

UNIVERSITY OF MYSORE
Estd. 1916



Vishwavidyalaya Karyasoudha
Crawford Hall, Mysuru- 570 005

No.AC2(S)/319/2023-24

Dated: 20.07.2024

Notification

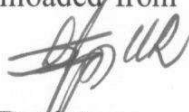
Sub:- Revision of the Syllabus and Scheme of Examinations of B.Tech. in Urban and Regional Planning (UG) programme from the Academic Year 2024-25

- Ref:-**1. Decision of Board of Studies in Urban and Regional Planning (CB) meeting held on 07-06-2024.
2. Decision of the Faculty of Science & Technology meeting held on 19-06-2024.
3. Decision of the Academic Council meeting held on 28-06-2024.

The Board of Studies in Urban and Regional Planning (CB) which met on 07-06-2024 has resolved to recommend & approved the revision of Syllabus and Scheme of examinations of B.Tech. in Urban and Regional Planning (UG) with effect from the Academic year 2024-25

The Faculty of Science & Technology and Academic Council at their meetings held on 19-06-2024 and 28-06-2024 respectively has also approved the above said revised Syllabus and Scheme of examinations hence it is hereby notified.

The Syllabus and Scheme of Examinations content may be downloaded from the University Website i.e., www.uni-mysore.ac.in.


Registrar

Registrar
University of Mysore
Mysore

To:

1. All the Principal of affiliated Colleges of University of Mysore, Mysore.
2. The Registrar (Evaluation), University of Mysore, Mysuru.
3. The Director, BOS/DOS in School of Planning & Architecture, Manasagangothri, Mysore.
4. The Dean, Faculty of Science & Technology, DOS in Mathematics, MGM.
5. The Director, Distance Education Programme, Moulya Bhavan, Manasagangothri, Mysore.
6. The Director, PMEB, Manasagangothri, Mysore.
7. Director, College Development Council, Manasagangothri, Mysore.
8. The Deputy Registrar/Assistant Registrar/Superintendent, Administrative Branch and Examination Branch, University of Mysore, Mysuru.
9. The PA to Vice-Chancellor/ Registrar/ Registrar (Evaluation), University of Mysore, Mysuru.
10. Office Copy.



B.TECH. PLANNING *(Four years -Semester Scheme under CBCS in line with NEP -2020 -ITPI, New Delhi)*

Program Details

Name of the Department	: School of Planning and Architecture
Name of the Program	: B.Tech. Planning
Faculty	: Faculty of Science and Technology
Duration of the course	: 4 Years semester scheme

1.0. PREAMBLE

The undergraduate program in planning namely B.Tech Planning course has been offered by the School of Planning and Architecture, Mysore (SPAM) since the Academic Year 2017-18 in response to the growing demand for qualified planners in consonance with the accelerating pace of urbanization within the country.

The NEP, 2020 has come up in an apt time to bring in the reforms by revamping the planning education system in the country. The Institute of Town Planners, India (ITPI), New Delhi is the recognition body for the Planning Courses in the entire country. The ITPI has come up with report of '***Orienting Planning Education in Line with NEP, 2020***'. The curriculum for the program has been designed to impart such basic skills that would help students later in their careers to serve in various professional capacities in planning, development and management agencies in the public sector as well as private consultancy organizations.

This course structure has been adopted from the report, '***Orienting Planning Education in Line with NEP, 2020***' suggested by the ITPI, New Delhi and ***Model curriculum of Bachelor of Planning -2023*** prescribed by the AICTE, New Delhi.

2.0. Eligibility conditions for UG Programme

UG (Four Years) Program: All candidates should have passed Senior Secondary Examination (12th grade from Science Stream) with Physics and Mathematics as compulsory subjects with at least 45% marks in aggregate along with the optional subjects. In case of candidates belonging to SC, ST & OBC, the minimum marks for the purpose of eligibility will be at least 40% of marks in aggregate along with optional subjects in the qualifying examinations.

3.0. Awarding the Certificate, Diploma and Degree for the UG Program.

The following awards and exits are proposed by the University Grants Commission through its publication 'Curriculum and Credit Framework for Undergraduate Programs, 2022'.

- a. **UG Certificate:** Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a UG certificate if, in addition, they complete internship/ research internship of 4 credits during the summer vacation after the second semester in first year. These students are allowed to re-enter the degree program within three years and complete the degree program within the stipulated maximum period of seven years (ITPI).
- b. **UG Diploma:** Students who opt to exit after completion of the second year and have secured 80 credits will be awarded the UG diploma if, in addition, they complete internship/ research internship of 4 credits during the summer vacation after the fourth semester. These students are allowed to re-enter the program within a period of three years and complete it within the stipulated maximum period of seven years.
- c. **3-years UG Degree Program:** Students who wish to undergo a 3-years UG program will be awarded a UG Degree in the major discipline after successful completion of three years, securing 120 credits and satisfying the minimum credit requirement. Such candidates need to complete internship/ research internship of 4 credits during the summer vacation of the fourth semester in the second year, which is evaluated in the fifth Semester in the third year.
- d. **4-years UG Degree (Honours) Program:** A four-year UG (Honours) degree in the major discipline will be awarded to those students who complete a four-year degree programme with 160 credits.
- e. **4-years UG Degree (Honours with Research) Program:** Students who secure 75% marks (CGPA 7.5) and above in the first six semesters of the program and wish to undertake research at the UG level can choose a research stream in the fourth year. They should take up a research project-planning thesis under the guidance of a faculty member of the University/ College. The research project/ dissertation will be in the major discipline.

The minimum credits requirements for different categories of courses for the 3-years UG and 4-years UG (Honours) or UG (Honours with Research) programs will be as proposed by UGC. In light of the NEP, 2020 and proposed structure of UGC, the total number of credits earned out of the four year UG program has been proposed to be 160 at 40 credits per year.

4.0. Promotion to Higher Semester and Entry/Exit options as per the ordinances of the University of Mysore

5.0 Marking and Grading System: As per the CBCS regulation of University of Mysore, Mysuru

B.TECH. PLANNING

SYLLABUS FOR THE BATCH 2024- 25 (CHOICE BASED CREDIT SYSTEM)

(SEMESTER: I-VIII)

The degree is offered under Bachelor of Technology (B.Tech.) Planning (4 years duration)

Program Structure and Credit System

Si no	Category of Course	Breakup of Credits
1	Major Core (MC)	85
2	Minor Stream (MS)	36
3	Multi Disciplinary (MD)	09
4	Ability Enhancement Course (AEC)	08
5	Skill Enhancement Course (SEC)	09
6	Value Added Course (VAC)	6
7	Internship Training (IT)	4
8	Planning Thesis (PT)	8
	Total	165

Abbreviations: Major Core (MC), Minor Stream (MS), Multi Disciplinary (MD), Ability Enhancement Course (AEC), Skill Enhancement Course (SEC), Value Added Course (VAC), Internship Training (IT) and Planning Thesis (PT)

Semester	Credits & Marks	Theory	Planning Studio (Practical)	Thesis	Internship	Total
I SEMESTER	Credits	16	04	-	-	20
	Marks	600	200	-	-	800
II SEMESTER	Credits	16	05	-	-	21
	Marks	600	300	-	-	900
III SEMESTER	Credits	15	05	-	-	20
	Marks	600	300	-	-	900
IV SEMESTER	Credits	12	08	-	-	20
	Marks	500	400	-	-	900
V SEMESTER	Credits	12	08	-	04	24
	Marks	500	400	-	100	1000
VI SEMESTER	Credits	12	08	-	-	20
	Marks	500	400	-	-	900
VII SEMESTER	Credits	12	08	-	-	20
	Marks	500	400	-	-	900
VIII SEMESTER	Credits	12	-	08	-	20
	Marks	500	-	400	-	900
Total Credits		107	46	08	04	165
Total Marks		4300	2400	400	100	7200

L- Lecture: 1 Hour Lecture (L) per week 1 Credit

T- Tutorial: 1 Hour Tutorial (T) per week 1 Credit

P- Practical: 1 hour Practical (P) per week 0.5 Credit/ 2 Hours Practicals per week 1 Credit

PROGRAMME STRUCTURE AND CREDIT SYSTEM FOR B.TECH. PLANNING -4 YEARS DURATION

SEMESTER - I (ODD)

UG Certificate course in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC1.1	Fundamentals of Urban and Regional Planning	MC	2	1	0	50	50	0	100	3
	BPMS 1.2	Techniques of Planning -I	MS	2	0	0	50	50	0	100	2
	BPMD1.3	Introduction to Social Sciences	MD*	3	0	0	50	50	0	100	3
	BPSE1.4	Quantitative and Qualitative Methods for Planning	SE	2	1	0	50	50	0	100	3
	BPVA1.5	Environmental Studies	VA	2	1	0	50	50	0	100	3
	BPAE1.6	Communication and Writing Skills	AE	2	0	0	50	50	0	100	2
	BPMC1.7	Planning Studio - I: Map Graphics and Presentation Techniques	MC	0	0	8	0	100	100	200	4
TOTAL				13	3	08	300	400	100	800	20

* BPMD1.3 (MD) Multi Disciplinary Course Student may opt a credit based undergraduate course from any department of the University/ The courses offered by SWAYAM/ NPTEL programmes of minimum 3 credits.

Note: Internship Training to be undertaken during the summer vacations for 6 weeks after the second semester by the student who opts to exit after the 2nd semester. Its credits will be added over and above the total credits of the 2nd semester

SEMESTER - II (EVEN)

UG Certificate course in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC2.1	History of Settlement and Planning	MC	2	1	0	50	50	0	100	3
	BPMS 2.2	Surveying and Photogrammetry	MS	2	0	0	50	50	0	100	2
	BPMD2.3	Fundamentals of Architecture and Building Construction	MD*	2	1	0	50	50	0	100	3
	BPVA2.4	Human Rights and Constitutional Duties	VA	2	1	0	50	50	0	100	3
	BPSE2.5	Introduction to GIS and Computer Fundamental	SE	3	0	0	50	50	0	100	3
	BPAE2.6	Elements of Economics	AE	2	0	0	50	50	0	100	2
	BPMC2.7	Planning Studio - II: Area Appreciation (Urban and Rural)	MC	0	0	10	0	150	150	300	5
TOTAL				13	3	10	300	450	150	900	21
Internship Training to be undertaken during the summer vacations for 6 weeks after the second semester by the student who opts to exit after the 2 nd semester. Its credits will be added over and above the total credits of the 2nd semester			IT	4	0	0	0	100	0	100	4

*BPMD2.3 (MD) Multi Disciplinary Course Student may opt a credit based undergraduate course from any department of the University/ The courses offered by SWAYAM/ NPTEL programmes of minimum 3 credits

SEMESTER - III (ODD)

UG Diploma in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC3.1	Planning Theory	MC	3	0	0	50	50	0	100	3
	BPMS 3.2	Planning for Utilities	MS	2	0	0	50	50	0	100	2
	BPMS3.3	Techniques of Planning -II	MS	2	0	0	50	50	0	100	2
	BPMD3.4	Transportation Engineering	MD	3	0	0	50	50	0	100	3
	BPSE3.5	Spatial Data Infrastructure for Planning	SE	2	1	0	50	50	0	100	3
	BP AE3.6	Demography	AE	2	0	0	50	50	0	100	2
	BPMC3.7	Planning Studio-III: Neighborhood and Site Planning	MC	0	0	10	0	150	150	300	5
TOTAL				14	1	10	300	450	150	900	20

* BPMD3.4 (MD) Multi Disciplinary Course Student may opt a credit based undergraduate course from any department of the University/ The courses offered by SWAYAM/ NPTEL programmes of minimum 3 credits

Note: Internship Training (to be undertaken during the summer vacations for 6 weeks after the fourth semester by the student who opts to exit after the fourth semester. Its credits will be added over and above the total credits of the Fourth semester

SEMESTER - IV (EVEN)

UG Diploma in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC4.1	Transportation Planning - I	MC	2	1	0	50	50	0	100	3
	BPMC4.2	Housing	MC	2	1	0	50	50	0	100	3
	BPMS4.3	Ecology and Resources Planning	MS	2	0	0	50	50	0	100	2
	BPMS4.4	Geo-Informatics and Data Analytics	MS	2	0	0	50	50	0	100	2
	BPAE4.5	Applied Geology and Hydrology	AE	2	0	0	50	50	0	100	2
	BPMC4.6	Planning Studio-IV: Land Use and Transportation Planning	MC	0	2	12	0	200	200	400	8
TOTAL				10	4	12	250	450	200	900	20
Internship Training to be undertaken during the summer vacations for 6 weeks after the second semester by the student who opts to exit after the 4 th semester. Its credits will be added over and above the total credits of the 4 th semester			IT	4	0	0	0	100	0	100	4

Note: Students will undergo professional training in planning related organizations (Public / Private) for 8 weeks. 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 -V (ODD)

UG Degree in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC5.1	Transportation Planning - II	MC	2	1	0	50	50	0	100	3
	BPMC5.2	Regional Planning	MC	2	1	0	50	50	0	100	3
	BPMS5.3	Land Economics and Real Estate Management	MS	2	0	0	50	50	0	100	2
	BPMS5.4	City Design and Aesthetics	MS	2	0	0	50	50	0	100	2
	BPMS5.5	Climate Change and Sustainable Development	MS	2	0	0	50	50	0	100	2
	BPMC5.6	Planning Studio- Master Plan/ Development Plan	MC	0	2	12	0	200	200	400	8
	BPMC5.7	Internship Training	IT	0	0	0	0	100	0	100	4
TOTAL				10	4	12	250	550	200	1000	24

SEMESTER- VI (EVEN)

UG Degree in Planning	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC6.1	Planning Legislation	MC	2	1	0	50	50	0	100	3
	BPMC6.2	Rural Habitat Planning	MC	2	1	0	50	50	0	100	3
	BPMS6.3	Urban Governance and Plan Implementation	MS	2	0	0	50	50	0	100	2
	BPMS6.4	Specifications, Estimation and Valuation	MS	2	0	0	50	50	0	100	2
	BPMS6.5.1	Planning for Informal Sector and Urban Poor (Elective)	MS	2	0	0	50	50	0	100	2
	BPMS6.5.2	Disaster Risk Mitigation and Management (Elective)									
	BPMC6.6	Planning Studio - VI ; Regional Plan	MC	0	2	12	0	200	200	400	8
TOTAL				10	4	12	250	450	200	900	20

SEMESTER -VII (ODD)

UG Degree in Planning (Honours with Research)	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC7.1	Research Methodology	MC	2	1	0	50	50	0	100	3
	BPMC7.2	Project Formulation, Appraisal and Management	MC	2	1	0	50	50	0	100	3
	BPMS7.3	Metropolitan Planning, Development and Management	MS	2	0	0	50	50	0	100	2
	BPMS7.4	Urban Finance	MS	2	0	0	50	50	0	100	2
	BPMS7.5.1	Infrastructure Planning, Development and Management (Elective)	MS	2	0	0	50	50	0	100	2
	BPMS7.5.2	Rural Development and Management (Elective)									
	BPMC7.6	Planning Studio VII: Detailed Project Report	MC	0	2	12	0	200	200	400	8
TOTAL				10	4	12	250	450	200	900	20

SEMESTER- VIII (EVEN)

UG Degree in Planning (Honours with Research)	Course Code	Course Title	Nature	L	T	P	ESE	IA	EJ	Total	Credits
	BPMC8.1	Professional Practice and Ethics	MC	2	1	0	50	50	0	100	3
	BPMC8.2	Urban Management	MC	2	1	0	50	50	0	100	3
	BPMS8.3	Public Policy	MS	2	0	0	50	50	0	100	2
	BPMS8.4	Urban Renewal and Conservation	MS	2	0	0	50	50	0	100	2
	BPMS8.5.1	Landscape Planning and Design (Elective)	MS	2	0	0	50	50	0	100	2
	BPMS8.5.2	Environmental Impact Assessment (Elective)									
	BPMC8.6	Planning Studio VIII- Planning Thesis	MS	0	2	12	0	200	200	400	8
TOTAL				10	4	12	250	450	200	900	20

SEMESTER - I (ODD)

Course Code	BPMC1.1
Course Title	Fundamentals of Urban and Regional Planning
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

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

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. and To develop knowledge of 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 Code	BPMS 1.2
Course Title	Techniques of 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:

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 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 report

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 Code	BPMD1.3
Course Title	Introduction to Social Sciences
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 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 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.

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. 41
6. Short, J.R. (2016) *An Introduction to Political Geography*, Routledge, New York.

Course Code	BPSE1.4
Course Title	Quantitative and Qualitative Methods for Planning
No. of Credits	3 (L: 3; T: 0; 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 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.

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 Code	BPVA1.5
Course Title	Environmental Studies
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives:

At the end of this course, the students should be able to understand the scope and importance of environmental studies, different natural resources (forests, minerals, energy, water, land, food, biodiversity) and their utilization.

Course Outcomes:

- The present subject will help the student to gain knowledge about the effects of environmental pollution and remediation.
- The knowledge on environmental protection Acts and Rules towards conservation of environment.

Course Contents:

Unit 1 : Multidisciplinary nature of environmental studies

Definition, scope and importance, Need for public awareness; **Natural Resources: Renewable and non-renewable resources:** Natural resources, Water resources, Mineral Resources, Energy Resources and its associated problems, Use and exploitation, environmental effects of extracting and using mineral resources; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles, case studies.

Unit 2 : Ecosystems

Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers; Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids; Introduction, types, characteristic features, structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries).

Unit 3: Biodiversity and its conservation

Introduction, Definition, species and ecosystem diversity; Bio-geographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values; Biodiversity at global, national and local levels ; India as a mega-diversity nation

Unit 4 : Case Studies

Case study on local polluted site – Urban / Rural / Industrial / Agricultural; Study of common plants, insects, birds; Study of simple ecosystems-pond, river, hill slopes, etc

References:

1. Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.
2. Down to Earth, Centre for Science and Environment, New Delhi.
3. Heywood, V.H. &Waston, R.T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.
4. Joseph, K. &Nagendran, R. 2004. Essentials of Environmental Studies, Pearson Education (Singapore) Pte. Ltd., Delhi.
5. Kaushik, A. & Kaushik, C.P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.
6. Rajagopalan, R. 2011. Environmental Studies from Crisis to Cure. Oxford University Press, New Delhi.

7. Sharma, J. P., Sharma. N.K. &Yadav, N.S. 2005. Comprehensive Environmental Studies, Laxmi Publications, New Delhi.
8. Sharma, P. D. 2009. Ecology and Environment, Rastogi Publications, Meerut.
9. State of India's Environment 2018 by Centre for Sciences and Environment, New Delhi
10. Subramanian, V. 2002. A Text Book in Environmental Sciences, Narosa Publishing House, New Delhi

Course Code	BPAE1.6
Course Title	Communication and Writing Skills
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 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 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.

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, summarizing 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 4: 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 Code	BPMC1.7
Course Title	Map Graphics and Presentation Techniques
No. of Credits	4 (L: 0; T: 0; P: 8)
Internal Assessment	100 Marks
End Semester Assessment	100 Marks
Total Assessment Marks	200 Marks

Planning Studio - I (Map Graphics and Presentation Techniques)

Unit 1: Drawing Equipments and Mediums

Introduction to drawing equipments and mediums, Graphic presentation of statistical data; Appreciation of Logo design and visual presentation.

Unit 2: Shapes and Forms

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

Unit 3: Composition of Drawings : Concepts of Scales and Proportions

Sketching of human figures, activities, natural and man-made elements; Concept of scales and proportions; Appreciation of Thematic Maps of various levels of Planning; Introduction to Photography, Basic Principles, Composition for Architectural Building Photographs and Planning / Site Photographs;

Unit 4: Base Maps and Key Maps

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

Unit 5: Appreciation studies and Presentation

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

SEMESTER - II (EVEN)

Course Code	BPMC2.1
Course Title	History of Settlement and Planning
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives:

- To introduce to students about the various civilizations and their characteristics.
- The concepts given by different scholars in order to develop and understanding of different planning thoughts.

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

- To analyze the classification of Asian settlements and planning consideration in Asian settlement.
- To identify various characteristics and planning considerations in different civilizations.
- To understand the characteristics of medieval town planning in India.
- To develop understanding about various planning thoughts and different concepts used to plan the new cities.

Course Contents:

Unit 1: History and evolution of settlements

The importance of studying historical processes, articulating history for the cause of planning purposes, Place making in History from caves to agrarian society; the historical context of urbanization; Town Planning considerations (Site selection and planning process) in ancient India from ancient texts and treatises; Classification of ancient Indian settlements

Unit 2: Civilization

Characteristics of cities and planning considerations in ancient classic civilizations: Greek urban civilization, Roman urban civilization, Egyptian urban civilization and Mesopotamian urban civilization; Medieval Town Planning and renaissance in Europe: case studies; Industrial revolution and its impact on city planning in Europe

Unit 3: Settlement Planning

Medieval Town Planning in India and influence of Indo-Sarsenic culture: (case studies: Fatehpur Sikri; Shahjahanabad); Post-medieval town planning: Sikh towns, Site selection and characteristics, case study- Amritsar; Principles of British Colonial settlement planning in India; Industrial Towns Movement in India, Case Study- Rourkela

Unit 4: Case Studies

Capital Cities in India: case study- Bhubaneswar; Town Improvement and City Beautiful Movements; Planning Thought: Ebenezer Howard- Concept of Garden City, Planning Philosophy of Patrick Geddes, Patrick Abercrombie- Planning Philosophy and surveys to be performed for planning, Sorya Y. Mata- Linear city, Tony Garnier- Concept of Industrial City, Planning concepts of Le Corbusier,

Clarence Arthur Perry- Principles of Neighbourhood planning and Design, F.L. Wright- Broadacre City, New Towns in India: Chandigarh, Auroville.

Suggested Readings:

1. Allmendinger, P. (2017) Planning Theory, Macmillan, London. Third Edition.
2. Fainstein, S. (2012). “Readings in Planning Theory”, 3 rd Edition, Blackwell Publishing, Oxford.
3. Gallion, A. (1963). “The Urban pattern; City Planning and Design”, D.V. Nostrand Company Inc, N.York.
4. Hall, P. (2014). “Cities of Tomorrow: An Intellectual History of Urban Planning and Design Since 1880”, Wiley and sons, Hoboken.
5. Hall, P. (2002). “Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the 21 st Century”, Blackwell Publications, Oxford.
6. Hall, P. (1998). “Cities in Civilization; Culture, Technology and Urban Order”, Weidenfield and Nicolson, London.
7. Kumar, A., Sanjeev, V., and Prakash, P. (2020) City Planning in India, 1947-2017, Routledge, New York.
8. Lynch, K. (1981). “A Theory of Good City Form”, Cambridge Publications, London.
9. Nath, R. (1995). “Medieval Indian History and Architecture”, APH Publishing Pvt. Ltd, New Delhi.
10. Stein, M. J. (1995). “Classic Readings in Urban Planning”, McGraw-Hill, New York
11. Ward, S. (2002). “Planning the Twentieth Century City”, The Advanced Capitalist World, John Wiley and Sons, Chichester.

Course Code	BPMS 2.2
Course Title	Surveying and Photogrammetry
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 Objectives:

- To learn the various techniques of physical survey and preparation of base maps and planning
- To Study the techniques and use of aerial photography for preparation of maps and plans.

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

- To show knowledge and skills about land surveys by using range of survey methods and techniques
- To show knowledge and skills about the use various methods of surveying and photogrammetry to prepare land use and land cover maps

Course Contents :**Unit 1: Fundamentals of Surveying**

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

Unit 2: Types of Surveying

Definition, application, advantages and disadvantages, principles; Instruments used, steps in different types: chain survey, Compass survey and plane table survey; Errors and obstacles in chaining; Definition of traversing, types of traversing, applications, advantages and disadvantages.

Unit 3: Levelling and Contouring

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

Unit 4: Photogrammetry

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

Course Code	BPMD2.3
Course Title	Fundamentals of Architecture and Building Construction
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 Objectives:

- To understand the basic terms and to develop architectural perspectives.
- To know about the terminologies, basic features and design elements in building construction

Course Outcomes:

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

- To understand the basic terms and differentiation between them.
- To execute design in their daily life
- To see the world with architectural perspectives.

Course Contents:**Unit 1: Introduction**

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

Unit 2: Composition

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

Unit 3: Building components and design

Design of small spaces such as office, bus–stop, kiosk and single storey residential unit. Elements of a building: their functions and characteristics, Common types of foundations for buildings: Walls and columns, Cross sectional components of a single storey and Multi-storeyed building. Characteristics of the common building material used for these elements

Unit 4: Planning Considerations

Planning Considerations for Buildings - Relevance of set-backs, Covered area, Plinth area, floor areas, carpet areas and FAR. Buildings in Hills, Tropical, coastal and desert areas- form, design and planning approaches. Buildings for Special Areas and Purposes—Slums, Temporary Structures, General types and Material used; To make the design as per the human needs.; To know about the basic features and terminologies in building design.

Suggested Readings:

1. Singh, Gurcharan (2014). Building Construction and Materials. Rajson Publication Pvt. Ltd. New Delhi.
2. Marco Bussagli (2013). Understanding Architecture. I.B. Tauris. London
3. Nathan B Winters. (2009).Architecture is Elementary: Visual Thinking Through Architectural Concepts. Gibbs Smith Publishers. US
4. National Building Code. (2006). Government of India. New Delhi.
5. David Gann, M. (2004). Building Innovation. Thomas Telford Publishing. London.
6. Merritt S. Frederick (2001). Building Design and Construction Handbook, Sixth Edition, McGRAW-HILL. New York.
7. Francis D.K. Ching (1996). Architecture Form, Space and Order. Van Nostrand Reinhold. New York.
8. Rajput, R.K. (1996). Strength of Materials. Sultan Chand & Company Ltd. New Delhi.
9. Punmia, B.C. (1994). P.C. Strength of Materials and Theory of Structures. Vol I, Laxmi Publications. Delhi.

Course Code	BPVA2.4
Course Title	Human Rights and Constitutional Duties
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To understand the basic terms of Human Rights
- To know about the terminologies, basic features of Constitutional duties.

Course Outcomes:-

The primary outline of the course is that it provides basic understanding to the students about the conceptual frameworks of human rights. The course also provides the students knowledge about the Indian framework of human rights, types of human duties and fundamental duties incorporated in the Indian constitution.

Course Contents:

Unit 1: INTRODUCTION TO HUMAN RIGHTS

Foundational Aspects: Meaning, Nature, Characteristic, Classification. International Framework: Constituents of the Universal Declaration of Human Rights (UDHR).

Unit 2: INDIAN PERSPECTIVE OF HUMAN RIGHTS

Constitutional Realization in India: Fundamental Rights (Part III, Constitution of India).
Protective Mechanism in India: The composition, Powers and Functions of the National Human Rights Commission of India (NHRC).

Unit 3: INTRODUCTION TO HUMAN DUTIES

Conceptual Perspective: Meaning, Nature & Characteristics of Human Duties. Intellectual discourses: Classification of Human Duties; Relevance of Human Duties

Unit 4: INDIAN PERSPECTIVE OF HUMAN DUTIES

Constitutional Recognition in India: Fundamental Duties in Indian Constitution (Part IV-A)

Suggested Readings:

1. United Nations. *The United Nations and Human Rights 1945-1995*. Geneva: United Nations Blue Books Series, Vol. VII, 1996.
2. Sastry, S. N. *Introduction to Human Rights and Duties*. Pune: University of Pune Press, 2011.
3. Mertus, Julie. *The United Nations and Human Rights-A Guide for a New Era*. London: Routledge, 2009.
4. Donnelly, Jack. *Universal Human Rights in Theory and Practice*. New York: Cornell University Press, 2013.

5. Hammarberg, Thomas. *Taking Duties Seriously- Individual Duties in International Humanitarian Law*. Versoix: International Council on Human Policy, 1999.
6. Miller P. Frederic, *et al. Fundamental Rights, Directive Principles and Fundamental Duties in India*. New York: VDM Publishing, 2009.
7. Cinganelli, Davis Louis. *Human Rights- Theory and Measurements*. London: Macmillan Press, 1988.
8. Ishay, M. R. *The History of Human Rights*. New Delhi: Orient Longman, 2004.
9. Mohapatra, Arun Ray. *National Human Rights Commission of India: Formation, Functioning and Future Perspectives*. New Delhi: Atlantic, 2004.
10. Deol, Satnam Singh. *Human Rights in India-Theory and Practice*. New Delhi: Serials Publications, 2011

Course Code	BPSE2.5
Course Title	Introduction to GIS Computer Fundamentals
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives: To orient the students towards use of softwares in compliance with planning.

Course Outcomes:

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

- To expose students to the use AutoCAD software to prepare drawings and plans.
- To understand the various commands for better reach in the GIS softwares.
- To be introduced with the concept of 3D by making object drawings.

Course Contents:

Unit 1 : Introduction to GIS

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

Unit 2 : GIS Software and Modeling

Introduction and laboratory exercises on selected GIS Packages (e.g., QGIS, Arc GIS, Geo-Media, ILWIS, EDRIS, ERDAS etc.); Comparative advantages and disadvantages; Planning applications; Overlay functions in GIS; using attribute over spatial data in Modeling; case study based land suitability analysis; Modeling service area for social infrastructures; impact analysis; Integration of GIS, GPS and Digital Image Processing.

Unit 3: Introduction to Computer Applications in Planning

Introduction to Computer Applications in Planning; Various software packages; use of MS Word in report preparation, Features of MS Excel - Data analysis using various functions and tools; Creating formulas, using formulas, cell references, replication, sorting, filtering, functions ;

Unit 4 : AutoCAD

Introduction to AutoCAD - Setting up of a drawing – Coordinate system, Limits, Units, Precision, Lines, Poly-lines, Simple modification commands, Simple Dimensioning, Dtext. Layers, Circles, Ellipse, Arc, Polygons, Spline, Advance modification commands. Array, Hatching, Mtext, Advanced Dimensioning, Scale, Concepts of blocks and external referencing, Printing of drawing. Introduction to 3D in AutoCad

Suggested Readings:

1. Moss Elise AutoCAD Architecture 2010 Fundamentals (2013). Deep Publishers. New Delhi
- George Omura (2010). Mastering AutoCAD. BPB Publications. New Delhi.
2. Frazer (2009). Understanding AutoCAD. Tata McGraw Hill. New York.
3. Joseph Goldenberg (2009). AutoCAD Architecture 2008 – Comprehensive Tutorial. Gibbs Smith Publishers. US.
4. Paul F Aubin (2008). Mastering AutoCAD Architecture. Academy Editions, London.

Course Code	BP AE2.6
Course Title	Elements of Economics
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 focused 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 outcome :

Upon the completion of this course, the students would be able

- The scope of economics in planning, law of demand and supply, Economic Theories and
- To Understand the various approaches and indicators of growth and development.

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 Code	BPMC2.7
Course Title	Area Appreciation (Urban and Rural)
No. of Credits	5 (L: 0; T: 0; P: 10)
Internal Assessment	150 Marks
End Semester Assessment	150 Marks
Total Assessment Marks	300 Marks

Course Objectives: The course aims to give students an exposure of conducting different surveys, data recording and presentation techniques for Urban and Rural areas.

Course Outcomes: The students would be able to learn about the techniques of conducting surveys and preparing relevant maps and diagrams of Urban and Rural areas. They would learn the contents of different surveys to understand the physical, social, visual and environment aspects of the area under study.

Course Contents :

PART A : AREA APPRECIATION (URBAN)

The students will visit a selected area of the study for the exercise;

Following aspects are covered

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

PART B : AREA APPRECIATION (RURAL)

The 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, available infrastructure, basis of spatial organization 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 the 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.

Suggested Readings:

1. Ministry of Urban Affairs & Employment (G.O.I.) (2015). Urban & Regional Development Plans Formulation and Implementation Guidelines, TCPO, New Delhi.
2. Khullar, D.R. (1999). Essentials of Practical Geography, New Academic Publishing Co., Jalandhar. Monkhouse and Willinson (1964). Maps and Diagrams, Methuen & Co., London.
3. Dhesi, Avtar (2008). Rural Development in Punjab: A Success Story Gone Astray, Routledge India. Gupta, K.R. and PransanjitMaiti (2008). Rural Development in India (Vol.3), Atlantic Publishers and

Distributors Pvt. Ltd.

4. Kashyap, G.B. and Garg, J.P. (2008). Rural India: Vision and Action 25 Vol., Vista International, New Delhi.
5. Gupta, K.R. (2004). Rural Development in India (Vol.2), Atlantic Publishers and Distributors Pvt. Ltd.
6. Tiwari, Satish, (2000). Rural Development, Anmol Publications Pvt. Ltd.
7. Kumar, Ghosh, (1991). Management of Rural Development, Anmol Publications Pvt. Ltd.

SEMESTER - III (ODD)

Course Code	BPMC3.1
Course Title	Planning Theory
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 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 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.

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. 46

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 Code	BPMS 3.2
Course Title	Planning for utilities
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 Objectives:

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

- To determine the insights of the techniques of infrastructure planning especially water supply,

sewerage and drainage system and solid waste management

- To know the application of these skills and techniques while the preparation of different plans and projects at various scales

Course Contents :

Unit-1 Introduction

Utilities- Definition, terminologies and types; Historical perspectives of utilities; Significance of utilities in urban and regional planning; Sources of water: surface water, ground water, Collection and Conveyance of water; Water treatment processes – Plain Sedimentation, Sedimentation with coagulation, Filtration, Disinfection (excluding the design part).

Unit-2 : Water supply and drainage system

Quality of water – types of water impurities and standards of water quality; Quantity of water – types of demand for various uses- Domestic, Industrial, Commercial demand; Pumps, Concept of hydrology, Precipitation, Rain and Snowfall; Drainage system: determination of intensity of rainfall – frequency relationship, runoff and runoff losses; factors affecting storm sewage, determination of maximum runoff of a locality, Quantity of storm sewage; Rain water harvesting; Reuse and recycling of water, recharge of water, desalination plants

Unit-3 Sanitation

Definitions of common terms in sanitary engineering-; Systems of sanitation; Methods of collection- Conservancy and water carriage system; Quantity of sanitary sewage, methods of sewage disposal- Dilution, Land Treatment, and treatment processes – Filtration, activated sludge process, Screening and Skimming, Sedimentation, activated sludge process (excluding the design part)

Unit-4 Sewerage and Waste management

Disposal in un sewerred areas - privies, cesspools, septic tanks, Solid waste generation and disposal- methods – sanitary land filling, vermi-composting, incineration. Best Practices on in Indian context related to Sewerage system, Rain Water Harvesting and Solid Waste Management.

Suggested Readings:

1. CPHEEO, (2013). “Manual of Water Supply in Treatment”, Ministry of Housing and Urban Development, Government of India
2. Punmia, B.C. (2010). “Waste Water Engineering”, Laxmi Publications, New Delhi
3. Mackenzie Davis, (2010). “Water and Waste Water Engineering,” McGraw Hill education
4. Birdie, G.S. and Birdie, J.S. (2002). “Water supply and Sanitary Engineering” DhanpatRai Publishers, New Delhi
5. CPHEEO, (2000). “Manual of Solid Waste Management System”, Ministry of Housing and Urban Development, Government of India
6. CPHEEO, (1999). “Manual of Sewage and Sewage Treatment”, Ministry of Housing Urban Development, Government of India.
7. Rangwala, P.B. (2012), “Water Supply and Sanitary Engineering (Environmental Engineering)”, Charotar Publishing House

8. National Building Code, 2016, Bureau of Indian Standards.

Course Code	BPMS3.3
Course Title	Techniques of 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 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 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.

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 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 Code	BPMD3.4
Course Title	Transportation Engineering
No. of Credits	3 (L: 3; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives:

- To understand the concepts of Transport engineering characteristics and its importance
- To understand the various modes of transportation and design considerations.

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

- To identify traffic and transportation engineering problems of a human settlement based on various surveys and their interpretations.
- To show the ability to understand the design standards and its associated problems

Course Contents:

Unit 1: Introduction

Meaning, scope and objectives of transportation engineering and its importance; Traffic and travel characteristics; Relationship between traffic volume, concentration and speed; Significance of road user behavior and vehicular characteristics and designing of roads; transport problems.

Unit 2: Elements of Roads

Design capacity and level of service of roads and intersections; Cross sectional and longitudinal elements of urban roads; Intersections – types, design principles, alignment and vertical profile, visibility, radii of curves, channelization; Roundabouts - capacity and design; Grade separated intersection design elements- ramp gradient, acceleration and deceleration lanes, weaving sections; Capacity of signalized intersection; Road landscape design features.

Unit 3 : Traffic management

Traffic signs and marking – types, principles, design standards, location, height, maintenance, material and color; traffic signals, warrant for signals, phasing and inter green period, saturation flow,

optimization of signals, Vehicle actuated signal facilities, co-ordination of traffic signal, area traffic control system; Basic principles of regulation and its enforcement;

Unit 4: Design Considerations

Location analysis and plans for railway stations and Marshalling yards, airports, Bus Station and stops, truck and other terminals.

Suggested Readings:

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 Code	BPSE3.5
Course Title	Spatial Data Infrastructure for planning
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objective:

- To expose students to the modern techniques of remote sensing and photo interpretation 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 Outcomes: Upon the completion of this course, the students would be able:

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

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: 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. 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.

Unit 3: Data Analysis Techniques

Understanding 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

Understanding 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.

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 Code	BP AE3.6
Course Title	Demography
No. of Credits	2 (L: 2; T: ; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 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 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.

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 Code	BPMC3.7
Course Title	Planning Studio-III: Neighbourhood and Site Planning
No. of Credits	5 (L: 0; T: ; P: 10)
Internal Assessment	150 Marks
End Semester Assessment	150 Marks
Total Assessment Marks	300 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 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 through processes of experiential learning.

Course Contents:

Unit 1 : Designing, Preparation and Presentation of Drawings

Design and preparation of plan, sections and elevation of low rise and high rise apartments taking into account the building bye-laws and zoning regulations; Preparation of presentation drawings;

Unit 2 : Planning Working Drawings

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

Unit 3 : Site Analysis and Conceptual Approach to Site Planning

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

Unit 4 : Layout Design and Costing

Preparation of preliminary layout and area analysis; Final layout showing the circulation and basic infrastructure; Rough costing of the scheme, and preparation of the model to an appropriate scale.

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. 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.
4. 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.
5. Vidyarthi, S. (2015) *One Idea Many Plans: An American City Design Concept in Independent India*, Routledge, N

SEMESTER - IV (EVEN)

Course Code	BPMC4.1
Course Title	Transportation Planning - I
No. of Credits	3 (L: 2; T: 1; 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 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.

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.

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 Code	BPMC4.2
Course Title	Housing
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 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 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.

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.

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.

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. Verma, G.D. (2001) *Slumming India*, Penguin, New Delhi.
3. Cedric, P. (1990) *Housing and Urbanisation: A Study of India*, Sage, New Delhi.
4. Kohli, V.K. (2007) *Housing Finance Agencies in India*, Deep and Deep, New Delhi.
5. Jenkins, P., Smith, H. and Wang, Y.P. (2007) *Planning and Housing in the Rapidly Urbanizing World*, Routledge, New York.
6. Mukhija, V. (2003) *Squatters as Developers, Slum Redevelopment in Mumbai*, Ashgate, New York.

Course Code	BPMS4.3
Course Title	Ecology and Resources 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 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 knowledge for the preparation of development plans and projects integrating the ecological issues.

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 Code	BPMS4.4
Course Title	Geo-Informatics and Data Analytics
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 Objectives: To provide technical inputs for the use of GIS in planning and perform planning

analysis using Geographic Information Systems as a tool.

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

- To show understanding of Geographic information systems in planning.
- To generate analysis of planning issues and observations.
- To produce maps with the use of GIS software.
- understand basic elements of statistics

Course Contents:

Unit 1 : Remote Sensing

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

Unit 2 : Photo Interpretation

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

Unit 3 : Planning Information Systems

Systems Approach to Planning as basis for Planning Information Systems; Systems, Hierarchy, Types; Data and Information, Value of Information, Information Flows, Loops; Information Security and Sharing; Information Systems, Types, Limitations;

Unit 4 : Human Settlements and Planning Information Systems

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

Suggested Readings:

1. ESRI (2015). ESRI MAP Book 2015. ESRI Press California.
2. Roger, F. (2009). Tomlinson Thinking about GIS: Geographic Information System Planning for Managers, ESRI Press California.
3. Martin P. Ralphs, Peter Wyatt (2003).GIS in Land and Property Management. SPON Press. New York
4. Said Easa, Yupo Chan (2000). Urban Planning and Development Applications of GIS. American Society of Civil Engineers

Course Code	BP AE4.5
Course Title	Applied Geology and Hydrology
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 Contents :

Unit 1: Introductory Earth Science and Meteorology

Earth as a planet, the solar system, movement of the earth, atmosphere and its composition, composition of the earth; the

earth processes, geological cycles, igneous activities, volcanoes, minerals and their properties; rock types and their character; bedding, outcrop and strikes; rock cycle; geological and time scale; Indian stratigraphy.

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

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

Unit 3: Earthquakes

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

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

Unit 4: Ground Water

Concept and role in town planning of different types of terrain, hydrologic cycle, vertical distribution of groundwater, interstices; Groundwater bearing properties of different lithological formations, porosity, permeability, specific yield, specific retention, transmissivity and storage coefficient; ground water in igneous, sedimentary and metamorphic rocks; aquifers; types and classification (geological), aquiclude, aquitard; aquifuge, water table and piezometric surface; surface water reservoirs and springs; artificial recharge and ground water mound hydrological features in relation of seepage, fluctuation of water table and hydrographs, geological structure and underground passages for water supply.

Course Code	BPMC4.6
Course Title	Planning Studio-IV: Land Use and Transportation Planning
No. of Credits	8 (L: 0; T: 2; P: 12)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 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 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.

Course Contents:**Unit 1 : Classification of Roads**

Understanding of functional and geometric classifications of urban and rural roads and their cross-sectional elements. presentation of data and to prepare reports relating to different types of transport surveys.

Unit 2 : Road Geometrics and Surveys

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

Unit 3 : Road Layouts

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

Unit 4 : Area Circulation Plan

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

.Text 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

SEMESTER -V (ODD)

Course Code:	BPMC5.1
Course Title	Transportation Planning – II
No. of Credits	3(L: 2; T: 1; 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 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.

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 behavior and its determinants, choice modelling, influencing travel behavior, 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 Code:	BPMC5.2
Course Title	Regional Planning
No. of Credits	3 (L: 2; T: 1; 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 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.

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 centers; 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 Code:	BPMS5.3
Course Title	Land Economics and Real Estate 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:

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 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.

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 Code:	BPMS5.4
Course Title	City Design and Aesthetics
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 give exposure about the Urban Design principles and conservation techniques to conserve the built heritage.

Course Outcomes:

After the completion of the course, the students will be able to demonstrate

- Appreciation and acknowledgement of histories of urban design
- In identifying and perceiving city from image of city point of view
- Identifying various shapes patterns and morphology of cities

Course contents:

Unit-1: Definition and scope of urban design; Relationship of urban design with urban & regional planning; Elements of urban design: point, line, shape, form and organization of forms in space. Principles of design: repetition, rhythm, contrast, emphasis, symmetry, harmony, unity, variety etc.;

Unit-2: Scale, proportion, composition, texture and pattern in urban design. Image of city and its elements : nodes, districts, paths, edges and landmarks. Norms & standards, controls, building bye-laws and zoning regulations determining style and character of urban design.

Unit-3: Concept of place making, components, concept of mind mapping by Apple Donald, Type of public spaces, plaza, piazza, passive and active public space, Concept of public spaces, urban design at street level; Pune street guidelines ITDP.

Unit-4: Preparation & Implementation of Conservation Plan, Integrating Conservation Plan with Master Plan National Organizations their role and functions Archeological Survey of India, Indian National Trust for Art and Cultural Heritage (INTACH). Case studies at city level Amritsar, York City (UK) and precinct level Katra/area of walled city, The Mall Shimla.

Suggested Readings:

1. Paul D Sperigen (2011). "Urban Design: The Architecture of Towns and Cities". Mc GrawHill. New York
2. Helon Meller, Patrick Geddes. (2009). "Social Evolutionist and City Planner". Routledge. London.
3. Ashworth, G.J. (2009). "Town walls , Walled Towns and Tourism : paradoxes"

4. Abdi Ali Mohammad (2008) "Spatial planning as an Approach to Achieve sustainable Conservation and Sustainability in Historic Cities", Dennis Rodwell .Blackwell,
5. Wiles Craig (2007). "Consideration of Historic Authenticity In Heritage tourism Planning and Development" Proceedings of the Northeastern Recreation Research Symposium
6. Edmund, N. Bacon. (2007). "Design of Cities.. Thames and Hudson". London.
7. Broadbent, G. (2004). "Emerging Concepts in Urban Space Design". Van Nostrand Reinhold. London.
8. Litwin, W. Stephen (2004) "Streetscape improvements in an historic tourist city" a second
9. Siddiqi, W.H. (2000). "Lucknow: The Historic City" Sundeep Prakashan, New Delhi.
10. Feilden, B.M. and Jukka Jokilehto (1998). Management Guidelines for World Cultural
11. Mohan, I. (1992). "The world of walled cities: Conservation environmental pollution,
12. Meller, Helen (1990). Patrick Geddes: Social Evolutionist and City Planner, Routledge,
13. B.M Fielden (1989). Guidelines for Conservation: A technical Manual, INTACH, New
14. Charles Mynor (1989). Listed Buildings and Conservation Areas, Longman, London.
15. Kevin Lynch (1982). Good City Form. MIT Press, Cambridge, Massachusetts.
16. Rob Krier. (1979). Urban Space. Academy Editions, London.
17. Alan Dobby (1978). Conservation and Planning, Hutchinson, London.
18. Lewis Mumford (1961). The City in History. Secker and Warburg, London.
19. Kevin Lynch. (1960) The image of the City. MIT Press, Cambridge. Massachusetts and London.

Course Code:	BPMS5.5
Course Title	Climate Change and Sustainable Development
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 Objectives: To provide knowledge about climate change, sustainable development and resource planning.

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

- To demonstrate the understanding about the concepts and rationales of climate change and sustainable development in urban and regional planning.
- To understand the importance of sustainable development in developing countries.

Course contents:

Unit-1: Concepts of global warming and climate change; Factor affecting climate change, challenges and issues of climate change; global climate change and its impact on cities and urban areas; Impact of built environment and transportation on greenhouse gas emissions; Role of planning in climate change mitigation and adaptation.

Unit-2: Urban areas and Greenhouse Gas emissions; Carbon credits and trade, carbon

footprints Definitions, concepts and parameters in sustainable development with particular reference to Brundtland Commission, Agenda 21, Eco-City approach; measuring sustainability, indicators of sustainability and its applicability to cities and urban areas.

Unit-3: Sustainable planning practices: Sustainable transportation, Sustainable energy, Sustainable use of materials and waste management, Sustainable water use, green buildings and sustainable housing, Environmental justice, social equity and social dimensions of sustainability; sustainable city concepts: Carrying Capacity based planning, low carbon city, zero waste Ecological Footprint Analysis of cities.

Unit-4: Debates over climate change, forests and biodiversity depletion, water scarcity and food scarcity; International environmental negotiations and treaties like 1972 United Nations Conference on the Environment in Stockholm, 1992 The United Nations Conference on Environment and Development (UNCED), 1997 Kyoto Protocol, MDGs, SDGs, etc.; National policy framework on climate change Planning for sustainable urban development considering environmental challenges at urban scale.

Suggested Readings:

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. Sethi, M. (2017) Climate Change and Urban Settlements: A Spatial Perspective of Carbon Footprint and Beyond, Routledge, Oxon.
3. Bharucha, E. (2005). Textbook of Environmental Studies, Universities Press, Hyderabad.
4. Kaushik, A. and Kaushik, C. P. (2004). Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.
5. Bharucha, E. (2004). The Biodiversity of India, Mapin Publishing Pvt. Ltd. Ahmedabad.
6. Agarwal, K. C. (2001). Environmental Biology, Nidhi Publications Ltd. Bikaner.
7. Cunningham, W.P., Cooper, T.H., Gorhani, E. and Hepworth, M. T. (2001). Environmental Encyclopedia, Jaico Publications House, Mumbai.
8. Down to Earth, Centre for Science and Environment, New Delhi.
9. Hawkins, R. E. (2000). Encyclopedia of Indian Natural History, Bombay Natural History Society.
10. Heywood, V. H and Waston, R. T. (1995). Global Biodiversity Assessment, Cambridge House, Delhi.

Course Code:	BPMC5.6
Course Title	Planning Studio V: Master Plan/ Development Plan for a Town or City
No. of Credits	08 (L: 0; T: 2; P: 12)
Internal Assessment	200 Marks
End Semester Assessment	200 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 Outcomes: Upon the completion of this course, the students would be able:

- To analyze 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.

Course Contents:**Unit 1 : Studying Development Plans**

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

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

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

Unit 3 : Organization of Field Surveys

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

Unit 4 : Analysis and Synthesis

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

Unit 5 : Plan, Policies and Proposals

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

Text Books and References:

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

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

	BPMC5.7
Course Title	Internship Training
No. of Credits	04
Internal Assessment	100 Marks
End Semester Assessment	-
Total Assessment Marks	100 Marks

Students will undergo professional training in planning related organizations (Public / Private) for 8 weeks. This will be a supervised training by senior professionals from the organization. Satisfactory completion of training will be mandatory for the award of degree. Training will be evaluated by the faculty.

SEMESTER- VI (EVEN)

Course Code:	BPMC6.1
Course Title	Planning Legislation
No. of Credits	3 (L: 2; T: 1; 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 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.

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, 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.

Unit 3: Statutory Framework for Planning and Development Law

Evolution of town planning legislation, town planning laws, town planning as a state subject; 73rd and 74th amendment and its implications for planning law; Current amendments in planning and development laws; 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 Code:	BPMC6.2
Course Title	Rural Habitat Planning
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

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

Course Outcomes:

- The students will have exposure to the rural area and understand the reasons for unprecedented migration from rural to urban.
- They will understand the various government schemes and programs for the upliftment of the people in the rural areas
- The students would be able to show knowledge about how institutions and organizations of local self-government developed after 1992.

Course contents:

Unit-1: Definition, significance, types and salient features of rural settlement; Morphology of rural settlement; Nature of rural society in India; Socio-economic matrix of rural life—poverty, unemployment, indebtedness, caste system; Interdependence and efficacy of socio-economic sectors.

Unit-2: Rural settlement planning in the light of 73rd Constitution amendment (eleventh schedule) and 74th Constitution amendment Act, 1992 (Twelfth schedule); Issues and challenges related with housing, water supply and sanitation, health, educational facilities for rural settlements.

Unit-3: National policies and programmes of rural settlement in planning and development

in the context of Five Year Plans; Priorities and strategies for planning and development of rural settlements; Sustainable rural development; Infrastructure inputs for agriculture– fertilizers, pesticides, farm mechanization.

Unit-4: Input/output infrastructure of allied activities – animal husbandry, poultry, Sericulture, beekeeping; Planning process at National, State, Regional and District levels- Planning, development, implementing and monitoring organizations and agencies; Rural institutions and organizations– rural banks, cooperatives, Panchayati Raj system; District Rural Development Agency– acts, powers and functions.

Suggested Readings:

1. Dhesi, Avtar (2008). Rural Development in Punjab: A Success Story Gone Astray, Routledge, India.
2. Gupta, K.R. (2010) Rural Development in India, Atlantic Publishers, New Delhi. Volume 4
3. Kashyap, G.B. and Garg, J.P. (2008). Rural India: Vision and Action 25 Vol., Vista International, New Delhi.
4. Gupta, K.R. (2004). Rural Development in India (Vol.2), Atlantic Publishers and Distributors Pvt. Ltd.
5. Gandhi, F.V. (2018) A Rural Manifesto: Realizing India's Future through her Villages, Rupa, New Delhi.
6. Jodhka, S.S. (2018) A Handbook of Rural India, (Readings on the Economy, Polity and Society), Orient Black Swan, New Delhi.
7. Jodhka, S.S. and Simpson, E. (2019) India's Villages in the 21st Century: Revisits and Revisions Oxford University Press, New Delhi.
8. Ministry of Rural Development (2017) Sustainable Rural Development, Ministry of Rural Development, Government of India.
9. Paul, S.K. (2015) Rural Development: Concept and Recent Approaches, Concept Publishing Company Private Limited, New Delhi.
10. Singh, K. and Shishodia, A. (2019) Rural Development: Principles, Policies, and Management Fourth Edition, Sage, New Delhi.

Course Code:	BPMS6.3
Course Title	Urban Governance and plan implementation
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	150 Marks

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 focusing on enhancing capacities of institutions and better administration of land assembly.

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.

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 3: 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 4: 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:

2. 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.
3. Evenson, N. (1989) *Indian Metropolis: A View toward the West*, Yale University Press, Yale.
4. 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.
5. Pinto, M.R. (2000) *Metropolitan City Governance in India*, Sage, New Delhi.
6. Rao, N. (2007) *Cities in Transition, Growth, Change and Governance in Six Metropolitan Areas*, Routledge, London.
7. Ruet, J. and Lama-Rewal, S.T. (eds.) (2009) *Governing India's Metropolises: Case Studies of Four Cities*, Routledge, New York.
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 Code:	BPMS6.4
Course Title	Specifications, Estimation and Valuation
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 learn the Methods of Estimation of Cost for Development.
- To learn the Types of Specifications for any Project and its associated Impact on Development.

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

- Handle planning projects with greater understanding of costs involved and make decisions that can make projects cost efficient.
- Understand the effect of specification on various planning projects in terms of cost.
- Do the valuation of planning projects by applying various valuation techniques.

Course contents :**Unit 1: Introduction**

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

Unit 2: Specifications

General specifications for common building materials and building trades, earthwork, structure (framing), flooring, stonework, plasters, waterproofing of basements and terraces, roofing, doors and windows, elevators; Site development and earth works; Water supply net work and distribution systems; Sewer systems; Electrical and telephone networks; Landscaping, roads, pathways, boundary wall, pools, lighting

Unit 3: Estimation

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

Unit 4: Valuation

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

Text Books and References:

1. Dutta, B.N., (2016). Estimating and Costing in Civil Engineering, UBS Publishers' Distributors Ltd., New Delhi.
 2. Birdie, G.S. and Birdie, J.S. (2010). Water Supply and Sanitary Engineering, DhanpatRai Publishing Company, New Delhi.
 3. Singh, Gurcharan and Singh, Jagdish, (2004). Estimating, Costing & Valuation, Standard Publishers, Delhi.
 4. Kshirsagar, R.S. (2004). Sewerage and Sewerage Treatment Plant, A.K. Publications, New Delhi.
 5. Punmia, B.C., (1993). Building Construction, Laxmi Publications Pvt. Ltd, New Delhi.
 6. Hanburg, William J. (1976). Estimating Building Construction; Quantity Surveying, Englewood Cliffs, Prentice Hall, U.K.
- Public Works Department, (1987). Common Schedule of Rate, Government of Punjab – Amendments made in 2008.

Course Code:	BPMS6.5.1
Course Title	Planning for Informal Sector and Urban Poor (Elective)
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 an understanding about issues of urban poverty and informal sector and to critically examine various policy approaches.

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.

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 Code:	BPMS6.5.2
Course Title	Disaster Risk Mitigation and Management (Elective)
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 Objectives:

- To understand the basic concepts of disaster management and planning.
- To expose students to relevant policies and guidelines for the reduction of disaster risks.

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

- To know about the types of disaster and various methods to mitigate the disasters
- Ability to prepare the disaster cycle and various disaster mitigation plans for the city
- To know about acts, national and state policy frameworks
- To show knowledge about various national and international organisations related to disaster management.

Course contents:

Unit 1: Basic Concepts of Disaster Management

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

management policy – national and states; Disaster Management Act – national and states

Unit 2: Disaster Management Mechanisms

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

Unit 3: Disaster Risk Mitigation

Natural Disasters – physical phenomenon, causes and consequences mitigation and management practices – cyclones, floods, earthquakes, landslides etc.; causes and risk mitigation strategies at the Master Plan for industrial, chemical and biological disasters; Forecasting and early warning systems for various types of disasters; communication and information technology in disaster management; disaster education and awareness; land use planning, building bye laws and disaster safe construction practices for different types of disasters

Unit 4: Post Disaster Management and Cross Cutting Issues

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

Suggested Readings:

1. Rasik, R. and Sinha, R. (2013). Earth system processes and disaster management, Springer, New York.
2. Singh, T. (2006). Disaster Management Approaches and Strategies, Akanksha Publication House, New Delhi
3. Edwards, B. (2005). Natural hazards, Cambridge University press, U.K.
4. Sharma, R.K and Sharma, G. (2005). (eds) Natural disasters, APH Publishing, Delhi.
5. Bhandani, R.K. (2005). An overview on Natural and Manmade Disaster and their Reduction, CSIR, New Delhi.
- 6 NDMA (2005). National Disaster Act, 2005.
- 7 Singh, S. (2003). Disaster Management in Hills, Concept publication Co., New Delhi.
- 8 Goel, S.L. and Kumar, R. (2001) Disaster Management, Deep and Deep Publications, New Delhi
- 9 Gupta, M.C. (2001). Manuals on Natural Disaster Management in India, National center for Disaster Management, IIPM, New Delhi.
- 10 Arya, A.K. (1994). Action plan for Earthquake, Disaster, Mitigation in V.K Sharma (ed.), Disaster Management, IIPA Publication New Delhi.

Course Code:	BPMC6.6
Course Title	Planning Studio VI: Regional Plan
No. of Credits	08 (L: 0; T: 2; P: 12)
Internal Assessment	200 Marks
End Semester Assessment	200 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 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.

Course Contents:

Unit 1: Context of Regional Plans

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

Unit 2: Constitutional Provisions

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

Unit 3: Organization of Field Surveys

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

Unit 4: Analysis and Synthesis

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

Unit 5: Plan, Policies and Proposals

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

Text 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. Glasston, J. (1978) *An Introduction to Regional Planning: Concepts, Theory and Practice*, University of California, Berkeley.
4. Glasston, 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.

SEMESTER -VII (ODD)

Course Code:	BPMC7.1
Course Title	Research Methodology
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives: The course aims at exposing the students to various methodologies and typologies of research and statistics that can be applied in evaluation and preparation of urban & regional planning related projects and programs.

Course Outcomes: At the end of the course, the students will be able to demonstrate

- the use of various research methods both qualitative and quantitative
- the use of various research design methods
- the art of report writing
- Various methods to conduct scientific research

Course Contents:

Unit-1:

Research Meaning, application of research, definitions, characteristics of research , types of research – applications, objective , inquiry mode, paradigms of research, Defining research Methodology , Formulating a research problem, methods of data collection, scales, scales, collecting ethical issues in data collection.

Unit-2:

Levels of research: micro and macro; Major steps in the conduct scientific research, induction, deduction and verification; Selection and formulation of research problems, reviewing of literature, Designing a research, Pre-test and pilot study.

Unit-3: Writing a research proposal, contents, problems, objectives, Study design, Sampling, Analysis, structure of report, problems and limitations , referencing, bibliography styles , developing an outline, writing about a variable.

Unit-4: Research design overview, need for research design, Sampling Design, Type of sampling design , measurement and scaling techniques, types of scales, ordinal, interval, Methods of data collection, primary and secondary data, processing and analysis of data.

Suggested Readings:

- 1 Kumar, Ranjit, (2005). Research Methodology – An Introduction, Pearsons Education, Baba BalakNath Printers, New Delhi.
- 2 Crotty, Michael, (2003). The Foundations of Social Research: Meaning and Perspective in the Research, Sage Publishers, London.

- 3 Gomm, Roger, (2003). Social Research Methodology: A Critical Introduction, Palgrave Macmillan, Manchester
 - 4 T.S. Wilkiinson and P.L.Bhandarkar, (1984). Methodology and Techniques of Social Research, Himalaya Publishers, New Delhi.
 - 5 Goode, W.J. and Hatt P. K, (1982). Methods in Social Research, McGraw-Hill Inc., New York
 - 6 Keeble, Lewis, (1972). Principles & Practice of Town & Country Planning, Estates Gazette London
 - 7 Gopal, M.H, (1970). An Introduction to Research Procedures in Social Sciences, ASIAN Publication House, Delhi.
- Gibbs, Jack P. (1960). Urban research Methods, D Van Nosttrand Co Inc. New York

Course Code:	BPMC7.2
Course Title	Project Formulation, Appraisal and Management
No. of Credits	3 (L: 2; T: 1; 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 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.

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 Code:	BPMS7.3
Course Title	Metropolitan Planning, 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:

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

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

- to comprehend, growth, scale and complexity of metropolitans in India with the aid of case studies of major metropolitan cities in India and Punjab.
- to understand current issues and problems of various themes and sectors such as housing, transport, industry, commercial areas, open spaces and infrastructure deficits etc.

Course Contents:

Unit -1: Metropolis and Metropolitanisation

Introduction to metropolis and related concepts such as urban agglomeration, conurbation, World cities; Metropolitan development as a component of urbanization, Metropolis; its growth, scale and complexity, Common planning practices adopted in metropolitan cities.

Unit -2: Metropolises and its Region

Contemporary Issues and problems in India Metropolitan cities-Housing, transport, industry, commercial, open spaces transport etc. Area of influence of Metropolis, metropolitan region and delineation techniques, Metropolitan regional structure; its characteristics and components. Examples of current design and plans of few metropolitan cities especially in regional contexts. Primate city, degree of primacy and its phenomena Form and concept for metropolitan planning and development.

Unit – 3: Forms

Sheets, Galaxy, Core, Star, Ring and Multinucleated, Efficacy/application of metropolitan forms in Metropolitan centralization and decentralization processes. Modern thinkers and concept—Manual Castel and others, Role of MPC as per 74th Amendment Act, 1992: Metropolitan planning process: studies and surveys; techniques and contents.

Unit – 4: Case Studies in Metropolitan Planning, Development and Management Strategy

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

Suggested Readings:

- 1) Dr. Nath V. (2010). “Urban Development and Metropolitan Cities in India”, Concept Publishing Company, New Delhi
- 2) Aggarwal, S.K. (2007). “Urbanization, Urban Development & Metropolitan Cities in India”, Concept Publishing Company, New Delhi.
- 3) Sandhu, Ranvinder, (2006). “Urbanization in India – A Sociological Approach”, Sage Publication, New Delhi
- 4) Ramachandran, R, (2000). “Urbanization and Urban System in India”, Oxford University Press, U.K.
- 5) Charles, M. Christiane and Robert Harper, (1992). “Modern Metropolitan System”, Charles E Merrill Publish Co., U.S.A.
- 6) Rao, M Partap Rao (1990). “Planning for Metropolitan Cities – A Suggestive Approach”, Concept, Delhi.
- 7) Johan, W Dickey (1985). “Metropolitan Transportation on Planning”, McGraw Hill Book Co., New Delhi.

Course Code:	BPMS7.4
Course Title	Urban 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 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.

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 Ayog 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 mechanisms; Types of contracts and ownerships; Emerging cost effective technology interventions; User charged projects; Pricing of services.

Unit 3: Resources Based on Achievement of Urban Reforms

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

Unit 4: Institutional Capacity Enhancement and Urban Reforms

Better finance management, management process; Accounting and budgeting, asset management, receivables management, cost center approach; Computerization as tool for resource enhancement; Role of Management Information Systems; 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](https://doi.org/10.1007/s40847-018-0059-1)
8. Mohanty, P.K. (2016) *Financing Cities: Municipal reforms, fiscal accountability and urban infrastructure*, Sage, New Delhi.
9. Peterson, G.J. (2007) *Financing Cities: Fiscal responsibility and urban infrastructure in Brazil, China, India and South Africa*, Sage, New Delhi.
10. Singh, K. and Ta'I, B. (eds.) (2000) *Financing and Pricing of Urban Infrastructure*, New Age Books Publishers (P) Ltd, New Delhi.

Course Code:	BPMS7.5.1
Course Title	Infrastructure planning, development and management (Elective)
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 basic knowledge of Water Supply, Sanitation; Fire Protection and Electricity.
- To study requirement and Planning Issues for Regional Infrastructure.

Course contents :

Unit – 1: Water Urban Infrastructure

Concept of basic needs; formulation of objectives, norms and standards; Planning for water supply; Source of supply, source analysis, quality and quantity; Issues related to transmission of water, treatment methods, sequence, benefits; Distribution systems suitable in large city, small town; basic requirements, design guidelines; Technological options for water supply;

Aspects of water distribution in far flung areas; Standards and locations for pumping stations; Water supply projects financing and management; Legal rights, water pricing, water pollution.

Unit – 2: Sewage and Sanitation

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

Unit – 3: Fire Protection and Electricity

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

Unit – 4: Regional Infrastructure Planning

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

Unit – 5: Issues in Regional Infrastructure Planning

Planning and programming approaches for regional infrastructure and network systems; Environmental, social and economic impacts of infrastructure and network systems; Integrated planning organization and management of regional infrastructure and network systems; Economic costing of regional networks and services; Pricing and cost recovery for district networks and services.

Course Code:	BPMS7.5.2
Course Title	Rural Development and Management (Elective)
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 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.

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

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.

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 Code:	BPMC7.6
Course Title	Planning Studio VII: Detailed Project Report
No. of Credits	8 (L: 0; T: 2; P: 12)
Internal Assessment	200 Marks
End Semester Assessment	200 Marks
Total Assessment Marks	400 Marks

Course Objectives: The exercise aims to prepare the detailed cost estimation, its financial outcome as well as developing timeline for making project implementation strategies.

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

- To demonstrate the ability to successfully complete a small project.
- To show detail knowledge about the project scheduling, cost and time estimation
- To show the ability to tackle the various projects in future by preparing various charts and detailing of the project report.

Course contents:

The students shall undertake the preparation of project/s in detail. They will visit selected area of the study for the exercise as decided by the concerned teacher(s). The aim of the exercise is to understand a project while preparing Detailed Project Report (DPR) of designed project/s of various nature i.e. Commercial, Industrial, Institutional, Residential, Transportation or any other project. The exercise will be completed as per the following stages:

Part A : Study of the Project

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

Part B : Preparation of Development Project

To identify the components as major tasks of a project and set their priority for the implementation with the help of PERT/CPM charts. The students shall be required to prepare

cost estimates of the various identified tasks and total project cost along with the time frame. They shall identify the returns from the project, total seed money required, working capital and breakeven point on timeframe.

Part C : Project Implementation and Monitoring Mechanism

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

Note: Data collection shall be done by the students on their own. Duration of data collection shall not exceed five working days.

Suggested Readings

- 1 KerznerHarod (2006). Project Management- A Sysetm Approach to Planning, Scheduling and Control, John Wile & Sons, USA.
- 2 JNNRUM (2005). Guidelines Ministry of Urban Development & Poverty Alleviation, Govt. of India, New Delhi.
- 3 Chandra, P. (2002). Projects Planning, Analysis, Financing, Implementation and Review, Sage Publishers, New Delhi.

SEMESTER- VIII (EVEN)

Course Code:	BPMC8.1
Course Title	Professional Practice and Ethics
No. of Credits	3 (L: 2; T: 1; 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 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.

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 Code:	BPMC8.2
Course Title	Urban Management
No. of Credits	3 (L: 2; T: 1; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks
Total Assessment Marks	100 Marks

Course Objectives :

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

Course contents :

Unit 1: Decision Making

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

Unit 2: Leadership

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

Unit 3: Communication

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

Unit 4: Political Systems, Social Systems and Planning

Democracy and planning, socialism and planning, fascism and planning; Tribal society, peasant society, industrial society; Spatial segregation in India.

Unit 5: Conflicts and Resolutions

Nature and mode of resolution of conflicts; public participation in planning as an aid to better

understanding planning and implementation; political nature of planning and implementation problems in India; Case studies; examples from the other parts of the world highlighting situations where such problems have been minimized.

Course Code:	BPMS8.3
Course Title	Public Policy
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 Objectives: The first objective of this course is to show that public policy, planning policy and politics are enfolded into one another and multiple links amongst them. In the second objective nature and various aspects of planning and public policies are discussed. The third objective provides analyses of integration and coherence of planning policies.

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

- To discuss politics of policy and planning in relation to place and space.
- To examine and analyse public policies and planning policies professionally
- To propose coherently linked up planning policies for planning projects and development plans.

Course contents :

Unit-1:

Classical and modern notions of politics; Links between politics and planning; Meaning of public policy; Forms and components of public policies; Cycle of public policy formulation; and theories of public policies and policy analysis.

Unit-2:

Meaning of planning policy; Forms and components of planning policies; Sources and content of public planning policies; Joined-up government; and Policy implementation and evaluation.

Unit-3:

Reasons for linking urban and regional planning policies to public policies; Integration and coherence of planning policies; Context and integration of planning policies with relevant other public policies; and Methods of making public planning policies.

Unit-4:

Welfarist planning policies; Managerialism and urban entrepreneurialism; Neoliberal urbanism; Gentrification; Spatial dialectics of injustice, the Right to the city; and some case examples of current and classical Indian planning policies.

Suggested Readings:

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. 112
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 Code:	BPMS8.4
Course Title	Urban Renewal and Conservation
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:

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

Unit -1: Introduction

Overview and introduction of the basic concepts of conservation; values, attitudes and principles for judging the conservation importance of sites, areas and related typology; scope and basic technique of urban conservation; Urban renewal as a part of metropolitan plan; identification of urban renewal areas; conservation, rehabilitation and redevelopment urban renewal policies and strategies.

Unit -2: Economic, Financial and Management Aspects

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

Unit – 3: Conservation and Development

Economic and social aspects of conservation, traffic and management issues; Conservation policies -case studies.

Unit – 4:Slums

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

Unit – 5:Legal and Administrative Aspects

National and international experience in implementing urban renewal programs; Legal and administrative aspects, archaeological acts/ charters pertaining to conservation, development and conservation; Case studies of proposals for urban conservation of sites/ areas in India and abroad.

Course Code:	BPMS8.5.1
Course Title	Landscape Planning and Design (Elective)
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 Objectives: To sensitize students to the idea of landscape and nature when designing and shaping built environments.

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.

Course Contents :

Unit 1 :

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. Meaning of landscape, Introduction to landscape design; relevance of landscape design in urban and regional planning; Trends in landscape design;

Unit 2 :

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. Gardens and its types Mughal, Italian, Japanese, English

Unit 3 :

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. Functional, architectural and environmental aspects of landscape design elements. Plants as elements of landscape design; street level landscape, design of an urban area.

Unit 4 :

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

Suggested Readings:

1. Giovanni Maciocco. (2013). "Urban Landscape Perspectives". Springer Publishers. Berlin.
 2. Pradip Krishen. (2012). "Trees of Delhi". Dorling Kindersley India (Pvt.) Limited. New Delhi.
 3. Nigel Dunnett, James Hitchmough (2011). "The Dynamic Landscape: Design, Ecology and Management of Naturalistic Urban Planting". Taylor and Francis. U.K.
 4. Menon Subhadra. (2004). "Trees of India". Timeless book. New Delhi.
 5. Chattar Singh, Rajnish Wattas. (2000). "Trees of Chandigarh". B.R. Publishing. Delhi.
 6. Marc Treib. (1993). "Modern Landscape Architecture: A Critical Review". MIT Press. Cambridge.
 7. Clouston Brian. (1990) "Landscape Design with Plants". Hienemam Newnes. Oxford.
 8. James Root, B. (1985). "Fundamentals of Landscape and Site Planning". Avi Publishing Company. West Port Connecticut.
 9. Simonds, J.O. (1983). "Landscape Architecture". McGraw Hill book Company (Inc.). New York
 10. Mitchell Bring, Joose Wayembegh. (1981). "Japanese Gardens – Design and Meaning". McGraw Hill Book Company. New York.
 11. Michael Laurie. (1975). "An Introduction to Landscape Architecture". American Elsevier Publishing Company Inc. New York.
- Cliff Tandy. (1974). "Handbook of Urban Landscape". Watson Guptill Publications. New York.

Course Code:	BPMS8.5.2
Course Title	Environmental Impact Assessment (Elective)
No. of Credits	2 (L: 2; T: 0; P: 0)
Internal Assessment	50 Marks
End Semester Assessment	50 Marks

Total Assessment Marks	100 Marks
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Course Objective:

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

Course Contents :

Unit 1: Introduction

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

Unit 2: Methods

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

Unit 3: Impacts on Land Uses and Resources

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

Unit 4: Social and Health Impacts

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

Unit 5: Environmental Impact Assessment

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

Course Code:	BPMC8.6
Course Title	Planning Studio VIII- Planning Thesis
No. of Credits	8 (L: 0; T: 2; P: 12)
Internal Assessment	200 Marks
End Semester Assessment	200 Marks
Total Assessment Marks	400Marks

Course Objective:

Creation of new knowledge is essential for innovation in any profession, planning is no different. New knowledge get 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 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.

Course Contents:

Each student of B.Tech 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 his/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 his/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.
