute or university.

Text Books and References:

1. Hammersley, M. (2013) *What is Qualitative Research*? Bloomsbury, London.
2. Hancock, D.R. and Algozzine, B. (2006) *Doing Case Study Research: A Practical Guide for Beginning Researchers*, Columbia University, New York.
3. Machi, L.A. and McEvoy, B.T. (2012) *The Literature Review: Six Steps to Success*, Thousand Oaks, California.

4. Piccolo, F.L. and Thomas, H. (2009) *Ethics and Planning Research*, Ashgate, Farnham, Surrey.
5. Treiman, D.J. (2009) *Quantitative Data Analysis: Doing Social Research to Test Ideas (Research Methods for the Social Sciences)*, Jossey-Bass, San Francisco, California.
6. Wertz, F.J. (2011) *Five Ways of Doing Qualitative Analysis: Phenomenological Psychology, Grounded Theory, Discourse Analysis, Narrative Research, and Intuitive Inquiry*, Guilford Press, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the ability to successfully plan and design a small research project.
- To show the ability to critically approach the existing literature on a specific research topic in order to complete literature review.
- To show the ability to conduct field surveys in order to fill gaps in the literature and also to answer some of the research questions.
- To examine field data and information before arriving at the conclusions.
- To make planning and policy proposals on a selected research topic.

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Appendix - I

Professional Electives

Professional Electives

Professional Elective I

List of available courses under Professional Elective – I (L: 3, T: 0, P: 0)

S. No.	Subject Code	Subject
1	BPPE 4.5	Advanced Spatial Data Infrastructure for Planning
2	BPPE 4.5	Public Policy and Politics in Planning.

Professional Elective II

List of available courses under Professional Elective – II (L: 3, T: 0, P: 0)

S. No.	Subject Code	Subject
1	BPPE 5.4	Spatial Justice
2	BPPE 5.4	Participatory Integrated Urban Development

Professional Elective III

List of available courses under Professional Elective – III (L: 3, T: 0, P: 0)

S. No.	Subject Code	Subject
1	BPPE 6.5	Real Estate Development and Management
2	BPPE 6.5	Climate Change, Disaster Risk and Resilience

Professional Elective IV

List of available courses under Professional Elective – IV (L: 3, T: 0, P: 0)

S. No.	Subject Code	Subject
1	BPPE 7.5	Landscape Planning and Design
2	BPPE 7.5	Heritage, Renewal and Redevelopment

Professional Elective V

List of available courses under Professional Elective – V (L: 3, T: 0, P: 0)

S. No.	Subject Code	Subject
1	BPPE 8.4	Water Security and Planning
2	BPPE 8.4	Universally Accessible Built Environments

Professional Elective – I

Course Code:	BPPE 4.5
Course Title	**Professional Elective – I**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Advanced Spatial Data Infrastructure for Planning

Course Objective:

To train students for skill development about concepts, scope and use of SDI for settlement planning so that they could ensure better planning using these new techniques.

Course Contents:

Unit 1: Basic Principles and Broad Areas of SDI
Spatial data infrastructures: concept, contents, nature and hierarchy and future directions of SDI with advantages and challenges; Understanding Spatial Data Infrastructure (SDI) for settlement planning and regional planning; Local, district and national level spatial data infrastructure for planning decision making; and SDI for efficient governance at city and regional levels.

Unit 2: Developing an SDI for a selected area and settlement for planning
Building an SDI and using it in the planning and decision making processes; Data streaming and mining of spatial data infrastructure; Use of Remote Sensing and GIS for developing SDI for a selected area for planning and management or administrative decisions. Application of open software for SDI; Real time technologies and their applications, web based models for spatiotemporal predictions, and decentralised planning; Satellite based and other real time technologies and their use in identifying physical changes and transformations and their applications in urban and rural areas.

Unit 3: SDI for planning and decision making
Regional resource management, regional water and sanitation management and SDI; SDI for economic and environmental decision making, infrastructure planning and management, transportation planning, e-governance, flash flood warning systems in river and coastal belt, planning for disaster prone, etc.

Unit 4: Use of SDI

SDI initiatives at global, national, regional and local levels; Case study of implementation and success of SDI in different levels of planning and resource management.

Text Books and References:

1. ESRI (2010) GIS Best Practices, Spatial Data Infrastructure (SDI), ESRI, New York.
2. Masser, I. (ed.) (2019) *Geographic Information Systems to Spatial Data Infrastructures: A Global Perspective*, CRC Press, Boca Raton, Florida.
3. Sadahiro, Y. (ed.) (2008) *Spatial Data Infrastructure for Urban Regeneration*, Springer, Germany.
4. Williamson, I., Rajabifard, A., and Feeny, M.E.F. (ed.) (2003) *Developing Spatial Data Infrastructures: From concept to reality*, Taylor and Francis, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop skills to use SDI for settlement planning and decision making for development and management of resources and infrastructure.
- To show the ability to prepare different levels of plans using the SDI.

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Course Code:	BPPE 4.5
Course Title	**Professional Elective – I**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Public Policy and Politics in Planning

Course Objective:

The main objective of this subject is to teach students how to analyse and comprehend public policies including planning policies with a particular focus on India but not to the relevant global environmental policies.

Course Contents:

Unit 1: Nature and Making of Public Policy
Nature, scope and significance of public policy; Types of public policy: Regulatory, welfare, distributive and re-distributive; Evolution of public policy studies and public policy cycle; Policy analysis and process: Six steps in policy analysis; How are policies made, who influences policy agendas and what issues affect success and failure of policies? Role of institutions in policy processes, and motivations of policy actors; Models of public policy: Systems model, Contributions of Harold Lasswell, Herbert Simon, Charles Lindblom, Amitai Etzioni and others.

Unit 2: Public Policy Analysis and Management

Overview of policy process models, Multi-stream approaches, policy implementation analysis, life-course approach to policy analysis and case studies in policy process analysis; Policy Integration: Possible areas of integration in planning; How are new information and communication technologies shaping public service delivery?; E-Governance, E-Municipalities, E-Panchayats, E-Markets, etc.; Transparency, accountability, accessibility and participatory mechanisms; Trends and pressures affecting public service organizations; Market based arrangements; Coordination and networks; Conflict and crisis management.

Unit 3: Planning and Policy Making in India
Global Commitments: Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs), Environment, etc. and its commitment at the National, State and Local Level; Land Policy: Interest groups, acts, agents and policy making process; Institutional factors including legislature, executive, judiciary, NITI Aayog; Other forces in policy

making such as public opinion, political parties, pressure groups, media and professional bodies; External influencing agencies like UNDP, WHO, ILO, UNEP, ADB, World Bank, and IMF; Studies of specific public and planning policies.

Unit 4: Politics in Planning

Political institutions at centre, state and local political economy; Emergence of state in the federal set up; Politics of the state and bureaucracy; Politics and emergence of civil society; Regeneration and redevelopment politics; Property rights, norms and standards, Regulatory state, reforming state, rent-seeking state and its spatial implications.

Unit 5: Politics of Provision

Land use politics; Politics of provision of infrastructure and housing in urban and rural areas; Political decision making processes; Case studies from India and on planning and political decisions and their impact on rural and urban development; Politics of displacement.

Text Books and References:

1. Carmon, N. and Fainstein, S.S. (2013) *Policy, Planning, and People: Promoting Justice in Urban Development*, University of Pennsylvania Press, Philadelphia, PA.
2. Doshi, S. (2018) Greening Displacements, Displacing Green: Environmental Subjectivity, Slum Clearance, and the Embodied Political Ecologies of Dispossession in Mumbai, *International Journal of Urban and Regional Research*, Vol. 43, No. 1, pp. 112-132.
3. Cowan, T. (2018) Subaltern counter-urbanism: Work, dispossession and emplacement in Gurgaon, India, *Geoforum*, Vol. 92, pp. 152-160.
4. Fischer, F., Miller, G.J., and Sidney, M.S. (2006) *Handbook of Public Policy Analysis: Theory, Politics, and Methods*, CRC Press, London.
5. Moran, M., Rein, M. and Goodin, R.E. (2008) *The Oxford Handbook of Public Policy,* Oxford University Press, Oxford.
6. Rademacher, A. and Sivaramakrishnan, K. (2013) *Ecologies of Urbanism in India: Metropolitan Civility and Sustainability*, Hong Kong University Press, Hong Kong.
7. Shatkin, G. (2013) Contesting the Indian City: Global Visions and the Politics of the Local, *International Journal of Urban and Regional Research*, Vol. 38, Issue 1, pp. 1-13.
8. Shatkin, G. (ed.) (2013) *Contesting the Indian City: Global Visions and the Politics of the Local*, Wiley-Blackwell, Oxford.
9. Storper, M. and Scott, A.J. (2016) Current Debates in Urban Theory: A critical assessment, *Urban Studies*, Vol. 53, No. 6, pp. 1114–1136.
10. Weinstein, L. (2013) 'One-Man Handled': Fragmented Power and Political Entrepreneurship in Globalizing Mumbai, *International Journal of Urban and Regional Research*, Vol. 38, No. 1, pp. 14-35.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show knowledge of theories of public policies as well as show how these public policies are made.
- To analyse critically the politics of planning in India.

Professional Elective – II

Course Code:	BPPE 5.4
Course Title	**Professional Elective – II**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Spatial Justice

Course Objective:

Planning being a progressive profession, justice, fairness and equity has always remained its major concern. In this vein of thinking, the subject of spatial justice locates itself at the heart of planning as justice always has spatial manifestations. The chief objective of this subject is to teach students about the idea of spatial justice, which involves spatial thinking rather than land use thinking alone.

Course Contents:

Unit 1: Coming to terms with Justice
What is justice? What is territorial justice? What is spatial justice? John Rawls' and Amartya Sen's ideas of justice and their relevance to planning; What is a just city?

Unit 2: Planning Rights and the City
Defining planning rights; Forms of planning rights; Sources of planning rights; Utility of planning rights; The Right to the City: Expositions by David Harvey, Peter Marcuse, and Henri Lefebvre; A study of the Urban Revolution; The Right to the city and centrality.

Unit 3: Spatializing Planning
How space and place are understood in planning? Production of space according to Henri Lefebvre; Types of space: absolute, relative and relational space; Third space of Edward Soja; Power geometry as philosophy of space by Doreen Massey; Relationship between space and time.

Unit 4: Spatial Justice
Understanding spatial justice; Forms of spatial justice; How spatial justice manifests itself in the city; Dialectics of spatial justice; Planning in divided cities; Urbanization of injustice; Segregation in the city; The creation of the urban commons; The right to land shelter and infrastructure.

Text Books and References:

1. Dikeç, M. (2001) Justice and Spatial Imagination, *Environment and Planning A: Economy and Space*, https://doi.org/10.1068/a3467
2. Dikeç, M. (2007) *Badlands of the Republic: Space, Politics and Urban Policy*, Blackwell Publishing, Oxford.
3. Fainstein, S.S. (2010) *The Just City*, Cornell University Press, Ithaca.
4. Featherstone, D. and Painter, J. (2013) *Spatial Politics*, Wiley-Blackwell, Oxford.
5. Harvey, D. (1996) Justice, Nature and the Geography of Difference, Blackwell Publishing, Oxford.
6. Harvey, D. (2008) The Right to the City, *New Left Review*, Vol. 53, pp. 23-40.
7. Marcuse, P., Connolly, J., Novy, J., Olivo, I., Potter, C. and Steil, J. (2009) *Searching for the Just City: Debates in urban theory and practice*, Routledge, New York.
8. Soja, E. (2010) *Seeking Spatial Justice*, University of Minnesota University Press, Minneapolis.
9. Zerah, M.H., Dupont, V., and Lama-Rewal, S.T. (eds.) (2011) *Urban policies and the right to the city in India: rights, responsibilities and citizenship*, UNESCO, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate the limitations of thinking in causative ways.
- To show knowledge and understanding of analysing planning policies and projects in a dialectical way, unearthing complex and multiple links.

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Course Code:	BPPE 5.4
Course Title	**Professional Elective – II**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Participatory and Integrated Urban Development

Course Objective: The course intends to sensitize the students to the importance of participatory processes and integrated institutional arrangements for more effective, efficient and sustainable implementation.

Course Contents:

Unit 1: Understanding Public participation

Understanding participation, conditions for effective participation; idea of power and representation in participatory process, Arenas of participation; Brief introduction to theories on citizen and community participation such as Arnstein's ladder of citizen participation.

Unit 2: Public Participation in India

Channels of public participation in plan making, plan implementation and governance in India; Legislative provisions; mandated and claimed spaces of participation; Requirements for planning a participatory process; evolution of community participation in development projects; Pani Panchayats.

Unit 3: Horizontal and vertical integration

Coordination in planning, understanding various kinds of public agencies involved in urban development and coordination for the purpose of plans projects and management in urban areas and regions; Current practices of cross-sectoral development, and case studies.

Unit 4: Participatory and integrated urban development – Case Studies

Based on the conceptual understanding developed in the first two parts of the course, this section will develop an understanding of the idea of Participatory and Integrated Urban Development through case studies of Multi-stakeholder projects.

Text Books and References:

1. Cornwall, A. (ed.) (2011) *The Participatory Reader*, Zed Books, London.
2. Kochi Municipal Corporation and GIZ (2019*) Multi-stakeholder Ente Kochi Initiative*, Kochi Municipal Corporation and GIZ India, Kochi.

3. Kumar, A. and Prakash, P. (eds.) *Public Participation in Planning in India*, Cambridge Scholars Publishing, Newcastle.
4. Pune Smart City Development Corporation Ltd. (2016) *Smart City Development Plan*, Pune Smart City Development Corporation Ltd., Pune.
5. UN Habitat (2018) *Leading Change: Delivering the New Urban Agenda through Urban and Territorial Planning*, UN Habitat, Nairobi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate an understanding of the necessity of participatory and integrated urban development.
- To demonstrate knowledge about the current mandates and practices of public participation in planning.
- To show the significance of horizontal and vertical integration of organizations, territories and plans.
- To implement participatory and integrated development processes.

Professional Elective – III

Course Code:	BPPE 6.5
Course Title	**Professional Elective – III**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Real Estate Development and Management

Course Objective:

The main objective of this subject is to teach students about the functioning of the real estate markets, institutions involved in the real estate sector, and financing of the real estate. Another important objective is to examine and explore how locational decisions in the real estate sector are taken by major stakeholders.

Course Contents:

Unit 1: Developments of Land and Real Property
Process of land development, market mechanism and land use pattern; Cost of development; Sources of finance and financial calculations for real estate development.

Unit 2: Real Property Markets
Heterogeneity and imperfections, valuation of real property including principles and practices; Private ownership and social control of land; Disposal of land; Land development charges and betterment levy; Land use restrictions, compensation and requisition taxation of capital gain on land versus public ownerships; Economic aspects of land policies at various levels of decision making.

Unit 3: Factors Influencing Locational Decisions
Analysis of location of specific uses like residential, industrial, commercial and institutional in the light of location theories in intra-regional and inter-regional context; Techniques of cost benefit analysis of urban development programme.

Unit 4: Case Studies
Case studies of real estate development in public, private, partnership sectors; Real estate as facilitator of development; Development of real estate as a tool for controlling land and property prices; Transaction and renting of real estate, Lease deeds and sale deeds, sale documents, registration; Mortgage and pledging.

Text Books and References:

1. Anthony, O., Kenneth, G. (eds.) (2002) *Housing Economics and Public Policy*, Wiley-Blackwell, Oxford.
2. Bhargava, M.L. (2020) *Real Estate Regulations and Development*, Kamal Publishers, New Delhi.
3. Das, P. and Sharma, D. (2014) *Real Estate Finance in India*, Sage, New Delhi.
4. Lynn, D.J. and Wang, T. (2010) *Emerging Market Real Estate Investment: Investing in China, India, and Brazil*, Wiley, Oxford.
5. Mike, E.M., Gayle, B. and Marc, A.W. (2000) *Real Estate Development: Principles and Process*, Urban Land Institute, Washington, D.C.
6. Mittal, S. (2016) *The ABC of Real Estate in India*, Falcon Publishing.
7. Neve, G.D. and Donner, H. (2015) Revisiting Urban Property in India, *Journal of South Asian Development*, Vol. 10, No. 3, pp. 255-266.
8. Ratcliffe, J. and Stubbs, M. (2009) *Urban Planning and Real Estate Development,* Taylor and Francis, London.
9. Rouanet, H. and Halbert, L. (2015) Leveraging finance capital: Urban change and self-empowerment of real estate developers in India, *Urban Studies*, Vol. 53, No. 7, pp. 1401-1423.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge about the functioning of the real estate markets, working of institutions involved in the sector, financing and locational decisions taken by major stakeholders in the sector.

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Course Code:	BPPE 6.5
Course Title	**Professional Elective – III**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Climate Change, Disaster Risk and Resilience

Course Objective:

- To understand the basic concepts of climate change, resilience, disaster management and planning.
- To expose students to relevant polices and guidelines for the reduction of climate change and disaster risks.

Course Contents:

Unit 1: Basics of Climate Change and Resilience

Concepts of global warming and climate change; Factor affecting climate change, challenges and issues of climate change; Concepts of resilience community and settlements.

Unit 2: Planning, Management, Resilience and Climate Change

Global policies on climate change, national and state policies on climate change, action plan and resilience plan for state, region and urban area; Integration of climate change policy and action plan in various levels of development plans; Energy efficient development, compact city form, transit oriented development; Mechanisms and measures for mitigating and adapting to climate change at various levels; Geospatial techniques for analysing city form, solar potential utilization studies, wind flow analysis studies.

Unit 3: Basics of Disaster and Disaster Management Plan

Definition of calamities, disaster, disaster preparedness and mitigation, concepts of risk and vulnerability; Development and disaster management; Interface contents and details of various disaster management plans for national, state and settlement level; Integration of disaster management plan with other development plans.

Unit 4: Geospatial Technologies for Disaster Mitigation and Management

Remote sensing and GIS for natural disasters, flood hazard zoning, landslide hazard zonation; Earthquake hazard risk and assessment; Seismic micro-zonation, seismic codes, land subsidence studies; Early warning systems; Geomorphology for urban areas; Thermal images for assessment of urban heat island; Urban hazard risk and analysis.

Text Books and References:

1. Capolla, D.P. (2007) *Introduction to International Disaster Management*, Butterworth Heinemann.
2. Joshi, A.D. (2009) *Text Book of Disaster Management*, Lotus Publication of Private Limited, Mumbai.
3. Ministry of Home Affairs (2004) *Model Amendment in Town and Country Planning Legislations, Regulation for Land Use Zoning and Building Byelaws for Structural Safety*, Government of India, New Delhi.
4. Ministry of Home Affairs (2006) *National Policy on Disaster Management*, Government of India, New Delhi.
5. NDMA (2007) *Disaster Management Guidelines, 2007-11,* NDMA, Government of India, New Delhi.
6. Živković J. (2019) 'Human Settlements and Climate Change', in Leal Filho W., Azeiteiro U., Azul A., Brandli L., Özuyar P., Wall T. (eds.) *Climate Action: Encyclopedia of the UN Sustainable Development Goals*, Springer, Cham.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills for the preparation of a development plan.
- To show the ability to prepare development plan for an area prone to climate change and disaster risks in order reducing vulnerability.

Professional Elective – IV

Course Code:	BPPE 7.5
Course Title	**Professional Elective – IV**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Landscape Planning and Design

Course Objective:

To sensitize students to the idea of landscape and nature when designing and shaping built environments.

Course Contents:

Unit 1: Introduction to Landscape

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

Unit 2: Place Making

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

Unit 3: Landscape Planning (Regional level, Urban and Zonal Scale)

Classification of green spaces at each planning level; Distinguishing the components of landscape at each of these levels; Exercises related to the current studio problem to better address landscape components.

Unit 4: Site Planning

Principles of analysis and assessment of existing landscape; Design proposals to respond to constraints and opportunities offered by the site; Study of open space structure as a basic component of a site plan, and process of arriving at a landscape concept; Landscape engineering: levels and grading including principles of cut and fill alignment, drainage; Plants and design: environmental benefits of planting, functional

requirements, aesthetic considerations; Typical situations and criteria for design with plants and selection of species.

Text Books and References:

1. Guha, R. (2000) *Environmentalism: A Global History*, Longman, New York.
2. Shaheer, M., Dua, D.W. and Pal, A. (2013) *Landscape Architecture in India: A Reader*, Journal of Landscape Architecture, LA.
3. Beatley, T. (2011) *Biophilic cities: integrating nature into urban design and planning*
4. Island Press, Washington.
5. McHarg, I. (1995) *Design with Nature*, Wiley, New Jersey.
6. Aruninta, A. (2016) *Landscape Architectural Design and Construction Technology*, Alpha Science International, Oxford.
7. Robinson, N. (2011) *The Planting Design Handbook*, Routledge, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To investigate the role of nature in enhancing quality of life in urban settings.
- To apply landscape tools in design and planning of urban spaces.
- To develop the sensibility towards nature-inclusive development in complex urban and regional scenarios.

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Course Code:	BPPE 7.5
Course Title	**Professional Elective – IV**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Heritage, Renewal and Redevelopment

Course Objective:

The key objective of this subject is to comprehend heritage, its renewal and redevelopment in the Indian context and relate it to the context of planning.

Course Contents:

Unit 1: Understanding Heritage

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

Unit 2: Urban Renewal

Overview and introduction of the basic concepts of urban renewal; parameters for identification of urban renewal areas; conservation, rehabilitation and redevelopment, Urban renewal policies and programmes in India; Critical appraisal of conservation, renewal and redevelopment projects,

Unit 3: Legal and Institutional Framework for Conservation, Renewal and Redevelopment

Legal and administrative aspects, archaeological acts and charters pertaining to conservation, renewal and redevelopment; organisations at central, state and local level responsible.

Unit 4: Economic and Social Aspects

Economic and social implications of urban renewal programs, mobilization of resources; incentive zoning - management of urban renewal areas; social aspects of urban renewal projects, gentrification, displacement.

Text Books/References:

1. Doustaly, C. (ed.) (2020) *Heritage, Cities and Sustainable Development: Interdisciplinary Approaches and International Case Studies*, P.I.E-Peter Lang S.A., Éditions Scientifiques Internationales, Paris.

2. Kalman, H. (2014) *Heritage Planning: Principles and Process*, Routledge, New York.
3. CPWD, *Conservation Manual*
4. Labadi, S. (2015) *Urban Heritage, Development and Sustainability: International Frameworks, National and Local Governance,* Routledge, New York.
5. Rodwell, D. (2007) *Conservation and Sustainability in Historic Cities*, Wiley-Blackwell, Oxford.

Course Outcomes: Upon the completion of this course, the students would be able:

- To develop sensitivity to heritage resources as a planner.
- To show understanding about how to define heritage resources.
- To demonstrate knowledge about interface of heritage and planning.

Professional Elective – V

Course Code:	BPPE 8.4
Course Title	**Professional Elective – V**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Water Security and Planning

Course Objective:

Water is the most important life sustaining resource as well as the global and Indian government's top most priority. The primary objective of this course is to teach about the global and Indian water security challenges. It is also our objective that the future professionals know how to effectively transcend these global life threatening water security challenges.

Course Contents:

Unit 1: Definitions and Status of Water Security

Concepts and definitions of water security; Spatial variations of water availability in India; Water stock, water consumption, and demand for various water uses; Status of water security in India; Sustainability and water security; Water security challenges in India.

Unit 2: Disasters and Vulnerabilities

Floods and draughts and their impact on water security; Forms of vulnerabilities; Climate change and its impact on water security; Probable mitigation measures and planning for reduction of impact on water security; Water bodies and water security.

Unit 3: Water Governance and Water Policies

Water governance; Policy interventions for water security in India; Role of water policies, missions and action plans for water security for rural communities and urban settlements; Initiatives for ensuring water security; Role of organisations and institutions working for water security in India.

Unit 4: Water Security and Settlement Planning

Development plans and water resource planning; Integration of concepts of water security in urban and regional planning and other development plans; Water requirements and demand projections for ensuring water security for settlements.

Text Books and References:

1. Asthana, V. and Shukla, A.C. (2014) *Water Security in India: Hope, Despair, and the Challenges of Human Development*, Bloomsbury Academic, London.
2. Brears, R.C. (2017) *Urban Water Security*, Wiley, Oxford.
3. *Bijlani H.U. and Rao, P.S.N. (1990), Water Supply and Sanitation in India, Oxford & IBH Publishers, New Delhi.*
4. Gupta, K.R. (2008) *Water Crisis in India*, Atlantic Publishers and Distributors Private Limited, New Delhi.
5. Hoekstra A.Y. (2013) *The Water Footprint of Modern Consumer Society*, Routledge, New York.
6. IDSA (2011) *Water Security for India: The External Dynamics, Institute for Defence Studies and Analyses*, New Delhi.
7. Jain, R. (ed.) (2014) *Drinking Water Security for Engineers, Planners, and Manager*, Integrated Water Security Series, Butterworth-Heinemann, Waltham, Massachusetts.
8. Kumar, A. (2021) Nature of Water Governance in the National Capital
9. Territory of Delhi, India. In Ashok Kumar and D.S. Meshram (eds.) *Future of Cities: Planning, Infrastructure, and Development*, New York: Routledge.
10. James, A.T. and Andrew, A.C. (2011) *Water Security: Conflicts, Threats, Policies*, DTP Publishing, Denver, Colorado.
11. Sharp, L. (2017) *Reconnecting People and Water, Public Engagement and Sustainable Water Management*, Earthscan, London.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge of global and Indian water security challenges.
- To demonstrate the ability and skills to make development plans and design projects for meeting global and Indian water security challenges.

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Course Code:	BPPE 8.4
Course Title	**Professional Elective – V**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Universally Accessible Built Environments

Course Objective:

This course majorly focuses on issues and problems faced by persons with disabilities on a day to day basis. The primary objective of this course is to sensitise students and provide them with basic understanding of government policies about universally accessible built environments. Another main objective is to equip students with skills so

that they could critically examine built spaces from the perspective of universal accessibility and propose planning and design solutions for universal accessibility.

Course Contents:

Unit 1: Concepts and Definitions
Meanings and definitions of accessibility and universal accessibility; Accessibility challenges for different groups and communities; Freedom and universal accessibility.

Unit 2: Challenges for Universal Accessibility
Challenges of building accessible build environments and infrastructure in settlements; Accessibility audits for public spaces, buildings, infrastructures and facilities.

Unit 3: Acts and Policies and Plans
Acts, rules and guidelines on universal accessibility; Universal accessibility standards; Harmonious guidelines; Persons with disabilities acts and policies in India; Links between planning and universal accessibility; Development plans and universal accessibility.

Unit 4: Government Initiatives
Understanding efforts of government in providing accessible build environments; Accessible India Campaign, other schemes and programmes of governments and other stakeholders.

Text Books and References:

1. CPWD (1998) *Guidelines and Space Standard for Barrier Free Built Environment for Disable and Elderly Persons*, Ministry of Urban Affair and Employment, Government of India.
2. Indian Building Congress (2012) *Guidelines for Design of Universally Accessible Built Environment*, Indian Building Congress, New Delhi.
3. Hamraie, A. (2017) *Building Access: Universal Design and the Politics of Disability*, University of Minnesota Press, Minneapolis, Minnesota.
4. Helen, P., Jenny D., Tanja W., David S., Leonardo S., Andrew L. and Christopher P. (2016) *Universal Design 2016: Learning from the Past, Designing for the Future*, IOS Press E-books.
5. Ministry of Urban Development (2016) *Harmonized Guidelines and Space Standards for Barrier-Free Built Environment for persons with Disability and Elderly Persons*, Ministry of Urban Development, Government of India New Delhi.
6. Pineda, V.S. (2019) *Building the Inclusive City: Governance, Access, and the Urban Transformation of Dubai*, Palgrave Macmillan, London.
7. Stephanidis, C. (2017) *The Universal Access Handbook*, CRC Press, Boca Raton, Florida.
8. Wolfgang F.E.P. and Elaine, O. (2001) *Universal Design Handbook*, McGraw-Hill, New York.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate abilities to identify critical issues and problems faced by persons with disabilities in human settlements.
- To demonstrate basic understanding of government policies about universally accessible built environments.
- To demonstrate skills to critically examine built spaces from the perspective of universal accessibility.
- To propose planning and design solutions for universal accessible built environments.

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Appendix II

Open Electives

Open Electives

Open Elective I

List of available courses under Open Subject – I (L: 3, T: 0, P: 0)		
S. No.	**Subject Code**	**Subject**
1	BPOE 4.6	Reading and Comprehending Spaces

Open Elective II

List of available courses under Open Subject – II (L: 3, T: 0, P: 0)		
S. No.	**Subject Code**	**Subject**
1	BPOE 5.5	Sustainable Cities and Regions

Open Elective III

List of available courses under Open Subject – III (L: 3, T: 0, P: 0)		
S. No.	**Subject Code**	**Subject**
1	BPOE 6.6	Metropolitan Planning and Development

Open Elective IV

List of available courses under Open Subject – IV (L: 3, T: 0, P: 0)		
S. No.	**Subject Code**	**Subject**
1	BPOE 7.6	Institutions and Planning

Open Elective V

List of available courses under Open Subject – V (L: 3, T: 0, P: 0)		
S. No.	**Subject Code**	**Subject**
1	BPOE 8.5	Urban Governance and Management

Open Elective – I

Course Code:	BPOE 4.6
Course Title	Open Elective – I
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Introduction to Production of Spaces

Course Objective:

The main objective of this course is to get students acquainted with various perspectives on space.

Course Contents:

Unit 1: Approaches to Place and Space

Meaning of place and space in planning; Geometries of space by Doreen Massey; Lefebvre's spatial practice, representation of space, spaces of representation; The Third Space of Edward Soja; Perspectives on space from Euclidian space to spaces of Lefebvre.

Unit 2: Identity and Spaces

Experiencing space through the lenses of gender, caste, region and religion; Multiplicity of linkages between identities and spaces; Dialectical relationship between identities and spaces; Shaping of built environments and identities.

Unit 3: Colonial and Postcolonial Spaces

Building of colonial cities and infrastructures such as roads and rail links; Control and dominance in the colonial spaces; Present day uses of colonial spaces; Nature of postcolonial spaces and national identity; Case examples New Delhi and Chandigarh, etc.

Unit 4: Neoliberal Spaces

Role of economic and political forces in producing space under neoliberalism; Characteristics of neoliberal spaces and how they shape city elements; Globalization and global cities; Planetary urbanization; Speculative urbanism; Case examples of reforms in the urban sector.

Text Books and References:

1. Allen, J., Massey, D., Cochrane, A. with Julie Charlesworth, Gill Court, Nick Henry and Phil Sarre (1998) *Rethinking the Region: Spaces of Neoliberalism*, Routledge, New York.
2. Fincher, R. and Iveson, K. (2008) Planning and Diversity in the City, Palgrave Macmillan, New York.
3. Harvey, D. (2005) Spaces of Neoliberalization: Towards a Theory of Uneven Geographical Development. Stuttgart, Franz Steiner Verlag, London.
4. King, A. (1976) *Colonial Urban Development: Culture, Social Power and Environment,* Routledge and Kegan Paul, New York.
5. King, A. (1989) Colonialism, Urbanism and the Capitalist World Economy, *International Journal of Urban and Regional Research*, 13(1), 1–18.
6. Kumar, A., Vidyarthi, S. and Prakash, P. (2021) *City Planning in India, 1947-2017,* Routledge, New York.
7. Massey, D. (2005) *For Space*, Sage, London.
8. Hubbard, P. and Kitchin, R. (2011) *Key Thinkers on Space and Place,* Sage, London.
9. Lefebvre, H. (1991) *The Production of Space*, Blackwell Publishing, Oxford.
10. Lefebvre, H. (2003) *The Urban Revolution*, University of Minnesota Press, London.
11. Raju, S. (ed.) (2011) Gendered Geographies: Space and place in South Asia, Oxford University Press, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To show understanding of the idea of place and space and its relationship to city planning.
- To demonstrate the ability to comprehend the forces active in the formations and transformations of spaces with a particular emphasis on identity, colonization and neoliberalism.

Open Elective – II

Course Code:	BPOE 5.5
Course Title	**Open Elective – II**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Sustainable Cities and Regions

Course Objective:

The primary purpose of this subject is to understand urban sustainability, measures of sustainability, and elements and intersectionality of Sustainable Development Goals. The second objective focuses on effective governance in order to ensure sustainability of a city and a region.

Course Contents:

Unit 1: The Rise and fall of Urban Sustainability
Starting with Brundtland report, different perspectives on urban and regional sustainability; Economic development and sustainability; Healthy city; Dimensions and components of sustainable urban and regional development.

Unit 2: Planning and Measuring Sustainability
Elements of a new and improved paradigm of sustainability; Green cities, growing cities, just cities; Urban planning and the contradictions of sustainable development; Environmental justice and the sustainable city; Understanding urban and regional sustainability indicators; Sustainability assessment with a focus on community interests, etc.; Sustainability indicators used by a city of your choice.

Unit 3: Governance and Sustainability
Genesis, history, and limits of carrying capacity; Urban ecological footprints, planning with ecological footprints; Governance and local sustainability; Problematizing the politics of sustainability; New politics of sustainability fixes; Environment and the entrepreneurial city: searching for the urban 'sustainability fix'; Third wave sustainability; Sustainability schizophrenia or actually existing sustainability: toward a broader understanding of the politics and promise of local sustainability; Alternative routes to the sustainable city with examples.

Unit 4: Sustainable Development Goals
Understanding New Urban Agenda, Sustainable Development Goals, Paris Agreements; India's position of these global agreements; Industrial ecology, planning for eco-

industrial parks, drivers and limitations for the successful development and functioning of eco-industrial parks; SEZs, and development of ports, airports and road and rail based corridors.

Text Books and References:

1. Adriano, B., Daniele, V., Pierre, L., and Simona, C. (eds.) (2017) S*mart and Sustainable Planning for Cities and Regions: Results of SSPCR 2017*, Springer, Switzerland.
2. Barbara, N. (2019) *Sustainable Pathways for our Cities and Regions, Planning within Planetary Boundaries*, Routledge, New York.
3. Chapple, K. (2015) Planning Sustainable Cities and Regions: Towards More Equitable Development, Routledge, New York.
4. Hildebrand, F. and Paul, Y. (2007) *Visions of Sustainability: Cities and Regions*, Taylor and Francis, London.
5. Mcgranahan, G., Schensul, D. and Singh, G. (2016) Inclusive Urbanization: Can the 2030 Agenda be delivered without it, *Environment and Urbanization*, Vol. 28, No. 1, pp. 13-34.
6. Watson, V. (2016) Locating planning in the New Urban Agenda of the urban sustainable development goals, *Planning Theory*, Vol. 15, No. 4, pp. 435-448.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate knowledge and skills to plan for sustainable development of a city or a region.

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Open Elective – III

Course Code:	BPOE 6.6
Course Title	**Open Elective – III**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

City Planning and Development

Course Objective:

The primary objective of this subject is to expose students to theories of structure, form, and processes responsible for the growth of urban settlements, and also to comprehend approaches to making development plans.

Course Contents:

Unit 1: Urban Structure and Growth
Growth of cities; cities as engines of growth; Land values, economic attributes of location, economic forces in urban development; Structure of City Regions, area of influence, Impact of technology on urban forms; Transportation and urban form; location characteristics and impact of urban settlements.

Unit 2: Theories of Development and Emerging Concepts
Theories of urban structure and land use- Centre place theory, urban realm model, core frame theory; New urbanism; Territorial Development Theory - Growth pole theory, urban bias critique, secondary cities and urban diffusion; Emerging Rural Urban Relationship models – urban rural linkage, expanding city, globalisation and extended metropolitan region, Desakota model, Networked model; Territoriality of rural-urban interaction; Peri- urban Interface (PUI) case studies

Unit 3: Planning Norms and Standards and Plan Preparation Approaches
Spatial standards for residential, industrial, commercial , institutional, transport, ecological spaces , recreational areas etc.; space standards for facility areas, utilities and networks; performance standards; Approaches for preparation of Urban development plans, Master Plans, Structure plans and Strategy Plan; Public Participation and Plan Implementation; Techniques of urban renewal and redevelopment; System approach to planning; Threshold analysis, retail location and industrial location analysis; transport system analysis

Unit 4: Planning Approaches for Special Areas

Special area planning- definition, types, attributes, requirements, planning process; inner areas , peri-urban areas issues and planning approaches; Smart City – Concepts, Elements, Features, planning approach and strategies, policy efforts in India; Inclusive planning- Concept and components, essential dimensions of inclusive planning; growth of informal sector, characteristics, linkages with formal sector, Planning interventions, Inclusive zoning, development and building regulations, slum improvement;

Text Books and References:

1. Pacione, M. (2001) The Internal Structure of Cities in the Third World, *Geography,* Vol. 86, No. 3, pp. 189-209.
2. Pacione, M. (2013) *Problems and Planning in Third World Cities*, Routledge, New York.
3. Shatkin, G. (ed.) (2013) *Contesting the Indian City: Global Visions and the Politics of the Local*, Wiley, London.
4. Sivaramakrishnan, K. (2013) Re-visioning Indian Cities: The Urban Renewal Mission, Sage, New Delhi.
5. Vidyarthi, S., Mathur, S. and Agrawal, S. (2017) *Understanding India's New Approach to Spatial Planning and Development*, Oxford University Press, New Delhi.
6. Vidyarthi, S. (2019) Spatial plans in post-liberalization India: Who's making the plans for fast-growing Indian urban regions? *Journal of Urban Affairs*, pp. 1-18. DOI: 10.1080/07352166.2018.1527658
7. Wu, B.S. and Sui, d. (2015) Modelling Impacts of Globalization on Desakota Regions: A case study of Taipei Metropolitan Area, *Environment and Planning B: Planning and Design*, pp. 1-21, DOI: 10.1177/0265813515605216

Course Outcomes: Upon the completion of this course, the students would be able:

- To illustrate understanding of theories of structure, form, and processes responsible for the growth of urban settlements.
- To show the ability to comprehend approaches to making development plans.

Open Elective – IV

Course Code:	BPOE 7.6
Course Title	**Open Elective – IV**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Institutions and Planning

Course Objective:

This subject has two objectives. The first objective is to introduce students to the multiplicity and complexity of organizations involved in the planning and development of cities and towns.

Course Contents:

Unit 1: Nature of Planning Organizations

Forms and functions of planning agencies; Nature of involvement of planners in these agencies; Difference in the workings, roles and jurisdictions of development authorises in different states; Nature of planning organizations in the private sector and the third sector.

Unit 2: Multiplicity of Planning Organizations

Coordination and integration among planning agencies; Nature of conflicts and contestations among planning agencies; Joined up local government; Horizontal and vertical linkages among planning agencies; Convergence among planning agencies; Complications of organizational integration due to 73rd and 74th amendments to the Constitution of India.

Unit 3: Laws and Plans

A study of redevelopment related laws, rules and regulations; Nature of redevelopment development plans; Brownfields versus greenfield development; Roles and motivations of the private sector in redevelopment.

Unit 4: Redevelopment: Resettlement and Gentrification

Nature of redevelopment; Consequences of redevelopment; Evictions, displacements, resettlement and rehabilitation; Gentrification of urban areas.

Text Books and References:

1. Anjaria, J. S. and McFarlane, C. (eds.) (2011) *Urban Navigations, Politics, Space and the City in South Asia,* Routledge, London.

2. Bhan, G. (2009) 'This is no longer the city I once knew: evictions, the urban poor and the right to the city in millennial Delhi, *Environment and Urbanization*, Vol. 21, pp. 127–142.
3. Doshi, S. (2012) The Politics of the Evicted: Redevelopment, Subjectivity, and Difference in Mumbai's Slum Frontier, *Antipode*, https://doi.org/10.1111/j.1467-8330.2012.01023.x
4. Dupont, V. (2008) Slum demolitions in Delhi since the 1990s: An appraisal, *Economic and Political Weekly*, Vol. 43, No. 28, pp. 79–87.
5. Ghertner, D.A. (2011) Gentrifying the state, gentrifying participation: Elite governance programs in Delhi, *International Journal of Urban and Regional Research,* Vol. 35, No. 3, pp. 504-532.
6. Kidd, S. (2007) Towards a Framework of Integration in Spatial Planning: An Exploration from a Health Perspective. *Planning Theory and Practice*, Vol. 8, No. 2, pp. 161-181.
7. Kumar, A. (2000) Some Problems in the Co-ordination of Planning: Managing Interdependencies in the Planning of Delhi, India, *Space and Polity*, Vol. 4, Issue 2, pp. 167-185.
8. Kumar, A., Vidyarthi, S. and Prakash, P. (2021) *City Planning in India, 1947 – 2017,* Routledge, New York.
9. Rao, N. (2007) *Cities in Transition, Growth, Change and Governance in Six Metropolitan Areas*, Routledge, London.
10. Rademacher, A. and Sivaramakrishnan, K. (2013) *Ecologies of Urbanism in India: Metropolitan Civility and Sustainability*, Hong Kong University Press, Hong Kong.
11. Shatkin, G. (ed.) (2013) *Contesting the Indian City: Global Visions and the Politics of the Local*, Wiley, London.
12. Sivaramakrishnan, K.C. (2015) *Governance of Megacities: Fractured Thinking and Fragmented Setup*, Oxford University Press, New Delhi.

Course Outcomes: Upon the completion of this course, the students would be able:

- To demonstrate critical knowledge about the working of planning and development organizations including the ones involved in redevelopment.

Open Elective – V

Course Code:	BPOE 8.5
Course Title	**Open Elective - V**
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	150 Marks

Urban Governance and Management

Course Objective:

As urban areas grow (area and population), complexity increases leading to creation of several major governance challenges facing these cities. On the top of it, the number of metropolitan cities is consistently increasing in India. Effective governance becomes a crucial issue for policy makers and planners. In this vein of thinking, the chief objective of this course is to teach effective governance and management of large cities by focussing on enhancing capacities of institutions and better administration of land assembly.

Course Contents:

Unit 1: Concepts of Management and Urban Management
Definition of management; Decision Making: definition, features, factors, theories of decision making, essentials and hindrances in sound decision-making; decision makers and decision making bodies related to urban and regional planning at national, state and local level, Coordination, Importance of communications; elements, types, features and essentials of effective communications; Difference between public administration and urban management.

Unit 2: Institutional framework and Devolution of local government
Existing institutional and organizational framework for urban management in India; Distribution of responsibilities and activities among different levels as government and their special purpose bodies in the urban field; 74th CAA; concept of political, administrative and fiscal devolution; Types of local governments in India, organization including deliberative and executive wings, powers and functions, resources, state supervision control and conditions of their working; Improvement trusts, city and metropolitan development authorities: organization, scope of their powers and functions, and operational arrangements; Roles and responsibilities of other parastatal bodies in water and sewerage boards, slum authorities, public transport corporations, etc.

Unit 4: Urban Governance
Shift from urban management to urban governance; concepts and definitions; principles of good urban governance – participation, equity, efficiency, transparency and accountability, responsiveness, security, etc.; Indicators of good urban governance; good governance and planning; First and second generation reforms innovation in urban management, Good Governance Index, Citizens' Charter, Service Level Benchmarking, Report Card System, Social Audit, Corporatization of Municipal Services, etc.

Unit 5: Land Assembly and Administration
Models of land assembly and national and international cases; Bulk acquisition, land reconstitution, land administration, methods of land records in rural and urban areas; Organisations responsible for land records and land assembly; Examples from different parts of the country.

Text Books and References:

1. Baud, I.S.A. and de Wit, J. (eds.) (2008) *New Forms of Urban Governance in India: Shifts, models, networks and contestations*, Sage, New Delhi.
2. Evenson, N. (1989) *Indian Metropolis: A View toward the West*, Yale University Press, Yale.
3. Jenkins, R., Kennedy, L., Mukhopadhyay, P., and Pradhan, K. (2015) Special Economic Zones in India: Interrogating the Nexus of Land, Development and Urbanization. *Environment and Urbanization Asia*, Vol. 6, No. 1, pp. 1–17.
4. Pinto, M.R. (2000) *Metropolitan City Governance in India*, Sage, New Delhi.
5. Rao, N. (2007) *Cities in Transition, Growth, Change and Governance in Six Metropolitan Areas*, Routledge, London.
6. Ruet, J. and Lama-Rewal, S.T. (eds.) (2009) *Governing India's Metropolises: Case Studies of Four Cities*, Routledge, New York.
7. Rao, P.S.N. (2006). Urban Governance and Management in India, Kanishka Publishers, New Delhi.
8. Shatkin, G. (ed.) (2013) *Contesting the Indian City: Global Visions and the Politics of the Local*, Wiley, London.
9. Seshadri, T. (2012) An Analysis of the Feasibility of Private Land Assembly for Special Economic Zones in India, *Urban Studies*, Vol. 49, No. 10, pp. 2285-2300.
10. Sivaramakrishnan, K. (2013) *Revisiting the 74th Constitutional Amendment for Better Metropolitan Governance*, Economic and Political Weekly, Vol. 31, No. 13, pp. 86–94.
11. Sivaramakrishnan, K.C. and Maiti, A. (2009) *Metropolitan Governance in India: An Overview of Selected Cities*, East West Center, Honolulu.

Course Outcomes: Upon the completion of this course, the students would be able:
- To demonstrate knowledge about the foundational ideas of urban governance including techniques and parameters of effective governance and management of large cities.
- To make proposals for enhancing organizational capacities including better administration of land assembly.

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Appendix – III

Induction Program

Appendix – III: Induction Program

1. Introduction

(*Induction Program was discussed and approved for all colleges by AICTE in March 2017. It was discussed and accepted by the Council of IITs for all IITs in August 2016. It was originally proposed by a Committee of IIT Directors and accepted at the meeting of all IIT Directors in March 2016.*[1] *This guide has been prepared based on the Report of the Committee of IIT Directors and the experience gained through its pilot implementation in July 2016 as accepted by the Council of IITs. Purpose of this document is to help institutions in understanding the spirit of the accepted Induction Program and implementing it.)*

Engineering colleges were established to train graduates well in the branch/department of admission, have a holistic outlook, and have a desire to work for national needs and beyond.

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

There is a mad rush for engineering today, without the student determining for himself his interests and his goals. This is a major factor in the current state of demotivation towards studies that exists among UG students.

The success of gaining admission into a desired institution but failure in getting the desired branch, with peer pressure generating its own problems, leads to a peer environment that is demotivating and corrosive. Start of hostel life without close parental supervision at the same time, further worsens it with also a poor daily routine.

To come out of this situation, a multi-pronged approach is needed. One will have to work closely with the newly joined students in making them feel comfortable, allow them to explore their academic interests and activities, reduce competition and make them work for excellence, promote bonding within them, build relations between teachers and students, give a broader view of life, and build character.

[1] *A Committee of IIT Directors was setup in the 152nd Meeting of IIT Directors on 6th September 2015 at IIT Patna, on how to motivate undergraduate students at IITs towards studies, and to develop verbal ability. The Committee submitted its report on 19th January 2016. It was considered at the 153rd Meeting of all IIT Directors at IIT Mandi on 26 March 2016, and the accepted report came out on 31 March 2016. The Induction Program was an important recommendation, and its pilot was implemented by three IITs, namely, IIT(BHU), IIT Mandi and IIT Patna in July 2016. At the 50th meeting of the Council of IITs on 23 August 2016, recommendation on the Induction Program and the report of its pilot implementation were discussed and the program was accepted for all IITs.*

2. Induction Program

When new students enter an institution, they come with diverse thoughts, backgrounds and preparations. It is important to help them adjust to the new environment and inculcate in them the ethos of the institution with a sense of larger purpose. Precious little is done by most of the institutions, except for an orientation program lasting a couple of days.

We propose a 3-week long induction program for the UG students entering the institution, right at the start. Normal classes start only after the induction program is over. Its purpose is to make the students feel comfortable in their new environment, open them up, set a healthy daily routine, create bonding in the batch as well as between faculty and students, develop awareness, sensitivity and understanding of the self, people around them, society at large, and nature.[2]

The time during the Induction Program is also used to rectify some critical lacunas, for example, English background, for those students who have deficiency in it.

The following are the activities under the induction program in which the student would be fully engaged throughout the day for the entire duration of the program.

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[2]*Induction Program as described here borrows from three programs running earlier at different institutions: (1) Foundation Program running at IIT Gandhinagar since July 2011, (2) Human Values course running at IIIT Hyderabad since July 2005, and (3) Counselling Service or mentorship running at several IITs for many decades. Contribution of each one is described next.*

IIT Gandhinagar was the first IIT to recognize and implement a special 5-week Foundation Program for the incoming 1st year UG students. It took a bold step that the normal classes would start only after the five week period. It involved activities such as games, art, etc., and also science and other creative workshops and lectures by resource persons from outside.

IIIT Hyderabad was the first one to implement a compulsory course on Human Values. Under it, classes were held by faculty through discussions in small groups of students, rather than in lecture mode. Moreover, faculty from all departments got involved in conducting the group discussions under the course. The content is non-sectarian, and the mode is dialogical rather than sermonising or lecturing. Faculty were trained beforehand, to conduct these discussions and to guide students on issues of life.

Counselling at some of the IITs involves setting up mentor-mentee network under which 1st year students would be divided into small groups, each assigned a senior student as a student guide, and a faculty member as a mentor. Thus, a new student gets connected to a faculty member as well as a senior student, to whom he/she could go to in case of any difficulty whether psychological, financial, academic, or otherwise.
The Induction Program defined here amalgamates all the three into an integrated whole, which leads to its high effectiveness in terms of building physical activity, creativity, bonding, and character. It develops sensitivity towards self and one's relationships, builds awareness about others and society beyond the individual, and also in bonding with their own batch-mates and a senior student besides a faculty member.

Scaling up the above amalgamation to an intake batch of 1000 plus students was done at IIT(BHU), Varanasi starting from July 2016.

2.1. Physical Activity

This would involve a daily routine of physical activity with games and sports. It would start with all students coming to the field at 6 am for light physical exercise or yoga. There would also be games in the evening or at other suitable times according to the local climate. These would help develop team work. Each student should pick one game and learn it for three weeks. There could also be gardening or other suitably designed activity where labour yields fruits from nature.

2.2. Creative Arts

Every student would choose one skill related to the arts whether visual arts or performing arts. Examples are painting, sculpture, pottery, music, dance etc. The student would pursue it every day for the duration of the program.
These would allow for creative expression. It would develop a sense of aesthetics and also enhance creativity which would, hopefully, flow into engineering design later.

2.3. Universal Human Values

It gets the student to explore oneself and allows one to experience the joy of learning, stand up to peer pressure, take decisions with courage, be aware of relationships with colleagues and supporting staff in the hostel and department, be sensitive to others, etc. Need for character building has been underlined earlier. A module in Universal Human Values provides the base.

Methodology of teaching this content is extremely important. It must not be through do's and don'ts, but get students to explore and think by engaging them in a dialogue. It is best taught through group discussions and real life activities rather than lecturing. The role of group discussions, however, with clarity of thought of the teachers cannot be over emphasized. It is essential for giving exposure, guiding thoughts, and realizing values.
The teachers must come from all the departments rather than only one department like HSS or from outside of the Institute. Experiments in this direction at IIT(BHU) are noteworthy and one can learn from them.[3]

Discussions would be conducted in small groups of about 20 students with a faculty mentor each. It is to open thinking towards the self. Universal Human Values discussions could even continue for rest of the semester as a normal course, and not stop with the induction program.

Besides drawing the attention of the student to larger issues of life, it would build relationships between teachers and students which last for their entire 4-year stay and possibly beyond.

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[3]The Universal Human Values Course is a result of a long series of experiments at educational institutes starting from IIT-Delhi and IIT Kanpur in the 1980s and 1990s as an elective course, NIT Raipur in late 1990s as a compulsory one-week off campus program. The courses at IIT(BHU) which started from July 2014, are taken and developed from two compulsory courses at IIIT Hyderabad first introduced in July 2005.

2.4. Literary

Literary activity would encompass reading, writing and possibly, debating, enacting a play etc.

2.5. Proficiency Modules

This period can be used to overcome some critical lacunas that students might have, for example, English, computer familiarity etc. These should run like crash courses, so that when normal courses start after the induction program, the student has overcome the lacunas substantially. We hope that problems arising due to lack of English skills, wherein students start lagging behind or failing in several subjects, for no fault of theirs, would, hopefully, become a thing of the past.

2.6. Lectures by Eminent People

This period can be utilized for lectures by eminent people, say, once a week. It would give the students exposure to people who are socially active or in public life.

2.7. Visits to Local Area

A couple of visits to the landmarks of the city, or a hospital or orphanage could be organized. This would familiarize them with the area as well as expose them to the under privileged.

2.8. Familiarization to Dept./Branch & Innovations

The students should be told about different method of study compared to coaching that is needed at IITs. They should be told about what getting into a branch or department means what role it plays in society, through its technology. They should also be shown the laboratories, workshops & other facilities.

3. Schedule

The activities during the Induction Program would have an Initial Phase, a Regular Phase and a Closing Phase. The Initial and Closing Phases would be two days each.

3.1. Initial Phase

Day	Time	Activity
Day 0	Whole Day	Students Arrive – Hostel Allotment (Preferably do pre-allotment)
Day 1	09:00 AM – 03:00 PM	Academic Registration
	04:30 PM – 06:00 PM	Orientation
Day 2	09:00 AM – 10:00 AM	Diagnostic test (for English etc.)
	10:00 AM – 12:25 PM	Visit to respective depts.
	12:30 PM – 01:55 PM	Lunch

	02:00 PM – 02:55 PM	Director's address
	03:00 PM – 03:30 PM	Interaction with parents
	03:30 PM – 05:00 PM	Mentor-Mentee Groups - Introduction within group. (Same as Universal Human Values Group)

3.2. Regular Phase

After two days is the start of the Regular Phase of Induction. With this phase there would be regular program to be followed every day.

3.2.1. Daily Schedule

Some of the activities are on a daily basis, while some others are at specified periods within the Induction Program. We first show a typical daily timetable.

DAY 3 Onwards

Session	Time	Activity	Remarks
	06:00 AM	Wake up Call	
I	06:30 AM – 07:10 AM	Physical Activity (Mild Exercise / Yoga)	
	07:15 AM – 08:55 AM	Bath, Breakfast etc.	
II	09:10 AM – 10:55 AM	Creative Arts / Universal Human Values	Half the groups do creative arts
III	11:00 AM – 12:55 PM	Creative Arts / Universal Human Values	Complementary Alternate Groups
	01:00 PM – 02:25 PM	Lunch	
IV	02:30 PM – 03:55 PM	Afternoon Session	See below
V	04:00 PM – 05:00 PM	Afternoon Session	See below
	05:00 PM – 05:25 PM	Break / Light Tea	
VI	05:30 PM – 06:45 PM	Games / Special Lectures	
	06:50 PM – 08:25 PM	Rest and Dinner	
VII	08:30 PM – 09:25 PM	Informal Interactions (In hostels)	

Sundays are off. Saturdays have the same schedule as above or have outings.

3.2.2. Afternoon Activities (Non-Daily)

The following five activities are scheduled at different times of the Induction Program, and are not held daily for everyone:

1. Familiarization to Dept./Branch & Innovations
2. Visits to Local Area
3. Lectures by Eminent People
4. Literary
5. Proficiency Modules

Here is the approximate activity schedule for the afternoons (may be changed to suit local needs):

Session	Activity	Remarks
IV	Familiarization with Dept./Branch & Innovations	For 3 Days (Day 3 to Day 5)
IV, V and VI	Visit to Local Area	For 3 Days – interspersed (e.g. Saturdays)
IV	Lectures by Eminent People	As scheduled 3-5 lectures
IV	Literary (Play / Literature / Book Reading)	For 3-5 Days
V	Proficiency Modules	Daily, but only for those who need it.

3.3. Closing Phase

Day	Time	Activity
Last But One Day	08:30 AM – 12:00 PM	Discussions and finalization of presentation within each group
	02:00 AM -05:00 PM	Presentation by each group in front of 4 other groups besides their own (about 100 students)
Last Day	Whole Day	Examinations (if any). May be extended to last 2 days, in case needed.

3.4. Follow Up after Closure

A question comes up as to what would be the follow up program after the formal 3-week Induction Program is over? The groups which are formed should function as mentor-mentee network. A student should feel free to approach his faculty mentor or the student guide, when facing any kind of problem, whether academic or financial or psychological etc. (For every 10 undergraduate first year students, there would be a senior student as

a student guide, and for every 20 students, there would be a faculty mentor.) Such a group should remain for the entire 4-5-year duration of the stay of the student. Therefore, it would be good to have groups with the students as well as teachers from the same department/discipline[4].

Here we list some important suggestions which have come up and which have been experimented with:

3.4.1. Follow Up after Closure – Same Semester

It is suggested that the groups meet with their faculty mentors once a month, within the semester after the 3-week Induction Program is over. This should be a scheduled meeting shown in the timetable. (The groups are of course free to meet together on their own more often, for the student groups to be invited to their faculty mentor's home for dinner or tea, nature walk, etc.)

3.4.2. Follow Up – Subsequent Semesters

It is extremely important that continuity be maintained in subsequent semesters.
It is suggested that at the start of the subsequent semesters (up to fourth semester), three days be set aside for three full days of activities related to follow up to Induction Program. The students be shown inspiring films, do collective art work, and group discussions be conducted. Subsequently, the groups should meet at least once a month.

4. Summary

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

The graduating student must have values as a human being, and knowledge and meta-skills related to his/her profession as an engineer and as a citizen. Most students who get demotivated to study engineering or their branch, also lose interest in learning.

The Induction Program is designed to make the newly joined students feel comfortable, sensitize them towards exploring their academic interests and activities, reducing competition and making them work for excellence, promote bonding within them, build relations between teachers and students, give a broader view of life, and building of character.

The Universal Human Values component, which acts as an anchor, develops awareness and sensitivity, feeling of equality, compassion and oneness, draw attention to society and nature, and character to follow through. It also makes them reflect on their relationship with their families and extended family in the college (with hostel staff and others). It also connects students with each other and with teachers so that they can share any difficulty they might be facing and seek help.

References:

Motivating UG Students Towards Studies, Rajeev Sangal, IITBHU Varanasi, Gautam Biswas, IIT Guwahati, Timothy Gonsalves, IIT Mandi, Pushpak Bhattacharya, IIT Patna, (Committee of IIT Directors).
31 March 2016, IIT Directors' Secretariat, IIT Delhi.

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