TKM COLLEGE OF ENGINEERING

(Government Aided and Autonomous)

Celebrating 60 years of excellence

MASTER OF PLANNING (URBAN PLANNING)
Curriculum 2026

April 2026

CURRICULUM

DEPARTMENT OF ARCHITECTURE AND PLANNING

GENERAL COURSE STRUCTURE AND THEME

A. Definition of Credit:

1 Hour Lecture (L) per week	1 Credit
1 Hour Tutorial (T) per week	1 Credit
1 Hour Studio/ Practical (P) per week	0.5 Credit

B. Structure of Master of Planning Program: The structure of Master of Urban Planning program shall have essentially the following categories of courses with the breakup of credits as given below:

S. No.	Category	Credits
1	Humanities and Social Science Courses	6
2	Urban Planning Core Courses	29
3	Program Elective Courses (Branch Specific Electives)	4
4	Open Elective Courses (Cross Discipline Electives)	5
5	Studios, Thesis, Dissertation and Professional Training (Practicals)	35
6	Audit Courses (Non-credit)	--
TOTAL		79

C. Course Code and Definition:

Course Code	Definitions
L	Lecture
T	Tutorial
P	Practical/ Studio
C	Credits

D. Course level coding scheme: Following terminology is used for subject code:

Course Code	Definitions
MPH	Humanities and Social Science Courses
MPC	Urban Planning Core Courses
MPPE	Program Elective Courses (Branch Specific Electives)
MPOE	Open Elective Courses (Cross Discipline Electives)
MPS	Studio Work
MPP	Dissertation and Professional Training
MPAU	Audit Courses (Non-credit)
MPTH	Thesis

STRUCTURE OF COURSE CODE:

Each course will be identified by a unique Course Code consisting of eight alpha numeric characters **YYMPXXSNN**.

Table 1: Structure of Course Code

YYMPXXSNN (for courses offered by Architecture and Planning Department)				
YY	**MP**	**XX**	**S**	**NN**
Regulation Year	Name of program	Course category code C	Semester Number	Serial No. of course in a semester
26 for year 2026	Master of Planning	C – Professional Core H – Humanities & Social Science Course S – Planning Studio P – Dissertation and Training PE – Program Elective OE– Open Elective TH– Thesis AU- Audit Course	1-4	01 02 03 etc.

e.g., 26MPC303; 26 is regulation year, MP is Master of Planning, C is category code for Professional Core Course, 3 is third semester and 03 is the sequence of the subject in the semester.

The L-T-P-S-C notation for each course signifies the allocation of hours for content delivery in terms of Lecture (L), Tutorial (T), Practical (P), and Self Study hours (S) per week, as well as the credits (C) earned from the course. Apart from the lectures, tutorials, practical/practice and the studio hours for learning, the curriculum offers self-learning hours(S) that indicate the number of hours students are expected to spend for activities that should be completed outside the class.

$$S= (L*1+T*1+P*1)$$

$$C = L+ T + P/2$$

Table 2: Semester Wise Credit Distribution

Semester	1	2	3	4	**Total**
Credits (TKMCE 2026)	22	21	22	14	**79**
KTU	22	22	21	14	**79**

Table 3: Code for the Exam Slot of courses

Code	Description
A, B, C, D, E, F	End semester exams for theory subjects
S, T, U	Jury exam for Planning Studio, Thesis, Dissertation, Training and internal assessment for GIS Applications I and II

FIRST SEMESTER												
Sl. No.	Slot	Code	Category	Title	L	T	P	S	Credits	Exam hrs.	Total Marks	
											CIA	ESE
1	A	26MPC101	C	Urban Planning History and Theory	2	1	0	3	3	3	40	60
2	B	26MPC102	C	Ecology, Environment and Disaster Resilience	2	1	0	3	3	3	40	60
3	C	26MPC103	C	Housing	1	1	0	2	2	3	40	60
4	D	26MPC104	C	Transport Planning	1	1	0	2	2	3	40	60
5	E	26MPH101	H	Socio Economic Base for Planning	2	1	0	3	3	3	40	60
6	F	26MPH102	H	Research Methodology and Planning Techniques	2	1	0	3	3	3	40	60
7	S	26MPP101	P	GIS Applications I	0	0	2	2	1	-	50	-
8	U	26MPS101	P	Planning Studio – I	0	0	10	10	5	-	200	100
9		26MPAU101	AU	Sports and Yoga	2	0	0	2	0	-	-	-
TOTAL					**10**	**6**	**12**	**28**	**22**		490	460

C-10; H-6; PE-0; OE- 0; P- 6; AU-0

SECOND SEMESTER												
Sl. No.	Slot	Code	Category	Title	L	T	P	S	Credits	Exam hrs.	Total Marks	
											CIA	ESE
1	A	26MPC201	C	Regional Planning and Resource Development	2	1	0	3	3	3	40	60
2	B	26MPC202	C	Urban Utilities and Infrastructure Planning	2	1	0	3	3	3	40	60
3	C	26MPC203	C	City and Metropolitan Planning	1	1	0	2	2	3	40	60
4	D	26MPC204	C	Planning Legislation and Professional Practice	1	1	0	2	2	3	40	60
5	E	26MPPE201	PE	Program Elective	1	1	0	2	2	3	40	60
6	F	26MPOE201	OE	Interdisciplinary Elective	2	1	0	3	3	3	40	60
7	S	26MPP201	P	GIS Applications II	0	0	2	2	1	-	50	-
8	U	26MPS201	P	Planning Studio II	0	0	10	10	5	-	200	100
TOTAL					**9**	**6**	**12**	**27**	**21**		490	460

C- 10; H -0; PE- 2; OE- 3; P-6

THIRD SEMESTER												
Sl. No.	Slot	Code	Category	Title	L	T	P	S	Credits	Exam hrs.	Total Marks	
											CIA	ESE
1	A	26MPC301	C	Urban Development Management and Finance	2	1	0	3	3	3	40	60
2	B	26MPC302	C	Urban Governance and Policies	2	1	0	3	3	3	40	60
3	C	26MPC303	C	Urban Land Market and Management	2	1	0	3	3	3	40	60
4	D	26MPPE301	PE	Program Elective	1	1	0	2	2	3	40	60
5	S	26MPP301	P	Dissertation	0	3	0	3	3	Jury	100	100
6	T	26MPP302	P	Internship	0	0	0	-	2	Jury	-	100
7	U	26MPS301	P	Planning Studio III	0	0	12	12	6	Jury	200	100
TOTAL					**7**	**7**	**12**	**26**	**22**		460	540

C- 9; H -0; PE- 2; OE- 0; P-11

FOURTH SEMESTER												
Sl. No.	Slot	Code	Category	Title	L	T	P	S	Credits	Exam Hrs	Total Marks	
											CIA	ESE
1	U	26MPTH401	P	Planning Thesis	0	0	24	24	12	Jury	350	150
2	S	26MPOE401	OE	MOOC* Course	To be completed successfully				2	-	-	-
TOTAL									**14**		350	150

C- 0; OE – 2; P- 12

*MOOCs must be from recognized institutions and approved as per Master of Planning (Urban Planning) 2026 regulations. Results must be available by the end of the fourth semester. Detailed instructions are provided in the syllabus.

List of Electives_M. PLAN 2026

Sem 2	Elective 1	Program Elective
	26MPPE201.1	Environmental Impact Assessment
	26MPPE201.2	Urban Conservation
	26MPPE201.3	Climate Resilient Cities
		AI in Planning (proposed)
		Energy Management (proposed)
Sem 2	**Elective 2**	**Interdisciplinary/ Open Elective**
	26MPOE201.1	Urban Analytics
	26MPOE201.2	Circular Economy
	26MPOE201.3	Spatial Data Analysis and Urban Information Systems
	26MPOE201.4	Universally Accessible Built Environment
		Water Security and Planning (proposed)
Sem 3	**Elective 3**	**Program Elective**
	26MPPE301.1	Planning for Tourism
	26MPPE301.2	Inclusive Urban Planning
	26MPPE301.3	Participatory and Integrated Urban development
	26MPPE301.4	Real Estate Development and Management
MOOC* COURSES THAT MAY BE TAKEN BY M. PLAN STUDENTS		
		SWAYAM, NPTEL, AICTE

ACADEMIC REGULATIONS

for

Master of Planning (Urban Planning)

(Applicable to 2026 admission onwards)

TKM COLLEGE OF ENGINEERING
Karicode, Kollam, Kerala -691005

AFFILIATED TO
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

TKM College of Engineering (Government Aided and Autonomous)
Academic Regulations for Master of Planning (Urban Planning)
Programme 2026

ACADEMIC REGULATIONS-2026

This will be called TKM COLLEGE OF ENGINEERING ACADEMIC REGULATIONS FOR MASTER OF PLANNING (URBAN PLANNING) PROGRAMME 2026. These regulations are subject to the provisions of UGC and AICTE. All the rules specified herein, approved by the Academic Council, will be in force and applicable to students admitted from the Academic Year 2026 onwards. All the rules and regulations, specified hereafter shall be read as a whole for the purpose of interpretation and in case of any ambiguity, the interpretation of the Academic Council is final.

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DEFINITIONS AND NOMENCLATURE

Sl. No.	Name	Definition
1	Academic Council	The Academic Council of the College
2	Academic Discipline and Student Welfare Committee	The authority which monitors and ensures academic discipline and student welfare
3	(AMS) Academic Management System	A digital platform to assist in the implementation and monitoring of the academic activities
4	Board of Studies	Board of Studies of a Programme/ Department
5	College	TKM College of Engineering, which provides undergraduate and/or postgraduate and/or Ph.D. Programme for obtaining any Degree from the Parent University and which, in accordance with the rules and regulations of the University, is recognized as competent to provide for such programmes/courses of study and present students undergoing such courses of study for the examination for the award of such degree.
6	Controller of Examinations	The authority of the College who is responsible for all activities related to examinations, publication of results, award of grade sheets etc.
7	Course	A course is a component of a Programme. All courses need not carry the same weightage. The courses should define learning objectives and learning outcomes. A course may be designed to comprise of either lectures/ tutorials/ laboratory work/fieldwork outreach activities /project work/ vocational training/ viva-voce/ seminars/ term papers/ assignments/ presentations/self-study etc. or a combination of some of these.
8	Credit	A unit by which the course work is assessed. It determines the number of hours of instruction required per week
9	Cumulative Grade Point Average (CGPA)	A measure of overall performance of a student, arrived at by considering all course credits that are needed for the Degree and the respective grade point
10	Curriculum	Various components/courses studied in each Programme that provide appropriate outcomes in the chosen branch of study
11	Disciplinary Action Committee	College level body that looks into the reported cases of malpractice in all examinations and appropriate course of action based on an inquiry report submitted to the Principal.

12	DTE	Directorate of Technical Education, Kerala
13	DQAC	The department level internal quality assurance cell. It concentrates on the importance of quality and quality assurance.
14	Grade/Letter Grade	An index of the performance of students in a said course. Grades are denoted by letters.
15	Grade Point	A numerical weightage allotted to each letter grade on a 10-point scale
16	Grievances and Appeal Committee	The authority to look into the grievances of students
17	Dean, Student Affairs	The authority of the College responsible for all student related activities including student discipline, attendance in extra and co-curricular activities and academics. Works in close association with the Student Council
18	Head of the Department	The authority responsible for Department level academic and non-academic activities
19	IQAC	The institute level quality assurance cell which concentrates on a formal strategy and its implementation for the continuous enhancement of quality
20	M. Plan	Master of Planning (Urban Planning)
21	Parent University	University to which the College is affiliated - APJ Abdul Kalam Technological University (APJAKTU), Thiruvananthapuram
22	Principal	The Head of the College
23	Programme	An educational Programme leading to award of Degree
24	Programme Assessment Committee	Department level committee including HoD, Academic Coordinator, Senior faculty members of Department and subject stream coordinators. The objective of this committee is to monitor and assess the concerned academic programme of the Department
25	Semester Grade Point Average	A measure of academic performance of student/s in a semester.

PREFACE

The quality of technical education depends on many factors but largely on outcome based, socially and industrially relevant curriculum, good quality motivated faculty, teaching learning process, effective industry internship and evaluation of students based on desired outcomes. Masters of Planning course has focus on fundamentals, significant discipline level courses and ample electives both from the disciplines and cross disciplines including emerging areas all within a cumulative structure of about 80 credits. Professional Training/Summer Internships have been embedded to make the student understand the industry requirements and have hands on experience. These features will allow students to develop a problem-solving approach to face the challenges in the future and develop outcome-based learning approach.

The Curriculum for Master of Planning programme has several new features in line with changing pedagogical advancements. Audit courses are added with zero credits. Audit courses are expected to create rounded personalities of professional planners. More emphasis on professional and open electives has been placed in the curriculum, aimed at offering students comparatively better choices. The postgraduate programme would include core courses, studios, thesis, training opportunities, and professional and open electives. It is further decided that training would be made compulsory, marked, supervised and of a comparatively longer time duration. Studios and studio related field trips will be compulsory and duration of the field trips should range from 10 to 15 days.

Curriculum Framework is important in setting the right direction for the programmes offered by the College, as it takes into account the type and quantum of knowledge necessary to be acquired by a student to qualify for a particular award in his/her chosen specialization area. Besides, this also helps in assigning the credits for each course, sequencing the courses semester-wise and finally arriving at the total number of courses to be studied and the total number of credits to be earned by a student to fulfil the requirements for the conferment. The College takes into account the AICTE Model Curricula and the guidelines set by the parent University and follow them so as to be abreast of the national trends in this connection.

The curriculum is founded on the Outcome Based Education (OBE) system. The outcomes shall be set based on the knowledge, skills and values relevant to the programme at par with national and international standards. Outcomes are the attributes that are to be demonstrated by a graduate after completing the course. NBA has defined 3 outcomes for all engineering PG programmes.

Program Outcomes defined by NBA
PO1: An ability to independently carry out research/investigation and development work to solve practical problems.
PO2: An ability to write and present a substantial technical report/document.

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

Additional POs

PO4: Apply stream knowledge to design or develop solutions for real world problems by following standards and legislation.

PO5: Use state-of-the-art tool in solving spatial planning and environmental problems.

PO6: Collect, analyse and interpret data related to spatial planning and propose new solutions, in engagement with the Community.

PO7: Independently carryout stream related project with efficiency and financial outlook, highlighting business-potential which focus on Entrepreneurship and Industry relevance

R 1 PREAMBLE	
26R1.1	These regulations are applicable to the M. Plan (Regular) Degree program conducted in TKM College of Engineering, Kollam-5 affiliated to the APJAKTU from the Academic Year 2026-27 onwards
26R1.2	The provisions contained in these regulations shall govern the policies and procedures on the admission and registration of students, imparting instructions of course, conduct of the examination, evaluation, certification of students' performance leading to the award of M. Plan Degree.
26R1.3	These regulations for the M. Plan Degree program along with all the amendments thereto, shall be binding on all students undergoing the said M. Plan Degree program conducted in college from the Academic Year 2026-27 onwards.
26R1.4	These regulations, as amended from time to time shall be binding on all parties concerned, including the Students, Faculty, Staff of the College.
26R1.5	The College has the right to modify the regulations from time to time.
26R1.6	In all matters related to the regulations, the decision of the College and its interpretation given by the Academic Council shall be final and binding.
26R1.7	**Nomenclature of the Programme** (a) The College uses the nomenclature for the Degree programmes as specified by the Affiliated University, and the Degree Certificates issued by the University to their awardees bear the name of the College as well. This helps in maintaining the identity of each programme conducted at the College and also ensures its accountability. (b) Therefore, the nomenclatures and their abbreviations given below, shall continue to be used for the Degree programme offered by the College PG Level: Master of Planning (Urban Planning)
R2 ADMISSION TO THE MASTER of PLANNING (M. Plan) PROGRAMME	
26R2.1	The University or the competent statutory authority for admissions from time to time shall decide admission policy, eligibility for admission and admission procedure.
26R2.2	**Eligibility for admission:** Candidates who have been awarded or qualified for the award of the appropriate Bachelor's degree in Architecture/Civil Engineering/ Planning, from an Institution approved by All India Council for Technical Education (AICTE), Council of Architecture (COA), or University Grants Commission (UGC) or Masters' Degree in Geography/ Economics/ Sociology from a recognized University or equivalent, are eligible for admission to the M. Plan Programme. Eligibility of candidates will be decided from time to time following the guidelines issued by All India Council for Technical Education (AICTE) and the Government of Kerala. Other important eligibility criteria are as listed out by the Director of Technical Education with the approval of the Government of Kerala.

26R2.3	If at any time after admission, it is found that a candidate has not fulfilled any of the requirements stipulated by the University or the statutory body concerned, the College may revoke the admission of the candidate and report the matter to the Academic Council of the College.
26R2.4	Sponsored candidates from Industries, R&D organizations, National Laboratories, State/ Central Town Planning organizations as well as Educational Institutions, shall be permitted as per eligibility criteria mentioned in 26R2.1 for admission to the M. Plan programme.
26R2.5	Foreign nationals whose applications are received through Indian Council of Cultural Relations, Government of India are also eligible for admission to the M. Plan programme, provided they are eligible according to the AICTE norms.
26R2.6	Candidates who have the Associate Membership of Professional Bodies that are approved by the University and have qualified in GATE or the eligibility test and criteria approved by the AICTE, shall also be eligible for admission to the M. Plan programme.
26R2.7	Announcements for M. Plan Programme will be made by the DTE, Government of Kerala. Selection of candidates for the M. Plan programme will be done centrally or monitored by the Directorate of Technical Education as per the guidelines given on this by the Government of Kerala. The number of candidates to be admitted to M. Plan stream will be as per the approval of the University which shall be based on decision on this given by AICTE. Admission will be complete only on meeting all the other requirements mentioned in the letter of admission and on payment of the fees. All admissions will be governed by the procedure laid down for this by the Directorate of Technical Education, Kerala and the Government of Kerala. The reservation policy of the Government of Kerala and the Government of India shall be followed in admission to the M. Plan programme.
26R2.8	Notwithstanding all that is stated above, the admission policy may be modified from time to time by the affiliating University/ competent authority, particularly to conform to directions from the Government of Kerala and the Government of India.
26R2.9	Candidates qualified in Graduate Aptitude Test in Engineering (GATE) and admitted to the M. Plan programme are eligible to receive Part Time Teaching Assistantship (PTTA) as per the rules of the All India Council for Technical Education (AICTE)/Ministry of Human Resource Development (MHRD).
26R2.10	Fee Structure: The tuition fees will be levied as per the guidelines of the Government of Kerala and the administrative fees will include the fees prescribed by the parent University.
26R2.11	Inter college Transfer: If a student from an autonomous institution or a non-autonomous college applies for a transfer to the College, the Academic Council shall decide on the eligibility criteria for the same, consistent with the rules of the parent University's Academic Regulations.

R3 STRUCTURE OF THE M. PLAN PROGRAMME	
26R3.1	The normal (minimum) duration of the M. Plan programme including Thesis, shall be four semesters, over a period of 24 months.
26R3.2	The maximum duration which a student can take to complete a programme shall be minimum duration (in years) plus two years. Under exceptional circumstance, a further extension of one more year may be granted subject to approval for the request made by the student. The request made by the student for duration extension shall be recommended by the Principal with valid justification.
26R3.3	Extension of Programme duration The normal duration of the programme shall be four semesters. Incase of prolonged illness or other personal exigencies, the university may allow a student who has earned credits for at least one semester, to extend the programme up to the maximum duration of four years. Students who have earned credits for the courses listed in the first two semesters are permitted to avail a break of study for upto two semesters for taking up a job. Students seeking a break of study for this purpose shall produce the offer letter obtained from the concerned employer. However, they have to complete the programme within four years, which is the maximum permitted duration as per the regulations.
26R3.4	The competent authority permits regular registration for the full time programme.
26R3.5	Semester Scheme: Every academic year shall have two semesters "1st July to 31st December (Odd semester)" and "1st January to 30th June (Even semester)", same as that of the parent University. Each semester shall have a minimum of 18 working weeks, including the weeks allotted for jury and end semester examinations. There shall be a minimum of 75 instructional days in each semester. The vacation of the faculty and staff shall be as per the Government orders from time to time.
26R3.6	Academic Calendar: To ensure uniformity in the functioning of the Semester Scheme for all academic programmes across the College, each academic year is divided into semesters, with academic activities being fixed in advance by the college and maintaining a common opening /reopening date for the odd/even semesters.
26R3.7	Academic Schedule: The calendar shall include important academic activities to assist the students and the faculty. These include dates assigned for registration of courses. The calendar shall also schedule the periodic tests and Class Committee meetings to be conducted during the semester. This enables the students to be well prepared and take full advantage of the flexibility provided by the credit system.
26R3.8	CREDIT STRUCTURE: The M. Plan programme will be structured on a credit-based system following the semester pattern with continuous evaluation.

26R3.9 A typical Credit Structure for coursework based on the above definition is given in Table 1. This shall be applicable for the coursework of students registered for the programme.

Table 1: Credit Structure

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
2 Hrs. Studio/ Practical (P) per week	1 credit
2 Hrs. Lab/Workshop(W) per week	1 credit
Internship	2 credits
Dissertation	3 credits
Thesis	12 credits

R4. CURRICULUM STRUCTURE

26R4.1 Curriculum and Syllabi: The M. Plan program shall have a curriculum and syllabi for the courses approved by the Academic Council. Syllabus for any course shall be normally modified / updated once in 4 years with inputs from experts belonging to the academia and industry. Minor revisions in the content of the syllabus of any course can be made by the Academic Council based on the recommendation of the Board of Studies. However, innovative elective courses can be included as and when required, on the recommendations of the respective Board of Studies, subject to the approval of the Academic Council. All revisions shall be based only on the recommendations of the Board of Studies concerned.

26R4.2 **Components of the Curriculum**

The curriculum of the M. Plan. program shall have 79 academic / learning credits.

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

Table 2: Categories of courses

Sl. No.	Category	Credits
1.	Humanities and Social Science courses (MPH)	6
2	Urban Planning Core courses (MPC)	29
3	Professional elective courses PE (MPPE)	4
4	Open Elective courses OE (MPOE)	5
5	Studios, Dissertation and Professional Training (MPS, MPP)	35
6	Audit courses AU (MPAU)	-
		79

26R4.3	Course categories based on content delivery: Courses in the curriculum are categorized into 1/2/3/5/6/12 credit courses based on the chosen content delivery method and the desired depth of the course. These include Theory-only, Theory with tutorial, Theory with practicals, Planning Studio projects, Seminar, software application etc. The L-T-P-S-C notation for each course signifies the allocation of hours for content delivery in terms of Lecture (L), Tutorial (T), Practical (P), and Self Study hours (S) per week, as well as the credits (C) earned from the course. Apart from the lectures, tutorials, practical/practice and the studio hours for learning, the curriculum offers self-learning hours(S) that indicate the number of hours students are expected to spend for activities that should be completed outside the class. It is defined by the faculty handling courses for the activities to support learning initiated by the students themselves with/ without guidance or direction from tutors. For each course Self learning hours per week is calculated as: S= (L*1+T*1+P*1) Credits (C) = L + T + P/2
26R4.4	Course work for every semester except Planning Thesis semester shall preferably have 4-7 lecture-based courses, 1 to 2 labs/Seminars/drawing based subjects/workshops and one Planning Studio. The maximum number of lecture-based courses in any semester shall not exceed 7.
26R4.5	The medium of instruction shall be English. All examinations, project/seminar reports and presentations shall be in English.
26R4.6	Programme Electives can be industry oriented and may incorporate modules which can be handled by experts from the industry. Open electives including the MOOC course shall be two in number for the programme period.
26R4.7	Elective Courses: Program Elective: Refers to a set of courses that are more advanced or applied to a specialized sub-area than the basic courses a student studies as part of program core courses. Open Elective course: Refers to the course that the student shall mandatorily opt from the departments other than the one he/she is pursuing for the post graduate studies. It is intended to encourage cross and multidisciplinary learning. 2 credits in the 4th semester can be earned through MOOCs recommended by the Board of studies and approved by the Academic Council, and satisfying clause 26R4.8. The students are required to start the MOOC course well before or during semester 3. The candidate shall produce the certification issued by the MOOCs conducting agency in proof of credit attainment before the commencement of the End Semester Examination (ESE) of the 4th semester.
26R4.8	MOOC: The MOOCs shall be considered only if it is conducted by the agencies like AICTE/NPTEL/SWAYAM and it should have a proctored/offline end semester examination. The MOOCs shall have a duration of 8/12 weeks and

	the content of the syllabus shall be enough for at least 40 hours of teaching for a 2 credit course.
26R4.9	The list of MOOCs for the Fourth semester MOOC course shall be recommended by the respective BoS and approved by the Academic Council. The MOOCs for the fourth semester shall be approved by the Head of Department for earning credits if its contents do not have more than 40% of overlap with any of the core/elective courses in the concerned discipline or with any of the open elective course the student has opted during the M. Plan program.
26R4.10	The Institution shall award the credit weightage mentioned in the curriculum of the program for students on successful completion of the MOOCs.
26R4.11	Mandatory Non-credit Courses: A student needs to undergo non-credit mandatory courses. UHV, Sustainable Engineering, Constitution of India, Essence of Indian Knowledge Tradition, Sports and Yoga are a few such courses. Sports and Yoga course is mandatory.
26R4.12	Internship: Internships shall be taken up with academic institutions/industries during semester breaks, and these are to be assessed through seminar/ report submitted during the odd/even semester. The duration and timing of the internships shall not affect the regular classwork, unless specially permitted by the Principal.
26R4.13	The entire syllabus for theory courses should be divided into four or five modules, with description of the topics in each module, that can be covered in 28/42/140/168 hours for 2/3/10/12 credits respectively in a semester.
26R4.14	The syllabus of each course shall have a course code, course title, course delivery mode (L-T-P), Self-study hours (S), and credits assigned to that course (C) as per 26R3.9**.** It will have preamble of the course, prerequisites, expected course outcomes, Course Outcome - Program Outcome mapping, lesson plan with expected duration needed to cover the syllabus, suggested text books, reference books, assessment pattern and question paper pattern. Prerequisites are mentioned for courses where it is required, else it is not mentioned.
26R4.15	The Syllabus of each course shall be recommended by the BoS of the respective department and approved by the Academic Council. The Academic Council subsequent to the recommendations of the respective BoS shall approve any subsequent modification.
26R4.16	Structure of Course Code: Each course offered by the department will be identified by a unique Course Code consisting of eight alpha numeric characters represented as YYMPXXSNN,

which can be interpreted as: **YY** – Regulation Year, **MP** – Master of Planning, XX – Category Code, **S** – Semester Number (it can have a number from 1 to 4) NN- Course Sequence Number in a category

E.g., 26MPC303; 26 is regulation year, MP is Master of Planning, C is category code for Urban Planning Core Course, 3 is third semester and 03 is the sequence of the category subject in the semester.

Table 1: Structure of Course Code

YYMPXXSNN (for courses offered by Architecture and Planning Department)				
YY	**MP**	**XX**	**S**	**NN**
Regulation Year	Name of program	Course category code C	Semester Number	Serial No. of course in a semester in a particular category
26 for year 2026	Master of Planning	C – Professional Core H – Humanities & Social Science Course S – Planning Studio P – Dissertation and Training PE – Program Elective OE– Open Elective TH– Thesis AU- Audit Course	1-4	01 02 03 etc.

R5 COURSE REGISTRATION AND ENROLMENT

26R5.1	Registration for the first semester is automatic for all the students admitted, and from the second semester onwards, registration shall be as per the procedure announced by the academic section. Students shall submit the course registration form duly filled in, in consultation with his/her Senior faculty Advisor (SFA), fee receipt and registration chit or any other forms in the prescribed format with all necessary enclosures, as required and notified by the academic section.
26R5.2	Except for the first semester, registration and enrolment shall be done at the beginning of the semester as per the schedule and procedure announced by the academic section. A student will become eligible for enrolment only if he/she has registered for all the courses listed in the curriculum of the previous semester and (i) he/she has cleared all the dues in the college, hostel and library up to the end of the previous semester (ii) he/she is not debarred from enrolment by a disciplinary action of the college and (iii) he/she has paid all the tuition fees and all other relevant fees, if any, prescribed by the college. Students shall complete formalities like teaching evaluation of the

	courses registered in the previous semester etc., if any, as notified by the academic section before the registration into the next semester.
26R5.3	Student shall ensure that his/her name is included in the list of registered students through AMS with each course faculty at the beginning of the semester on the first instructional day itself. If not, he/she has to contact SFA.
26R5.4	Course Registration and Enrolment: All students have to register for the courses they desire to attend in a semester. The dates for registration and enrolment will be given in the academic calendar. Any late registration or enrolment allowed only up to seven working days from the commencement of the semester, will attract a late fee. A student can drop a course or substitute one already registered for by another, for valid reasons with the approval of the faculty advisor. However, this has to be done within seven working days from the commencement of the semester.
26R5.5	The maximum number of credits a student can register (course registration) in a semester is limited to 7 credits in excess of the total credits allotted in the curriculum for that semester.

R6. ACADEMIC ASSESSMENT AND EVALUATION

26R6.1 Candidates in each semester shall be evaluated both by Continuous Internal Assessment (CIA) and End Semester Examinations (ESE).

The mark distribution to be adopted shall be as given in Table 3.

Table 3: Mark Distribution of Courses

Type of Course	CIA	ESE
Theory Courses	40 marks	60 marks
Lab Courses (GIS I and II)	50 marks	-
Studio projects	200 marks	100 marks jury
Dissertation	100 marks	100 marks jury
Thesis	350 marks	150 marks jury
Internship	-	100 marks Jury

Series test

The series tests shall be conducted at the college level in line with the academic calendar. The internal test shall be conducted after 80% coverage of the subject. Students who have missed the test can register with the consent of the faculty member and the Head of the Department concerned for a re-test which shall be conducted before the end semester examination. The re-test will cover the entire syllabus. If a student fails to appear for a retest, zero marks will be given for the same. Retests shall be conducted by the faculty in charge of the course and shall be conducted only on the recommendation of the Senior Faculty Advisor.

End Semester Examination (ESE) for Theory Courses and Elective courses

	There will be two parts, Part A and Part B. Part A will contain 5 questions (such questions shall be useful in the testing of knowledge, skills, comprehension, application, analysis, synthesis, evaluation and understanding of the students), with one question from each module, and having 4 marks for each question. Students shall answer all questions. Part B will contain two questions from each module of which student shall answer any one from each module. These questions shall be useful in the testing of overall achievement and maturity of the students in a course, through long answer questions relating to theoretical/practical knowledge, and qualitative evaluation. Each question will carry eight marks. Total duration of the examination will be 3 hours.
26R6.2	**Assessment and Pass requirements:** Faculty member(s) concerned shall carry out continuous assessment for the course allotted to him/her. CIA shall be based on the assessment pattern prescribed in the syllabus. **(i) THEORY COURSES** Continuous Internal Assessment: The CIA marks for individual courses shall be computed by giving weightage to the following parameters, as given in Table 4, unless otherwise specified in the curriculum.

Table 4: Split up of CIA Marks for Theory Courses

Course	(Series) 1 Test	Assignment/ Class work/Course project/ Seminar (minimum 3 assignments)
Theory	15 marks	25 marks

Pass Requirements: Minimum marks required for a pass for Theory course (Core courses) will be 45% for both the Continuous Internal Assessment (CIA) and ESE individually and 50% aggregate (CIA and ESE marks put together).

(ii) ELECTIVE COURSES

Evaluation shall be based on application, and analysis-based questions (for both internal and end semester examinations).

Table 5: Split up of CIA Marks for Elective Courses

Course	(Series) 1 Test	Assignment/ Course based task/ Seminar/ Data collection and interpretation) (minimum 3 assignments)
Theory	15 marks	25 marks

Pass Requirements: Minimum marks required for a pass for Elective course (Core courses) will be 45% for both the Continuous Internal Assessment (CIA) and ESE individually and 50% aggregate (CIA and ESE marks put together).

(iii) GIS I and II COURSES

Evaluation shall only be based on application, for internal assessment)

Table 6: Split up of CIA Marks GIS Courses

Course	(Series) 1 Test	Viva	Assignment/ (minimum 3 assignments)
Theory	15 marks	10 marks	25 marks

Pass Requirements: Minimum marks required for a pass in GIS courses is 50% marks in CIA. If a student has not secured 50% marks in CIA, he is awarded an FE grade. He has to register for the course in the next immediate chance, attend classes and get the pass requirements to be awarded the credits for the course.

(iv) STUDIO COURSES

All studio courses will have projects including field work and primary studies. End semester Jury will have a committee for evaluation comprising of an external subject expert and a faculty member in charge of the studio. Time allotted and schedule for field work will be specified in the course plan.
For studio-based courses

i. Reviews, Assignments, Group and Individual projects: 200 marks
ii. End semester jury: 100 marks

Pass Requirements: Minimum marks required for a pass for Planning Studio course will be 45% for both the Continuous Internal Assessment (CIA) and External Jury individually and 50% aggregate (CIA and Final Jury assessment marks put together).

Regular Jury:
A regular Jury will be conducted immediately after the course at the end of the semester. The students who have secured a minimum of 45% for Continuous Internal Assessment for the course, with no pending disciplinary action, and submitted roll up on time are eligible for appearing for regular Jury.

Supplementary Jury:
The candidate who appeared for Regular Jury but failed to secure a pass with the pass requirements of 45% for the Continuous Internal Assessment (CIA) and External Jury separately and 50% aggregate (CIA and Final Jury assessment marks put together, is eligible for the Supplementary jury.

A student who is eligible to appear for regular jury but is absent for the Regular Jury can also appear for the supplementary jury.

A student who has not secured 45% marks in CIA in Planning Studio course will have to attend extra classes and work on the project to attain a minimum of 45% marks in CIA. He / she can then become eligible for the supplementary jury.
The supplementary jury must be held before the commencement of the next semester.

Course repeat

If a student fails in the supplementary jury, he has to repeat the course. A pass in Planning Studio is a pre requisite for moving to the next higher semester.

(v) INTERNSHIP

At the end of the second semester the students are required to undergo an internship for eight weeks in an organization (public, private, NGO) which specializes in the concerned stream. The organization for Internship shall be selected/decided by the students on their own with prior approval from the faculty advisor/respective PG Programme Coordinator. At the end of the training the students should submit a report which will be evaluated by an internal committee of two faculty members. The time period of internship of 8 weeks shall be specified in the academic calendar.

Pass Requirements: Minimum marks required for a pass for Internship Viva voce will be 50%.

(vi) DISSERTATION

In the third semester, the students will choose a topic of interest for dissertation and will do independent research on a focused research question/ hypothesis, under the guidance of a faculty member. Students have to register for the Dissertation and select a topic in consultation with the guide. A detailed synopsis on the topic of the dissertation is to be prepared in the prescribed format given by the Department. Continuous evaluation will be conducted by a three-member committee consisting of one faculty member from the department and a second member who can be a faculty member or an external expert in the field of planning and the guide. The student will submit a report at the end of the semester and make final dissertation presentation which shall be of 30 minutes duration. A three member committee with the Head of the department or his/ her nominee as the Chairman, one faculty member from the department and an external expert as members, shall evaluate the dissertation based on the report and coverage of the topic, presentation and ability to answer the questions put forward by the committee. Due credits shall be given for publication of articles based on the dissertation in peer reviewed journals.

For Dissertation

i. Internal assessment by guide and Internal committee: 100 marks
ii. End semester evaluation by committee including the External expert: 100 marks

Pass Requirements: Minimum marks required for a pass for Dissertation course will be 45% for both the Continuous Internal Assessment (CIA) and External Jury individually and 50% aggregate (CIA and Final Jury assessment marks put together).

(vii) THESIS EVALUATION

Students are required to do an independent project in the fourth semester. The project may be related to the dissertation work done in the third semester. Progress of the thesis work is to be evaluated during the fourth semester by a committee with two faculty members in the area of the project and the project supervisor/s. If the project is done outside the college, the external supervisor associated with the student shall also be a member of the committee.

Final evaluation of the thesis will be taken up only if the student has earned all course credits listed in the first three semesters. Project evaluation shall be done by a committee consisting of a faculty member and an external expert, either from an academic/R&D organization or from Industry. If the quantum of work done by the candidate is found to be unsatisfactory, the committee may extend the duration of the project up to one more semester, giving reasons for this in writing to the student. Normally further extension will not be granted and there shall be no provision to register again for the same project.

THESIS Total - 500 marks (Internal 350 marks & Viva Voce 150 marks)

i) Internal assessment by guide - 150 marks (30 %)
ii) Continuous Internal evaluation by committee - 200 marks (40 %).
iii) Viva Voce – 150 marks (30 %).

All the above are mandatory requirements to earn credits.

Project work outside the College

Normally students are expected to do the project within the college. However, they are permitted to do the thesis in an industry or in a reputed research institute under a qualified supervisor from that organization. This is only possible in the fourth semester. Student should apply for this through the supervisor indicating the reason for this well in advance, preferably at the beginning of the 3rd semester. The application for this shall include the following:

Topic of the Project
Reason for doing the project outside
Institution/Organization where the project is to be done
External Supervisor – Name
Designation
Qualification and Experience

Letter of consent of the External Supervisor as well as from the organization is to be obtained. This application is to be vetted by the Head of the department and based on the decision taken by the Principal, the student is permitted to do the project outside the college.

	Regular Jury: A regular Jury will be conducted immediately after the course at the end of the semester. The students should have completed all courses till the third semester to register for the fourth semester thesis jury exam. The students who have secured a minimum of 45% for Continuous Internal Assessment for the course, with no pending disciplinary action, and submitted roll up on time are eligible for appearing for the regular Jury. **Supplementary Jury:** A Supplementary jury will be conducted within 3 months after the publication of the result of the regular Jury. A candidate who has appeared for Regular Jury but failed to secure a pass with the pass requirements of 45% for the Continuous Internal Assessment (CIA) and External Jury separately and 50% aggregate (CIA and Final Jury assessment marks put together) is eligible for the Supplementary Jury. A student who has submitted the roll up on time but was absent for the Regular Jury is also eligible for the Supplementary jury. The students can improve the sheets for appearing in the Supplementary Jury. The sheets shall be submitted to the department on the date announced by the head of department. **Pass Requirements:** Minimum marks required for a pass for Thesis and Viva voce course will be 45% for both the Continuous Internal Assessment (CIA) and External Jury individually and 50% aggregate (CIA and Final Jury assessment marks put together). **Course Repeat:** Students are required to obtain a total of 45% marks combining the four stages of reviews to become eligible for the external jury, failing which he/she must repeat with the next immediate batch.
26R6.3	The question papers of the periodic tests shall be set in the pattern mentioned in the syllabus and the questions shall be based on course outcomes.
26R6.4	There shall be ESE every semester for all courses as prescribed under the respective curriculum, except Studio courses. Semester classes shall be completed at least ten days before the commencement of the ESE. At the end of the semester, the end semester examination will be conducted in all core and elective courses offered in the semester and will be of three hours duration unless otherwise specified. Supplementary examinations are to be conducted for eligible candidates registered for them, before the commencement of any semester.
26R6.5	The ESE shall be held twice in a year – May/June session (for even semesters) and November/December session (for odd semesters). However, the ESE of the III Semester shall be conducted in both the sessions.

26R6.6	**Eligibility to write the End Semester Examination/ Jury and Grading** The eligibility criteria for registering to the ESE are attendance requirements in the course, 45% or more marks in the internal evaluation and having no pending disciplinary action. Minimum attendance for appearing for semester examination is 75% in the course. In case of serious illness there is a relaxation for attendance. Students who do not meet any of these eligibility criteria shall be awarded an FE grade and will have to register for the course again, attend the classes and earn the credits. A student should have a minimum of 45% marks in the end semester examination and an aggregate of 50% (CIA+ESE), to be eligible for grading in a course. Otherwise, he/she will be considered to have failed in the course and an F grade will be awarded.
26R6.7	**Eligibility to write the Supplementary Examination** Students who have failed for ESE, and those who have completed a course but could not write the ESE due to health reasons or other exigencies that are approved by the Principal can register for the supplementary examination, provided they meet the eligibility criteria (26R6.6). They shall register for the exam and appear for the ESE at the next opportunity and earn the credits without having to register for the course again. Grades awarded in the supplementary examination will be taken as the semester grades in these courses. A candidate will not be permitted to enroll for a semester unless he/she has passed the Planning Studio Course of the previous semester. Those students who have failed in Planning studio will be given an opportunity to resubmit the portfolio in a supplementary chance before the commencement of the following semester. If the student fails to secure pass in the supplementary chance, he/she will have to repeat the Course in the next academic year. A student, if has not secured 45% marks in CIA in Dissertation, he/she has to repeat the course at the next immediate chance.
26R6.8	The Institution will prepare the question papers, conduct the end semester examinations, organize the valuation of the answer scripts, finalize the results and submit it to the Controller of Examinations, as per the academic calendar.
26R6.9	A student who does not register for all the courses listed in the curriculum for a semester shall not be eligible to enroll for the next higher semester.
R7 AWARD OF M. PLAN DEGREE	
26R7.1	**Award of M. Plan degree** A student will be eligible for the award of M. Plan. Degree of the University on satisfying the following criteria: 1. Fulfilled all the curriculum requirements within the stipulated duration of the course. 2. Registered and earned the required minimum credits as specified in the curriculum for the branch of study. 3. Has no pending disciplinary action.

26R7.2	Students registered for a course have to attend the course regularly and undergo the CIA and appear for the ESE. Credits for the course are deemed to be earned only on getting at least a pass grade 'P' or better in the composite evaluation (CIA + ESE). Students who have less than 45% marks for CIA will be awarded an FE grade.
26R7.3	Pass minimum for a course shall be as follows: (i) 45% for the ESE and (ii) 50% for (CIA+ESE). Letter grade 'F' will be awarded to the student for a course if pass minimum is not obtained as above.
26R7.4	Students who received F grade in an ESE shall have to appear for the ESE at the next opportunity and earn the credits.
26R7.5	Grading is based on the overall percentage marks obtained by the student in a course. The grade card shall only give the grades against the courses the student has registered. Semester grade card shall give the grade for each registered course, Semester Grade Point Average (SGPA) for the semester as well as Cumulative Grade Point Average (CGPA).
26R7.6	**Grade and Grade Points:** The assessment shall be as given in Table 5.

Table 5: Grades and Grade Points

Grades	**Grade Point (GP)**	**% of total marks obtained in the course**	
S	10	90% and above	
A+	9.0	85% and above but less than 90%	
A	8.5	80% and above but less than 85%	
B+	8.0	75% and above but less than 80%	
B	7.5	70% and above but less than 75%	
C+	7.0	65% and above but less than 70%	
C	6.5	60% and above but less than 65%	
D	6	55% and above but less than 60%	
P (Pass)	5.5	50% and above but less than 55%	
F (Fail)	0	Below 50% (CIA+ESE)	
FE	0	Failed due to lack of eligibility	
I	0	Could not appear for the end semester examination but fulfills the eligibility criteria	
Classification of M.Plan degree	First Class with Distinction		CGPA 8.0 and above
	First Class		6.5 ≤ CGPA < 8.0
Equivalent percentage mark shall be = 10 × CGPA			

26R7.7	Valuation: Answer papers of theory examinations, for which end semester examinations are conducted by the College, shall be valued by two examiners. If the difference between the marks awarded by the two Examiners is not more than 15 percent of the maximum marks for ESE for the course, the marks awarded to the candidate shall be the average of two evaluations. If the difference in marks obtained in two valuations exceeds 15% of the maximum marks for the course, the answer script will be evaluated by a third examiner. The average of the closest two marks shall be considered as the

	marks secured by the candidate. However, if one of the three marks falls exactly midway between the other two, then the highest two marks shall be taken for averaging.
26R7.8	A student is permitted to check the answer books of the ESE after the results are declared, on payment of the prescribed fee. Any discrepancy in evaluation can be brought to the notice of the Controller of Examination, who shall initiate appropriate action as per the Examination Manual.
26R7.9	The students can apply for revaluation of the answer books of the ESE after the results are declared. Detailed procedure will be as given in the examination manual. The Controller of Examination shall examine such cases and conduct proper enquiry to see whether any of the examiners is responsible for negligent valuation of answer script and initiate suitable action as per the Examination Manual.
26R7.10	a. The I grade once awarded stays in the record of the student and is deleted when he/she completes the course successfully later. The grade acquired by the student will be indicated in the grade card of the appropriate academic year with an indication of the month and the year of passing of that course. b. 'F' grade obtained by a student will be deleted in the grade card once that course is successfully completed. The pass grade acquired by the student will be indicated in the grade card of the appropriate year with an indication of the month and the year of passing. The CGPA will be accordingly revised.
26R7.11	Grade cards shall be made available in the student login for the registered courses, in every semester. On earning the required credits for the degree, the University will issue the final consolidated grade sheet, including CGPA, for the M.Plan program.
26R7.12	All matters pertaining to the conduct of ESE, declaration of results, revaluation, and scrutiny will be as per the College examination manual unless otherwise mentioned in this regulation.
26R7.13	**Calculation of SGPA/CGPA** Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are calculated as follows: SGPA = $\Sigma(Ci \times GPi)/\Sigma Ci$, where 'Ci' is the credit assigned for a course and 'GPi' is the grade point for that course. Summation is done for all courses specified in the curriculum of that semester. The failed and incomplete courses shall also be considered in the calculation. CGPA = $\Sigma(Ci \times GPi)/\Sigma Ci$, where 'Ci' is the credit assigned for a course and 'GPi' is the grade point for that course. Summation is done for all courses specified in the curriculum up to that semester for which the 'CGPA' is needed. Here the failed courses shall also be accounted.

	CGPA for the M. Plan programme is arrived at by considering all course credits that are needed for the degree and their respective grade points.
26R7.14	Re-admission: When the case of readmission arises from one scheme to another, respective BoS shall have to prepare the courses for credit transfer/ transitory courses. In such cases application from students addressed to Dean PG shall be forwarded to respective BoS and Academic Council shall approve the same after receiving the recommendation from BoS.
26R7.15	Malpractices in Examination: Any act of violation of College directions, indiscipline, misbehaviour, or unfair practice in examinations from the part of students, faculty members, staff, institution, management or any other source shall be viewed very seriously. It is the legal responsibility of the Controller of Examination to see that the examinations are conducted strictly as per the College Examination Manual. Malpractices in examinations observed or reported by an official employed by the University/College, faculty member, invigilator shall be immediately reported to the Deputy Controller of Examination. The Controller of Examination shall decide the course of action on the issue as per the prescribed norms in the College Examination Manual.
R8 ACADEMIC MONITORING AND STUDENT SUPPORT	
26R8.1	**ADVISORY SYSTEM** An advisory team shall be constituted for each batch of a programme which will help the students in planning their courses of study and for getting general advice on the academic and non-academic activities during their period of study. As far as possible, the team members shall be the same throughout the period of the programme for a batch.
26R8.2	**Senior Faculty Advisor (SFA)** (i) The SFA shall be the custodian of the documents regarding all academic and non-academic matters of students. (ii) All requests/applications from a student or parent to higher offices are to be forwarded/recommended by the Senior Faculty Advisor after being recommended by the Faculty Advisor. (iii) The SFA shall arrange separate or combined meetings with advisors; course faculty, parents and students as and when required and discuss the academic progress of students in their advisory group. Minimum two advisory meetings should be convened every semester. The meetings shall preferably be convened (i) immediately after the commencement of the semester and (ii) immediately after announcing the marks of first internal evaluation test. (iv) The SFA shall be the custodian of the minutes and action taken reports of the advisory meetings. (v) PTA meetings shall be held at least once in a semester to update the progress of classes and the performance of students.

	(vi) Suggestions/complaints/concerns of the students, regarding academic and non-academic matters, have to be addressed by the SFA. (vii) The SFA shall submit the reports of the course/class committee meetings to the DQAC with remarks. (viii) The SFA/FA shall keep a copy of the consolidated statement of attendance, activity points and academic and non-academic performance of the students in the advisory group. (ix) The SFA shall also offer guidance and help to solve the issues on academic and non-academic matters of the students in their advisory group. (x) The SFA and FAs shall be part of the Class Committees and shall take note of the progress of the classes and the issues and complaints raised by the faculty/students and assist in taking corrective action.
26R8.3	**The Advisory Assistant (AA)** The AA shall assist the SFA and the FA in the documentation of the matters related to the batch and monitor the infrastructure arrangements in the labs and classrooms allocated for the class.
26R8.4	**PG Coordinator**: Each department will have a professor as PG Coordinator. The duties of the PG Coordinator are: i. To oversee and coordinate the activities of PG courses. ii. To Guide and advise students on all academic matters. iii. To keep a record of the academic activities of the registered students for all the PG programs in that department. iv. To maintain student attendance on a daily basis (FN & AN).
26R8.5	**Programme Coordinator:** The Programme Coordinator will have the role of Faculty Adviser (FA) of that program. If the department has only one PG program, the PG Coordinator can act as the Programme Coordinator. The responsibilities of the programme coordinators are: To control and coordinate the activities of a particular program, to guide and advise students on all academic matters, to keep a record of academic and non-academic activities of students registered for the PG program, communicate regularly with students' parents regarding academic and other general progress, keep custody of minutes of meetings with students and reports of action taken.
26R8.6	The **IQAC** shall conduct orientation programmes from time to time for all advisors regarding student counselling.
26R8.6.1	**The College Level Academic Committee** for the Institution (CLAC) and the Departmental Level Academic Committee (DLAC) for each department will be responsible for the management and supervision of academic activities related to the PG program. The CLAC includes the following members: ▪ The Principal should be the Chairman of the committee, ▪ The Secretary of the committee should be PG Dean. ▪ The Members of the committee include Heads of Departments ▪ PG Coordinators of the department having Masters Programmes,

	▪ UG Dean ▪ Dean Research. The CLAC should hold at least two meetings each semester. The minutes of the meeting and the action taken report should be kept in the office of the PG Dean with the principal's countersign. All these documents will be examined by the internal auditor during the academic audit. The agenda of the meeting of CLAC includes the following points: ✓ Review the progress of course coverage against the academic calendar and the course plan and suggestions for improvement, ✓ Academic quality and excellence of various programmes, ✓ Performance appraisal of Faculty handling the course as reported by DLAC, Review the placement and institute industry collaboration of each programme reported by DLAC, ✓ Matters related to the post graduate programme of various departments. **DLAC** includes the following members: ▪ The Head of the Department should be the chairman of the committee ▪ The Secretary should be the PG Coordinator of the department ▪ The Members include Programme coordinators of all PG programmes of the department, ▪ Department Coordinator for UG and ▪ Two faculty members handling PG classes The DLAC will hold at least three meetings each semester. The minutes of the meeting will be maintained by the PG Coordinator along with the action taken report (with the countersign of the Head of the Department). Relevant points of the meeting will be reported to the Principal /PG Dean for reporting to the CLAC. All these documents will be examined by the internal auditor during the academic audit. The agenda of the meeting includes the following points: ✓ Academic quality and excellence of the courses offered by the department. ✓ To check if the course is progressing as per the academic calendar. ✓ To oversee the continuous internal evaluation of students in a class for each course. ✓ Performance appraisal of Faculty handling the courses ✓ To corroborate the Placement analysis and institute industry collaboration of all programmes. ✓ Any other matter related to the postgraduate programme of the department, any appropriate responsibility or function assigned by the Principal.
26R8.6.2	**Constitution of the Class Committee** The department courses of each semester shall have Class Committees (CC) constituted by the Head of the Department concerned. The Chairman of the CC shall be a Senior faculty, not engaging classes for the semester. All faculty offering courses, including labs, shall be part of the CC. The student

	representative (one for 40 students) shall be selected by the SFA. The SFA and FAs of the class shall also be part of the CC.
26R8.6.3	**Responsibility and Frequency of Meetings of the Committees** The Committee shall meet at least three times in a semester, of which the first two meetings will be attended by all the CC members and the last one without the student representatives. The agenda of the meetings shall be as follows: 1. The first meeting with the committee members and student representatives shall be within two weeks after the commencement of the class. The pattern of examinations and weightage of internal marks shall be made transparent to the students. The feedback from students and faculty regarding the conduct of the classes shall be collected. 2. The second meeting shall be convened after publishing the results of the first series test. The committee shall take the feedback from students and faculty about the course and discuss corrections and improvements, including, conducting remedial classes and field visits, if required. 3. The final meeting convened at the end of the semester, shall discuss the average, maximum and minimum internal marks obtained by the class. It shall also suggest changes/ refinement in the curriculum and syllabi and suggest best practices in the conduct of the classes and evaluation. 4. A copy of the minutes of the Course/Class Committee shall be handed over to the SFA of the classes concerned. The deliberations of the committee shall be communicated by the SFA to the DQAC.
26R8.6.4	**IQAC and DQAC** The responsibility of the IQAC and DQAC shall be the following: (i) The DQAC will be in receipt of the feedback from CC meetings and advisory, PTA meetings, with remarks from the SFA. The feedback will be periodically communicated to the HoD and corrective actions shall be taken. (ii) A performance report of the classes shall be given by the HoD to the IQAC during the academic audit. The report shall contain the consolidated attendance, evaluations conducted till date, portions covered, minutes of CC meetings, advisory and PTA meetings, faculty evaluation by students, programmes conducted etc. for each batch of students. The report shall also contain outstanding achievements of the students in non-academic activities, skill development programmes conducted, internships and industry linkages during the semester. (iii) The corrective measures taken by the Department regarding the performance of the class shall be communicated to the IQAC.

R9 ACADEMIC AUDITING	
26R9.1	Academic Auditing: It is the process which checks and ensures the effectiveness of the teaching-learning process and the holistic development of the students. There shall be academic auditing in each department at stipulated intervals. The academic auditing shall be conducted by an Internal Quality Assurance Cell (IQAC) within the college in association with Department Quality Assurance Cell (DQAC) of each department. The Internal Quality Assurance Cell (IQAC) shall oversee and monitor all the academic activities including all internal evaluations and examinations. The IQAC shall prepare academic audit statements for each semester at regular intervals. These reports shall be presented to the Principal for the consideration of the statutory bodies concerned. Academic auditing shall cover: - 1. Course delivery and adherence to the course plan, syllabus coverage, quality of question papers used for internal examinations, internal evaluation, maintenance of laboratory experimental setups and equipment, practical assignments, mini projects and conduct of practical classes and their evaluation. 2. Co-curricular and Extra-curricular activities available for students. 3. Academic functioning of the college encompassing students, faculty and college administration covering punctuality, attendance, discipline, academic, environment, learning ecosystem, academic accountability, academic achievements and benchmarking. 4. The audit shall also cover the quality criteria prescribed by NBA/NAAC/ CoA/ ITPI.
26R9.2	Constitution of the Audit Team Audit teams are constituted by the IQAC for each programme. There shall be a convenor and two members, from other departments. The same audit team may also evaluate all the programmes offered by the Department.
26R9.3	One academic audit shall be conducted every semester, at the middle of the semester.
26R9.4	The auditors shall check the documents related to the performance of the faculty and students, and the infrastructure facilities of the Department. The team shall provide a report to IQAC, offering suggestions. The IQAC shall communicate the necessary corrective measures to the HoD of the concerned department.
R10 ATTENDANCE	
26R10.1	Continuous monitoring of attendance shall be done by the faculty handling the course. The absence of a longer duration shall be intimated to the SFA. The advisory team shall also monitor the attendance through AMS.
26R10.2	Students shall be eligible to appear for ESE only if they have 75% attendance in the concerned course. The grade for CIA only courses shall be awarded to the students only if he/she satisfies the minimum attendance of 75%.

	Students who get Part Time Teaching Assistantship (PTTA) or scholarships from the Central or State Governments or any other agencies are expected to have 100 % attendance. However, under unavoidable circumstances students are permitted to take leave. Duty leave is normally sanctioned for any approved activity taken up by students outside the college covering sports and other extracurricular activities. Leave is also permitted on medical grounds or on personal exigencies. Leave of absence for all these is limited to 15% of the academic contact hours for the course for scholarship holders and 25% of academic contact hours for the course for other students.
26R10.3	If a student has reported a valid medical issue, the minimum attendance requirement can be reduced to 65% by the Principal. The student can avail of this for more than one course in a single semester. But such relaxation can be utilized only during one semester of the entire M. Plan programme period.
26R10.4	If the student has represented college sports or arts competitions at the national level, the Principal can give a maximum of 5% attendance relaxation. This shall be allotted only if the student has an overall attendance of 65%. The student has to submit the participation certificate duly signed by the Head of the Department of Physical Education (in case of sports) or by the SFA (in case of other extracurricular activities) within ten days of the event. It shall be forwarded to the Principal with a due recommendation from the respective Head of the Department. Suppose the student has conducted or coordinated any event at the inter collegiate level, the Principal can give a maximum of 5% attendance relaxation, subject to the recommendation of the faculty-in-charge of the event and the SFA. The student should possess at least 65% overall attendance and submit the certificate recommended by the above mentioned authorities, within ten days of the event. For both cases mentioned above, late applications will not be considered.
26R10.5	**Leave of Absence** Students who desire to take leave have to apply for it to the teacher conducting the course. This application together with any supporting documents like doctor's certificate or other relevant information is to be forwarded to the Head of the Department with the recommendation of the staff advisor indicating the total leave of absence the student has so far availed. Approval for leave is to be given by the head of the department. After any prolonged medical leave, normally exceeding five instruction days, on rejoining, the student has to produce the fitness certificate given by the doctor.
R11 MAXIMUM DURATION OF THE PROGRAMME	
26R11.1	A student is expected to complete the M. Plan programme in four semesters. However, a student may complete the programme taking not more than four years.
26R11.2	Students have to satisfy the minimum credits of 79, as specified in the curriculum.

26R11.3	A student may be permitted by the Principal to withdraw from the programme for a semester or longer, for reasons of ill health or other valid reasons.
26R11.4	Normally, a student shall be permitted to withdraw from the programme only for a maximum continuous period of two semesters.
R12 GRACE MARKS FOR SPORTS/ARTS COMPETITIONS	
26R12.1	Candidates who are regular students in an institution can only avail of grace marks.
26R12.2	Grace marks will be awarded to students who represented the institution in officially sponsored national level championships. The student shall also possess prior permission from college/ University for the participation.
26R12.3	The maximum grace marks a student can acquire, for all activities put together, in a semester is 5% of the maximum aggregate score of that particular semester's all theory papers.
26R12.4	The maximum grace marks a student can acquire for a theory paper, for all activities put together, shall not exceed 10% of the aggregate maximum of that particular course in the end semester examination.
26R12.5	No grace mark shall be allotted for Practical/ Lab/ Viva Voce/ internal assessment/ Seminar, even if the student fails in any of them.
26R12.6	Grace marks shall be allotted only for theory courses. However, redistribution of grace marks is allowed only for courses in which the candidate has passed. The grace marks can be redistributed from passed courses to failed courses but cannot be changed from a failed course to others for a pass.
26R12.7	Grace mark shall be allotted to all the theory courses.
26R12.8	Redistribution of marks shall be allotted to students for enabling a student to obtain the minimum mark required for a pass.
26R12.9	Grace marks cannot be redistributed from one semester to another.
26R12.10	If a student, even after adding grace marks, does not acquire the minimum pass mark, a moderation can also be done in addition to the grace mark for a pass.
26R12.11	Grace mark shall be allotted only for the regular examination and not for any supplementary examination.
26R12.12	The performing semester shall be considered from 1st July to 31st December (Odd Semester) and 1st January to 30th June (Even Semester).
26R12.13	Grace marks are allotted based on performance in the respective semester.
26R12.14	The student shall submit the request for grace marks to the Controller of Examination through the Principal with all required documents. The request should be submitted within the time limit, or else the same will not be considered.
26R12.15	Only the single highest achievement of a student during the period of a semester shall be considered for awarding grace marks.

R13 GRACE MARKS FOR PERSONS WITH DISABILITY	
26R13.1	A person with not less than 40% disability is eligible for grace marks. A person with disability means a person suffering from not less than 40% of any disability as certified by the Medical Board in Govt. hospitals. To be eligible for the grace marks, the certificate of disability specifying the percentage of disability shall be produced before the Principal at the time of admission.
26R13.2	The Grace Marks that can be awarded for PWD candidates shall be 25% of the marks scored by the candidate in each course at the time of finalization of the results.
26R13.3	Marks cannot be transferred from one course to another. If a candidate scores any fraction of marks, it can be rounded to the next highest integer.
26R13.4	Candidates eligible for grace marks under disability can avail of grace marks for both regular and supplementary examinations until they pass the whole examination.
26R13.5	Grace marks shall be awarded only for end-semester examinations.
26R13.6	Request for Grace marks shall be submitted to the Controller of Examinations through the HoD along with all relevant documents, within the time limit prescribed by the Institution. The request for Grace marks received after the time limit shall not be entertained on any account.
R14 SCHOLARSHIPS/ FEE WAIVER	
26R14.1	Students shall be eligible for the scholarship/fee waiver schemes of the institution/state government/central government based on the eligibility set for the schemes from time to time.
R15 DISCIPLINE	
26R15.1	The students shall make sure they behave in a way that does not tamper with the institution's prestige. They shall maintain discipline and decorum inside and outside the college campus.
26R15.2	In case of complaints, a student may appeal to the Dean (Student Affairs), who shall forward any case of indiscipline to the Disciplinary Action Committee. The Committee then studies the issue and suggests suitable actions to be taken to the Principal.
26R15.3	**Ragging**: Ragging of any nature is a criminal and non-bailable offense. Any kind of involvement in ragging is punishable under the law. If a student is proven guilty of ragging, he/she shall be dismissed from the institution. If any action of ragging is identified, the Anti-Ragging Committee in the institute shall decide on sudden action for the institute to implement. Every academic year, the new student and parent shall submit a duly signed undertaking during the admission process.
R16 PROFESSIONAL SOCIETIES	
26R16.1	The college shall encourage participation of students in professional bodies and forums/clubs which will improve the domain knowledge, networking

	with peers, leadership and management capabilities of students. Involvement in forums such as NSS/NCC etc. shall also be encouraged.
R17 OTHER ACADEMIC MATTERS	
26R17.1.1	**Break of study:** There are different situations a student can avail a break of study without dropping the programme. Each of them can be accepted only if the student follows respective guidelines for the same. (i) If a student faces a medical condition that requires a break from study, he/she should submit related documents. During rejoining, he/she should also submit a fitness certificate from the doctor. (ii) When a student has a brilliant start-up idea and requires a break of study, he/she should submit the plan of action, probable outcome, and detailed explanation to the Principal. The student can avail a maximum of a two-semester break of study. He/she should not have any backlogs until the second semester. (iii) Students who require a break from the study due to any 'personal reason' should get the sanction from the Principal. (iv) Students can also avail break of study if they have an opportunity for 'internship leading to employment'. They should submit the offer letter to the Principal to verify the authenticity of the document submitted. Students with annual compensation of not less than three lakhs are eligible for this facility. b) Break of study shall be imposed on a student due to the following reasons: i) 'Debarred from study' due to any stipulated reason in the previous semester. ii) 'Pending Disciplinary Actions' against him/her from the previous semesters iii) Not registered for a semester. If a student wants to take a break from study, it is advised to take two-semesters, i.e., one year together, rather than one semester. The student should give prior application to the college and it should be approved by the Principal. The student shall also rejoin on the first working day of the same Semester for which he/she has taken the break to study.
26R17.1.2	During the Break of Studies, a student is: a. Not permitted to attend any regular classes b. Not permitted to stay in the 'Hostel' facility provided by the college c. Not permitted to participate in any of the institute level activities inside the campus. d. Eligible to register for courses in which he/she might have obtained an 'FE' grade. e. Eligible to reappear for the 'End Semester Final Examination' for such courses in which he/she might have obtained 'F' / 'I' grade.

26R17.2	**Migration from Other Universities:** Migration to the College from other Universities shall be permitted subject to the stipulations from the affiliating University promulgated from time to time.
26R17.3	**Students' Feedback** a) The college obtains feedback from students on their course work and various academic activities conducted. The feedback is obtained on-line from the students at regular intervals maintaining confidentiality. There shall be provisions to collect feedback from students during academic audits also. b) The feedback received from the students is reviewed/discussed by a committee constituted for the purpose and necessary corrective measures are taken.
26R17.4.1	**Recommendations for Degree Award** (a) The College forwards its recommendations to the University in respect of students qualifying for UG/PG/ Research Degree Awards based on their success in the examinations/adjudication of these as the case shall be after receiving approval from the Authorities/ Bodies of the College concerned. (b) The Autonomous College ensures that each such student in part (a) has fulfilled all the requirements for the Degree Award. (c) Only those students recommended for the Degree Award shall be entitled to receive the relevant Provisional Certificates/Transcripts from the College at this stage. Affiliating University is the authority for awarding the degree certificate.
26R17.4.2	**Provisional Degree Certificate & Consolidated Semester grade card**: Upon satisfying all the conditions noted in **26R17.4.1**, college shall issue consolidated grade card and Provisional Degree certificate for the students.
26R17.4.3	**Transcript** will be issued to students on request by paying a prescribed fee. Transcripts shall contain all the information that is mentioned in the grade sheet along with the month and year of passing of each course.
26R17. 5	**Graduation Ceremony** The College shall conduct annual Graduation Day ceremony for the award of Degrees to students completing the prescribed academic requirements. The Graduation Day is conducted after the University Convocation. The College shall award ranks and medals to the meritorious students during the Graduation Day Ceremony to encourage the students to strive for excellence.
26R17.6	**Policy of ethical conduct** Ethical conduct operates in different aspects of academia. Even though the evaluation of tests or assessments is subjective, no other criteria should be considered other than academic ability. The decorum and dignity of the classroom/ laboratory shall be maintained. No sort of cheating is acceptable and shall be punished. The advisors shall communicate positive ethical values and professionalism to the students. In projects and presentations, the faculty guide should monitor the procedures to maintain the highest order of ethics. No kind of plagiarism is accepted. Plagiarism check is not just for published papers but also for seminar/project reports, textbooks, and grant proposals.

26R17.7	**Bias and discrimination** Academics is one of the significant communities where participants of all ethnicity, affiliation, gender, sexual orientation, religion, caste, tribes, and backgrounds coexist and enrich the overall experience. Hence no kind of bias or discrimination should be held against any of the individuals or sections. The institution shall ensure that it functions with a complete gender-neutral and supportive environment with a proper balance of underrepresented sections. The academic and research goals can only be achieved if such harmony is maintained in the college.
26R17.8	**Regulatory Norms** The College shall encourage a culture of professionalism by arranging proper ethical training and ensuring that any unethical behaviour is not tolerated. To this end, the College must create or adopt suitable ethics documents and impart direct ethical training to its staff through lectures and interactive workshops regularly so that the community is fully aware of these issues.
26R17.9	**Academic Discipline and Students Welfare Committee:** The discipline of the college shall be monitored by the Committee, which shall be constituted by the Heads of Departments and Deans of UG, PG and Student Affairs.
26R17.10	**Grievances and Appeal Committee:** The Committee shall be constituted at the Department level with the Head of the Department and two senior faculty. In case of detailed investigation into the complaint/grievance raised, a special enquiry committee may be constituted on the instruction of the Grievances and Appeal Committee. The Committee shall see that the grievance is resolved within ten days, except in exceptional cases, with the consent of the Principal.
R18 POWER TO MODIFY	
26R18.1	Notwithstanding anything contained in these regulations, the Academic Council shall have the power to provide by order that these Regulations shall be applied to the M. Plan program with such modifications as may be necessary.

TKM COLLEGE OF ENGINEERING KOLLAM

DEPARTMENT OF ARCHITECTURE AND PLANNING

MASTER OF PLANNING (URBAN PLANNING)

SEMESTER I

2026

26MPC101	URBAN PLANNING HISTORY AND THEORY	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

It aims to familiarize students with the economic, political, cultural, social and other environmental forces shaping built environments in history. It is intended to help students understand the significance of history and theories in planning of settlements.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Demonstrate appreciation and knowledge about history and theory of planning and development of ancient cities.
CO 2	Analyse various city planning concepts, physical forms and theoretical formulations.
CO 3	Examine planning theories and approaches from modernist to post-modernist and participatory models.
CO 4	Interpret the evolution and challenges of urban planning in India, with reference to historical and contemporary case studies.
CO 5	Critically evaluate emerging urban paradigms such as sustainable, smart, inclusive, and resilient cities in a global context.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	-	1	3	-	-	-	3
CO 2	1	-	3	2	-	-	-
CO 3	2	-	3	1	-	-	-
CO 4	2	1	3	2	-	1	-
CO 5	3	2	3	3	1	-	-

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Evolution of Planning

Planning history – Pre historic & Ancient, study of history of planning and evolution of human settlements; Hunter, gatherer, farmer and formation of organised society; origins and growth of cities; Basic elements of the city; Historic determinants of settlement evolution: - geographical, climatic, socioeconomic, cultural, political, defensive, etc.
Human settlements as an expression of civilizations; Ancient civilizations – Egypt, Mesopotamia, Greek

MODULE II: Planning history - Medieval to current

Medieval, Renaissance, Industrial and post-industrial cities; Model and New Town Movements; Town Improvement and City Beautiful Movements
Contribution of individuals to city planning: Patrick Geddes, Ebenezer Howard, Camillo Sitte, Lewis Mumford, Le Corbusier, C.A. Doxiadis, Clarence Perry, Peter Hall, William Alonso etc.

MODULE III: Planning Theories

Theory of city form: normative models – cosmic, machine, organic; Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory; Modes of planning – blue print, synoptic, incremental, transactive, advocacy, participatory, mixed scanning; political economy approach – communicative model, new urbanism, and just city.
Modernism and Post-Modernist Planning Thought; Neo- Marxist and Neo Liberal perspectives in Planning; Post positivist typology of planning theory, Comprehensive Rational Planning Approaches; Disjointed Incrementalism and Mixed Range Approach

MODULE IV: Planning in India

History of urbanisation in India – ancient, medieval, precolonial, colonial, new towns; spatial patterns of urbanisation, settlement systems, classification of cities;
Character of Indian cities and challenges involved in planning
Post-independence Indian Planning and concept application through case studies: Capital City (an amalgamation of cities) – Delhi; Chandigarh, Gandhi Nagar and Bhuvaneshwar, Steel Cities, Raipur; New Mumbai etc.

MODULE V: Emerging concepts in planning
Global cities, 15-minute city, Sustainable Cities, Healthy City, Resilience City, Smart city, information city, inclusive city, safe city, shadow city, divided city, eco city etc.

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2. John Ratclliffe (1985), *"An Introduction to Town and Country Planning"*, Hutchinson.
3. Anthony James Catanese and James Synder C (1988), *"Introduction to Urban Planning"*, McGraw- Hill, Inc,US.
4. Davidoff.P, (1965): Advocacy and Pluralism in Planning, Journal of American Institute of Planners, Vol. 31. USA.
5. Amiya Kumar Das (2007), *"Urban Planning in India*", Rawat Pubns.
6. Government of India (2015), *"Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines*, Vol I & II, Town and Country Planning Organization, Ministry of Urban Development, New Delhi.
7. Palermo, Pier Carlo (2010), *"Spatial Planning and Urban Development: Critical Perspective",* Springer.
8. Kamal Uddin and Bhuiyan Monwar Alam (2023), *"Public Participation Process in Urban Planning: Evaluation Approaches of Fairness and Effectiveness Criteria of Planning Advisory Committees"*, Routledge.
9. Biswas Hiranmay (2012), *"Principles of Town Planning and Architecture"*, VAYU Education of India.
10. Peter Hall, Mark Tewdwr-Jones (2019), *"Urban and Regional Planning"*, Routledge; 6th edition.
11. Arthur B. Gallion (2003), *"The Urban Pattern*", 5th edition, CBS Publishers and Distributors.
12. Ebenezer Howard (1965), *"Garden Cities of Tomorrow",* London: Faber and Faber.
13. Jane Jacobs (1989), "Death and Life of American Cities", Knopf Doubleday Publishing Group.
14. R. Ramachandran (1991), "Urbanization and Urban Systems in India", Oxford University Press.
15. Le Corbusier (1987), "The City of Tomorrow and its Planning", Courier Corporation.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [7 hours]	**COs addressed: CO1**	
1.1	Planning history – Pre historic & Ancient, Study of history of planning and evolution of human settlements; Hunter, gatherer, farmer and formation of organised society	2
1.2	Origins and growth of cities; Basic elements of the city	1
1.3	Historic determinants of settlement evolution: - geographical, climatic, socioeconomic, cultural, political, defensive, etc.	2
1.4	Human settlements as an expression of civilizations; Ancient civilizations – Egypt, Mesopotamia, Greek	2
MODULE II [9 hours]	**COs addressed: CO1, CO2**	
2.1	Medieval, Renaissance cities	2
2.2	Industrial and post-industrial cities	2

2.3	Model and New Town Movements; Town Improvement and City Beautiful Movements	2
2.4	Contribution of individuals to city planning: Patrick Geddes, Ebenezer Howard, Camillo Sitte	1
2.5	Contribution of individuals to city planning: Lewis Mumford, Le Corbusier, C.A. Doxiadis	1
2.6	Contribution of individuals to city planning: Clarence Perry, Peter Hall, William Alonso	1
MODULE III [10 hours]	**COs addressed: CO2, CO3**	
3.1	Theory of city form: normative models – cosmic, machine, organic	2
3.2	Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory	1
3.3	Modes of planning – blue print, synoptic, incremental, transactive, advocacy, participatory, mixed scanning	2
3.4	Political economy approach – communicative model, new urbanism, and just city	1
3.5	Modernism and Post-Modernist Planning Thought Neo- Marxist and Neo Liberal perspectives in Planning	1
3.6	Post positivist typology of planning theory Comprehensive Rational Planning Approaches	2
3.7	Disjointed Incrementalism and Mixed Range Approach	1
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	History of urbanisation in India – ancient, medieval, precolonial, colonial, new towns	2
4.2	Spatial patterns of urbanisation, settlement systems, classification of cities	1
4.3	Character of Indian cities and challenges involved in planning	1
4.4	Post-independence Indian Planning and concept application through case studies – Delhi	2
4.5	Case study - Chandigarh, Gandhi Nagar and Bhuvaneshwar, Steel Cities, Raipur; New Mumbai etc.	3
MODULE V [7 hours]	**COs addressed: CO5**	
5.1	Global cities – case study	1
5.2	Case study - 15-minute city, Sustainable Cities, Healthy City, Resilience City, Smart city	3
5.3	Case study - Information city, inclusive city, safe city, shadow city, divided city, eco city etc.	3

CO Assessment Sample Questions	
CO1	1.Discuss the history and evolution of settlement in any ancient city. 2. Discuss the historic determinants of settlement evolution.

CO2	1. Explain the characteristics of medieval cities with a relevant example. 2. Explain the characteristics of renaissance cities with a relevant example. 3. Discuss the characteristics of industrial and post-industrial cities. 4. Discuss the contribution of urban planners to city planning – Ebenezer Howard, Clarence Perry, Alonso etc.
CO3	1. Compare the theories of planning. 2. Discuss the theory for city form. 3. What are the prevalent modes of planning? 4. Discuss the post-modernist planning approaches.
CO4	1. Discuss the challenges of urbanization in Indian cities. 2. Explain the planning concept in different Indian cities, namely, Delhi, Mumbai, Bhuvaneshwar.
CO5	1. Discuss any three emerging concepts in planning cities – smart city, global city, inclusive city. 2. Discuss the concept with relevant examples of cities.

26MPC102	ECOLOGY, ENVIRONMENT and DISASTER RESILIENCE	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The course aims to introduce students to the fundamentals of ecology, environmental management and climate resilience. It enables students to examine disaster risks, vulnerability and environmental challenges and explore institutional frameworks, policies and legal instruments for disaster resilience and environmental management.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend fundamental ecological principles and their relevance to urban environments and planning.
CO 2	Identify the urban environmental challenges, climate change impacts, and the planning responses necessary for resilience.
CO 3	Analyse disaster risk, understand vulnerability assessments, and resilience strategies at settlement and housing levels.
CO 4	Analyse institutional frameworks, policies, and legal instruments guiding environmental management and disaster resilience.
CO 5	Analyse and evaluate real-world examples and approaches to resilience, recovery, and sustainable planning

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	3	2		1	
CO 2	2	1	3	3		2	
CO 3	3	1	3	3		2	
CO 4	2	2	3	3		2	
CO 5	3	2	3	3		3	

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	40

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Fundamentals of Ecology and Urban Environmental Systems

Key Ecological concepts: ecosystems, biodiversity, food chains, biogeochemical cycles, ecosystem services; Urban ecosystems and urban metabolism: Land use ecology, energy flow in cities.
Human environment interactions: Impact of human activity on earth systems, urbanisation, Land use change, Environmental degradation.
Critical ecological challenges: Loss of wetlands, green cover depletion, coastal vulnerability
Concepts of sustainability: Natural resource management, ecological footprint, circular economy
***Self-learning*:** Global frameworks: Millennium Ecosystem Assessment, Sustainable Development Goals (SDGs).

MODULE II: Environmental Challenges, Climate change and Planning Responses

Urban environmental issues: Air, water, soil, and noise pollution; waste management and its planning relevance
Climate change and cities: Greenhouse gas emissions, sea-level rise, heat stress, extreme weather events
Risk to housing and infrastructure: Urban flooding, thermal discomfort, coastal erosion
Planning responses: Urban adaptation and mitigation approaches.

Self-learning: Planning responses: Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), Climate-resilient housing and land use planning strategies,

MODULE III: Disaster Risk and Resilience in Urban Contexts

Types of disasters: Natural (floods, cyclones, earthquakes) and human-made (industrial, environmental hazards)
Core concepts: Hazard, exposure, vulnerability, capacity, risk, resilience.
Disaster management cycle: Preparedness, response, recovery, mitigation. Principles of "Build Back Better" in housing and infrastructure.
Contextual focus: Disasters specific to India and Kerala
Risk assessment approaches: Tools for housing and settlement vulnerability mapping

Self-learning: Risk reduction strategies: Community-Based Disaster Risk Management (CBDRM), Nature-based solutions (green infrastructure, wetlands restoration)
Integration of Disaster Risk Reduction (DRR) in master plans and housing schemes.

MODULE IV: Environmental and Disaster Governance: Policies and Institutions

National Policies and Legislation:
Environmental Acts: Environment Protection Act (1986), Air (1981) and Water (1974) Acts, Forest Conservation Act (1980), Biological Diversity Act (2002), Wetlands Rules (2017), Coastal Regulation Zone Notification (CRZ 2011/2019)
Disaster Management Frameworks: Disaster Management Act (2005), Environment Impact Assessment (EIA) Notification (2006), National Policy on Disaster Management (2009), EIA Notification (2006), State Disaster Management Plans (SDMPs)

Governance Institutions:
National: National Disaster Management Authority (NDMA), Ministry of Environment, Forest & Climate Change (MoEFCC), Ministry of Housing and Urban Affairs (MoHUA), Ministry of Home Affairs (MHA)
State: State Disaster Management Authorities (SDMAs), State Pollution Control Boards (SPCBs), Town & Country Planning Departments
District/Local: Disaster Management Authorities (DDMAs), Urban Local Bodies (ULBs), Municipal Corporations, Panchayats.

***Self-learning*:** Global Frameworks and Agreements: Sendai Framework for Disaster Risk Reduction, Paris Agreement, 2030 Agenda for SDGs, Kyoto Protocol, New Urban Agenda.

Global Institutions: UNDRR, UN-Habitat, UNEP, IPCC, World Bank – Global Facility for Disaster Reduction and Recovery (GFDRR)

MODULE V: Case Studies in Sustainable and Resilient Urban Planning

Post-tsunami reconstruction in Tamil Nadu
Kerala floods (2018) – response and recovery
Surat: Urban Climate Resilience Strategy
Cyclone resilience planning in Odisha
Self-learning: Eco-districts in Portland, USA; Netherlands: Flood-resilient cities and living with water strategies; Copenhagen: Climate-resilient neighbourhoods; Resilient housing in Bangladesh floodplains

References:

1. Agarwal, S. K. (2011). *Fundamentals of ecology*. APH Publishing Corporation.
2. Alberti, M. (2008). *Advances in urban ecology: Integrating humans and ecological processes in urban ecosystems*. Springer.
3. Foreman, R. T. T. (2014). *Urban ecology: Science of cities*. Cambridge University Press.
4. Hoonweg, D. (2011). *Cities and climate change: Responding to an urban agenda*. World Bank Publications.

5. Jensen, J. R. (2007). *Remote sensing of the environment: An Earth resource perspective*. Pearson.
6. Ministry of Housing and Urban Poverty Alleviation, Government of India. (2016). *Disaster risk reduction: A handbook for urban managers*.
7. Niemelä, J., Breuste, J. H., Guntenspergen, G., McIntyre, N. E., Elmqvist, T., & James, P. (Eds.).(2011). *Urban ecology: Patterns, processes and applications*. Oxford University Press.
8. Odum, E. P., & Barrett, G. W. (2005). *Fundamentals of ecology* (5th ed.). Cengage Learning.
9. Saksena, K. D. (1993). *Environmental planning, policies and programmes in India*. Shipra Publications.
10. Sethi, M. (2017). *Climate change and urban settlements: A spatial perspective of carbon footprint and beyond*. Routledge.
11. Shaw, R., & Krishnamurthy, R. R. (2009). *Disaster management: Global challenges and local solutions*. University Press.
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COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [7 hours]	**COs addressed: CO1**	
1.1	Key Ecological concepts: ecosystems, biodiversity, food chains, biogeochemical cycles, ecosystem services	1
1.2	Urban ecosystems and urban metabolism: Land use ecology, energy flow in cities.	1
1.3	Human environment interactions: Impact of human activity on earth systems, Urbanisation, Land use change, Environmental degradation.	1
1.4	Critical ecological challenges: Loss of wetlands, green cover depletion, coastal vulnerability	1
1.5	Concepts of sustainability: Natural resource management, ecological footprint, circular economy	2
1.6	Global frameworks: Millennium Ecosystem Assessment, Sustainable Development Goals (SDGs).	1
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Urban environmental issues: Air, water, soil, and noise pollution	1
2.2	Waste management and its planning relevance	1
2.3	Climate change and cities: Greenhouse gas emissions, sea-level rise, heat stress, extreme weather events Risk to housing and infrastructure: Urban flooding, thermal discomfort, coastal erosion	2
2.4	Planning responses: Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)	2
2.5	Climate-resilient housing and land use planning strategies, Urban adaptation and mitigation approaches.	2

MODULE III [9 hours]	**COs addressed: CO3**	
3.1	Types of disasters: Natural (floods, cyclones, earthquakes) and human-made (industrial, environmental hazards) Contextual focus: Disasters specific to India and Kerala	1
3.2	Core concepts: Hazard, exposure, vulnerability, capacity, risk, resilience.	1
3.3	Disaster risk in housing vs. city-wide systems. Disaster management cycle: Preparedness, response, recovery, mitigation. Principles of "Build Back Better" in housing and infrastructure.	1
3.4	Risk assessment approaches: Tools for housing and settlement vulnerability mapping	2
3.5	Risk reduction strategies: Community-Based Disaster Risk Management (CBDRM), Nature-based solutions (green infrastructure, wetlands restoration)	2
3.6	Integration of Disaster Risk Reduction (DRR) in master plans and housing schemes.	2
MODULE IV [14 hours]	**COs addressed: CO4**	
4.1	Global Frameworks and Agreements: Sendai Framework for Disaster Risk Reduction, Paris Agreement, 2030 Agenda for SDGs, Kyoto Protocol, New Urban Agenda.	2
4.2	Global Institutions: UNDRR, UN-Habitat, UNEP, IPCC World Bank – Global Facility for Disaster Reduction and Recovery (GFDRR)	2
4.3	Environmental Acts: Environment Protection Act (1986), Air (1981) and Water (1974) Acts, Forest Conservation Act (1980), Biological Diversity Act (2002), Wetlands Rules (2017), Coastal Regulation Zone Notification (CRZ 2011/2019)	2
4.4	Disaster Management Frameworks: Disaster Management Act (2005), Environment Impact Assessment (EIA) Notification (2006), National Policy on Disaster Management (2009), EIA Notification (2006), State Disaster Management Plans (SDMPs)	2
4.5	National: National Disaster Management Authority (NDMA), Ministry of Environment, Forest & Climate Change (MoEFCC), Ministry of Housing and Urban Affairs (MoHUA), Ministry of Home Affairs (MHA)	3
4.6	State Disaster Management Authorities (SDMAs), State Pollution Control Boards (SPCBs), Town & Country Planning Departments Disaster Management Authorities (DDMAs), Urban Local Bodies (ULBs), Municipal Corporations, Panchayats.	3
MODULE V [4 hours]	**COs addressed: CO5**	
5.1	Post-tsunami reconstruction in Tamil Nadu Kerala floods (2018) – response and recovery Cyclone resilience planning in Odisha Surat: Urban Climate Resilience Strategy.	2
5.2	Resilient housing in Bangladesh floodplains Eco-districts in Portland, USA	2

	Netherlands: Flood-resilient cities and living with water strategies Copenhagen: Climate-resilient neighbourhoods	

CO Assessment Sample Questions	
CO1	1. What are urban ecosystems? Elaborate on concepts of sustainability such as ecological footprint, circular economy and resource management. 2. Discuss some of the ecological challenges faced by cities.
CO2	1. Discuss the climate change impacts affecting a city with a suitable example. 2. What are some of the planning responses to climate resilience and landuse planning?
CO3	1. Differentiate the concepts of hazard, exposure and vulnerability. 2. Elaborate on the disaster management cycle. 3. Discuss risk assessment approaches and risk reduction strategies.
CO4	1. Discuss the guidelines put forward by global institutions to deal with disasters. 2.Discuss any two Acts that discuss disaster mitigation and management. 3. Discuss the role of national/state level institutions in dealing with disasters.
CO5	1. Discuss the approach to resilience, recovery and planning in disaster affected areas with examples of cities/ regions at the national level. 2. With a suitable example explain the planning strategies that were adopted in a city outside India to deal with any disaster.

26MPC103	HOUSING	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

The course aims to introduce students to the fundamentals of housing, terminology, concepts, and socio-economic dimensions of housing, enhance students' understanding of global housing challenges and underscore the importance of housing and related infrastructure at both the individual and national levels.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the concept of housing and development and understand global challenges in housing.
CO 2	Understand the socio-economic dimension of housing and analyse the housing situation.
CO 3	Evaluate the housing needs and develop a high-quality living environment aligned with standards and guidelines
CO 4	Familiarise with the different national policies, housing provisions and financing.
CO 5	Analyse the prevalent housing practices and initiatives through case studies

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1			3			2	
CO 2	2		3			2	
CO 3	3	2	3	3		2	
CO 4	2		3	3			1
CO 5	3	3	3	3		3	1

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	40

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Housing concepts and global scenario

The concept of housing, its relevance, shelter as a basic requirement- Maslow's hierarchy of needs, and the Determinants of housing. Role of housing in social and economic development, Residential satisfaction and its factors

Census Definitions: Housing Stock, Housing Shortage, Housing Need, and Demand. Housing density- net density & gross density, obsolescence, occupancy rate, Concept of Habitable Room, Habitable Dwelling Unit.
Housing Situations in developing and developed countries: understand the housing scenario in the global context. Housing Situations in India: The Existing housing stock in India. Public Health Issues related to housing

Self-learning: International declarations of Housing – SDG, MDG, Habitat Agenda, IYSH, New Urban Agenda, Niti Aayog. National Housing Policy, National Urban Housing & Habitat Policy (2007), National Rural Housing & Habitat Policy, National Building Code, URDPFI Guidelines, CPHEEO (MoUD) manual

MODULE II: Social-Economic Dimensions and Housing Market

Social dimensions: Housing and social security, the role of housing in community well-being;
Slums: causes, consequences and approaches; Housing area planning consideration, Residential densities; low-cost housing, eco-friendly building materials

Economic dimensions: Contribution of housing to micro and macro economy, contribution to national wealth and GDP, national budgets, employment generation, affordability; Land for housing, land demand and supply, land pooling and readjustment, land reconstitution, land sharing

Inclusive Housing: public policy and implementation, private housing for aged, single women, differently abled, working women and men hostels, housing for migrant workers
Housing market -Factors affecting local housing market, Housing bubble, Housing stress- Rental Housing in India; Housing Projections- Estimating future housing requirements, examining land use provisions, and land suitability for housing development.

MODULE III: Housing Institutions

Role of Institutions in housing generation and upgrading: Housing and Urban Development Corporation, Building Materials Training and Promotion Council, Central Building Research Institute, State Housing Boards, Cooperatives, NGOs and other agencies in housing. Role of Private sector in Housing; Participatory models and their application in housing; Conducting social audits in housing; Housing and community development schemes

MODULE IV: Housing Finance, and Policies

Housing finance network and institutions. Formal and Informal systems of finance. Financing Agencies at global, national, and state level. Community micro-finance institutions: Self Employed Women Association Bank, Grameen Bank, Habitat International Coalition, International Slum Dwellers Federation; Urban Housing and Habitat Policy; International Agencies in Housing and Community Development; Best practices in Housing (slum upgrading, city wide networking, affordable housing provision). Cooperative Housing Societies in Indian Cities.

MODULE V: Housing typologies and approaches to shelter development

Typologies -Based on the characteristics of construction structural conditions, materials of construction, housing age, and density (low and high-rise), plotted development, group housing

Approaches to shelter development: Zoning -Understanding the zoning of housing in the city's development plan, location of residential zoning concerning other land uses

Settlement upgradation, incremental development, Site and services scheme, Core housing schemes, Self-help schemes, etc. Affordable Housing, Public Private Participation, Community participation in design and implementation of housing programs, Green Housing, Sustainable housing, Green Ratings (LEEDS, GRIHA, etc.).

Self-learning: Analysis of case studies of different housing approaches

Reference books

1. Abrams, C. (1964). *Man's struggle for shelter in an urbanising world*. MIT Press/Harvard University.
2. Allen, W. A., Happold, E., Word, A. M., & Courtney (Eds.). (1992). *A global strategy for housing in the third millennium*. E & FN Spon.
3. Bardhan, A., Edelstein, R. H., & Kroll, C. A. (2011). *Global housing markets: Crises, policies, and institutions*. Wiley.
4. Beyer, G. H. (1958). *Housing: A factual analysis*. The Macmillan Company.
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6. Gallion, A. (1953). *Urban pattern*. Van Nostrand Reinhold.
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16. Government of Kerala. (2019). *Kerala Municipality Building Rules*.
17. United Nations. (1996, June 14). *The Habitat Agenda: United Nations Conference on Human Settlements (Habitat II)*. Istanbul.
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19. Aldrich B.C and R.S. Sandhu (1995). *Housing for the Urban Poor*. Sage Publications, New Delhi.
20. Chattopadhyay S. (2009). New Essays on Inclusive Housing. Macmillan, Delhi.
21. Dwivedi R.M. (2007). Urban Development and Housing in India 1947 to 2007. New Century Publications, New Delhi
22. Jenkins P., H. Smith and Y.P. Wang (2007). Planning and Housing in the Rapidly Urbanizing World. Routledge, New York.
23. Sengupta Urmi, Annapurna Shaw and Debolina Kundu (2024). Housing India: Programmes, Policies and Governance. Routledge, London.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [6 hours]	**COs addressed: CO1**	
1.1	The concept of housing, its relevance, shelter as a basic requirement- Maslow's hierarchy of needs, and the Determinants of housing. Role of housing in social and economic development, Residential satisfaction and its factors	1
1.2	Census Definitions: Housing Stock, Housing Shortage, Housing Need, and Demand. Housing density- net density & gross density, obsolescence, occupancy rate	1
1.3	Housing Situations in developing and developed countries: understand the housing scenario in the global context.	1
1.4	Housing Situations in India: The Existing housing stock in India, Public Health Issues related to housing	1
1.5	International declarations and goals- IYSH, Habitat Agenda, MDGs and SDGs, New Urban Agenda.	1
1.6	National Housing Policy, National Urban Housing & Habitat Policy (2007), National Rural Housing & Habitat Policy, National Building Code, URDPFI Guidelines, CPHEEO (MoUD) manual.	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Social dimensions: Housing and social security, the role of housing in community well-being; Slums: causes, consequences and approaches	1
2.2	Slums: causes, consequences and approaches	1
2.3	Housing area planning consideration, Residential densities; low cost housing, eco-friendly building materials	1

2.4	Economic dimensions: Contribution of housing to micro and macro economy, contribution to national wealth and GDP, national budgets, employment generation, affordability	1
2.5	Land for housing, land demand and supply, land pooling and readjustment, land reconstitution, land sharing Housing market -Factors affecting local housing market, Housing bubble, Housing stress- Rental Housing in India	1
2.6	Housing Projections- Estimating future housing requirements, examining land use provisions, and land suitability for housing development	1
MODULE III [4 hours]	**COs addressed: CO3**	
3.1	Role of Institutions in housing generation and upgrading: Housing and Urban Development Corporation, Building Materials Training and Promotion Council, Central Building Research Institute,	1
3.2	State Housing Boards, Cooperatives, NGOs and other agencies in housing. Role of Private sector in Housing; Housing and community development schemes	1
3.3	Participatory models and their application in housing	1
3.4	Conducting social audits in housing	1
MODULE IV [6 hours]	**COs addressed: CO3, CO4**	
4.1	Housing finance network and institutions. Formal and Informal systems of finance. Financing Agencies at global, national, and state level.	2
4.2	Community micro-finance institutions: Self Employed Women Association Bank, Grameen Bank	1
4.3	Habitat International Coalition, International Slum Dwellers Federation; Urban Housing and Habitat Policy; International Agencies in Housing and Community Development	1
4.4	Best practices in Housing (slum upgrading, city wide networking, affordable housing provision). Cooperative Housing Societies in Indian Cities.	2
MODULE V [6 hours]	**COs addressed: CO4, CO5**	
5.1	Typologies -Based on the characteristics of construction structural conditions, materials of construction, housing age, and density (low and high-rise), plotted development, group housing	1
5.2	Approaches to shelter development: Zoning -Understanding the zoning of housing in the city's development plan, location of residential zoning concerning other land uses; Settlement upgradation, incremental development, Site and services scheme, Core housing schemes, Self-help schemes, etc. Affordable Housing	1

5.3	Inclusive Housing: public policy and implementation, private housing for aged, single women, differently abled, working women and men hostels, housing for migrant workers	1
5.4	Public Private Participation, Community participation in design and implementation of housing programs, Green Housing, Sustainable housing, Green Ratings (LEEDS, GRIHA, etc.).	1
5.5	Analysis of case studies of different housing approaches	2

CO Assessment Sample Questions	
CO1	1. Differentiate between the housing situation in India and around the world. 2. With reference to Maslow's hierarchy of needs, discuss the role of housing in social and economic development.
CO2	1. Explain the social dimensions of housing. 2. discuss the economic dimensions of housing. 3. What are the factors affecting local housing market?
CO3	1. Discuss the role of various agencies that promote housing in the state. 2. Discuss participatory models for housing.
CO4	1. Explain 'National Urban Housing and Habitat Policy'. 2. What are the different national financial institutions for funding housing programs? 3. Discuss a model for affordable housing in the state.
CO5	1. Discuss the practices of land economics and land pooling for different typologies of housing development. 2. With a suitable case study explain the planning approach adopted for affordable housing. 3. What are the implications of residential zoning in a city development plan?

26MPC104	TRANSPORT PLANNING	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

The course aims to familiarize students with different transport systems, and also principles, practices and policies of transportation planning. The students would learn the basic concepts of planning and designing transport facilities and traffic management tools for human settlements.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the components of transport planning and issues related to traffic and transportation planning
CO 2	Analyse landuse transport interdependence and integration
CO 3	Identify the design and engineering components of the transport system
CO 4	Conduct field survey, examine and analyse data and information for transport planning including transit-oriented development.
CO 5	Analyse the different transport systems for management and enhancement of transport.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2		3	2			
CO 2	2		3	3		2	
CO 3	2		3	3	2		
CO 4	3	2	3	3	3	3	1
CO 5	3		3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	40

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Basics of Transportation Planning

Meaning, scope, objectives and components of transportation planning and its importance in urban planning; Importance of traffic and travel characteristics in transportation planning; Relationship between traffic volume, concentration, and speed; Urban and Regional Hierarchy of Roads and their Norms and Standards; Highway capacity and level of service; Transport problems and mobility issues.

MODULE II: Land use – Transport Integration

Land use and transport integration: definitions and concepts, land use transport cycle, importance of accessibility; Factors affecting land use-transport integration, and tools for land use-transport integration; Key elements of integration; Integrating land use and transport in the planning process; Institutional integration and legal mechanisms for integration.

Principles of traffic impact analysis, land development attributes, traffic generation rates of different land use; Land development impact on traffic congestion on road segments, intersections and parking, impact on public transportation, pedestrian traffic and safety.

MODULE III: Traffic Engineering

Cross Sectional and longitudinal elements of urban roads: right of way, carriageway, median, service lane, footpath, curb, camber, side slope, service road, horizontal curves, vertical curves, super elevation, sight distance, access control; Intersections and interchanges: types, capacity, and design principles; Traffic controls and regulation devices: traffic signs, signals, and markings; Road infrastructure and road landscape design features.

MODULE IV: Transport Planning Process and Surveys

Transport plan and management: comprehensive traffic & transportation plan, city mobility plan, transport system management; Urban form and transport patterns; Accessibility and mobility issues in transportation planning;
Transportation planning process: stages and surveys/ studies; Traffic surveys, presentation and analysis- traffic volume, parking, origin & destination, speed & delay, accidents; Planning considerations, determinants of transport demand, norms and designs of bus and truck terminals.
Transport planning policies of central and state governments; Transit Oriented Development: Definition, concepts and key components; Principles of TOD, planning norms and standards of TOD, pre-requisites of TOD, financing of TOD projects, role of stakeholders; Golden Quadrilateral project, corridor development projects, expressway projects; Metro rail networks projects of urban and regional significance, e-mobility

MODULE V: Transport systems and Policies

Transport systems: meaning, types, characteristics of BRTS, LRTS, MRTS and NMTS; City size and sustainable transport options. Intelligent transport system: meaning, components, characteristics, and guidelines; Smart transport solutions; Pedestrian and cyclist infrastructure; Legal and organizational framework for transportation; Funding of transportation systems;
Transport technologies and environmental impacts: relevance in urban transportation planning; Transport, environment, and safety issues; Principles and approaches of traffic management, transport system management, Parking facilities

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1. Khisty C.J. and B.K. Lall (2016). Transportation Engineering: An Introduction. Prentice Hall of India Pvt. Ltd., New Delhi.
2. Pande Anurag and Brian Wolshon. (2016). Traffic Engineering Handbook. Seventh Edition. Institute of Transportation Engineers, New Delhi.
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12. U.S. Department of Transportation and Federal Highway Administration (2023). Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

COURSE CONTENTS AND LECTURE SCHEDULE		
No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Meaning, scope, objectives and components of transportation planning and its importance in urban planning;	1
1.2	Importance of traffic and travel characteristics in transportation planning	1
1.3	Relationship between traffic volume, concentration, and speed, Transport problems and mobility issues	1
1.4	Urban and Regional Hierarchy of Roads and their Norms and Standards; Highway capacity and level of service;	1
MODULE II [6 hours]	**COs addressed:CO2**	
2.1	Land use and transport integration: definitions and concepts, land use transport cycle, importance of accessibility	1
2.2	Factors affecting landuse-transport integration, and tools for landuse-transport integration	1
2.3	Key elements of integration; Integrating land use and transport in the planning process; Institutional integration and legal mechanisms for integration	1
2.4	Principles of traffic impact analysis, land development attributes, traffic generation rates of different land use;	1
2.5	Land development impact on traffic congestion on road segments, intersections and parking, impact on public transportation, pedestrian traffic and safety.	2
MODULE III [4 hours]	**COs addressed: CO3**	
3.1	Cross Sectional and longitudinal elements of urban roads: right of way, carriageway, median, service lane, footpath, curb, camber, side slope, service road, horizontal curves, vertical curves, super elevation, sight distance, access control	1
3.2	Intersections and interchanges: types, capacity, and design principles.	1
3.3	Traffic controls and regulation devices: traffic signs, signals, and markings	1
3.4	Road infrastructure and road landscape design features.	1
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	Transport plan and management: comprehensive traffic & transportation plan, city mobility plan, transport system management	1
4.2	Urban form and transport patterns; Accessibility and mobility issues in transportation planning	1
4.3	Transportation planning process: stages and surveys/ studies; Traffic surveys, presentation and analysis- traffic volume, parking, origin & destination, speed & delay, accidents	1

4.4	Planning considerations, determinants of transport demand, norms and designs of bus and truck terminals.	1
4.5	Transport planning policies of central and state governments	1
4.6	Transit Oriented Development: Definition, concepts and key components; Principles of TOD, planning norms and standards of TOD, pre-requisites of TOD, financing of TOD projects, role of stakeholders;	2
4.7	Golden Quadrilateral project, corridor development projects, expressway projects; Metro rail networks projects of urban and regional significance, e-mobility	2
MODULE V [5 hours]	**COs addressed: CO5**	
5.1	Transport systems: meaning, types, characteristics of BRTS, LRTS, MRTS and NMTS; Pedestrian and cyclist infrastructure	1
5.2	City size and sustainable transport options: Intelligent transport system: meaning, components, characteristics, and guidelines; Smart transport solutions	1
5.3	Legal and organizational framework for transportation; Funding of transportation systems	1
5.4	Transport technologies and environmental impacts and its relevance in urban transportation planning; Transport, environment, and safety issues	1
5.5	Principles and approaches of traffic management, transport system management, Parking facilities	1

CO Assessment Sample Questions	
CO1	1. Discuss the components of transport planning and its relevance in urban planning. 2. Discuss the importance of transport infrastructure in mobilty and planning.
CO2	1. How does land development impact traffic congestion? Discuss with a relevant example. 2. What is the landuse transport integration? Discuss its importance in urban transportation planning.
CO3	1. Briefly discuss the details of traffic engineering components to be considered for road infrastructure design.
CO4	1. What are the survey studies to be carried out for transportation planning? 2. What are the major considerations for a comprehensive traffic and transportation plan or a city mobility plan?
CO5	1. Discuss the different transport systems present in cities. 2. How are transport systems funded? 3. Discuss certain smart technologies adopted for transport systems and its relevance in urban transportation planning.

26MPH101	SOCIO-ECONOMIC BASE FOR PLANNING	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The course aims to introduce key sociological concepts, the sources of demographic data collection and methods of population projection for application in spatial planning.
It also provides basic knowledge of economic concepts, tools and the relevance of economic principles in urban planning and its application. It also familiarizes the sociological impacts of globalization and urbanization particularly in the Indian context.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Discuss fundamental sociological concepts, impact of social structures and institutions, and analyse issues related to social inequality, slums, and squatter settlements within the context of spatial planning.
CO 2	Critically analyze demographic data and population characteristics and apply techniques of projection and forecasting.
CO 3	Understand key economic principles, and analyse economic indicators such as GDP, HDI, and inflation.
CO 4	Apply economic tools for the analysis and estimation of demand, pricing, and costs associated with urban services and amenities.
CO 5	Analyze the sociological implications of globalization and urbanization and evaluate approaches and policies promoting inclusive cities in India and globally.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2		3	
CO 2	3	2	3	2	2	3	
CO 3	2	1	3	2		2	
CO 4	3	2	3	3	2	2	2
CO 5	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	40

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Fundamentals of sociology for planning

Terminology: Culture, Social Institutions, social organizations, Social Stratification, Social Change;
Concept of Social Structure, Relationship between Social structure and spatial structure. Urban and Rural Sociology; Sociological concepts of Marx, Weber, Jacobs;
Social aspects of planning in the growth patterns of city and neighbourhood communities, Slums and squatter settlement-case studies.

MODULE II: Demographic data and population studies in Planning

Sources of demographic data- sources of Population data: Census, NSS (National Sample Survey) CRS, SRS etc.;
Population size, composition and distribution in India. Population growth and transition in India, Population forecasts and projection methods; Population Policy in India, Migration and its implication in settlement planning and development; case studies

MODULE III: Fundamental of Economics for Planning

Economic growth and development, Human Development Index, GDP, GNP & Per capita Income, Concept of Demand & Supply, Economies of Scale; Micro Economics and Macro Economics, ~~differences and examples~~, Production and consumption - Production economics: Factors of production- land, labour, capital, Entrepreneurship; Land economics and Economic principles of land values and land use planning; Local Economic development and sectoral push;
Determinants of National Income, Inflation, Budgetary process in India, Short-term and Long-term investment planning.

MODULE IV: Urban Economics and Planning Applications

Basic axioms of Urban economics, Economics of urban agglomeration, urban finance; Importance of economics in planning, Core concepts of economics: Scarcity & efficiency; Application of economic tools in the estimation of Demand and supply, Cost of urban services and amenities;

MODULE V: Globalization and Inclusive development

Introduction and meaning of Globalization, Sociological impacts of Globalization, Merits and Demerits; Urbanisation and its impacts in the Indian Scenario: Gentrification, Ghettofication, Slumification, Marginalization, Gender and Equity concerns. National Commission on Urbanization; Public Participation and urban and rural development; Elements of Inclusive growth and Development. Inclusive development through local government and governance, Inclusive cities-case studies.

Reference books

1. Bhushan, Vidya & D.R. Sachdeva. *An Introduction to Sociology*, Kitab Mahal distributors, 2014.
2. Gispert P, (2015) "Fundamental of Sociology", Orient Blackswan Pvt Limited Delhi.
3. Giddens, Anthony & Philip W. Sutton. *Sociology - Introductory Readings*, Polity, Oxford, 2010.
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6. Sachithanandan, A.N., *Socio Economic Base for Planning – Teaching Material* prepared for the Institute of Town Planners, India.
7. McGann, Philip. *Modern Urban and Regional Economics*, Oxford University Press, London, 2013.
8. Sathish Y. Deodhar. *Day to Day Economics*, IIM Ahmedabad, 2012.
9. Smith, Wallace F., *Housing: The Social and Economic Elements*, University of California Press,1971.
10. Chapin, F.S. *Urban Land Use Planning*, Higg & Brothers, New York, 1965.
11. Chen, Xiangming. *Introduction to Cities: How Places and Space Shape Human Experience*, Wiley Blackwell, UK., 2012.
12. Tonkins, Frank. *Cities by Design: The Social Life of Urban Form*, Polity Publications, UK.2013.
13. Carter, H., *The Study of Urban Geography*, Edward A. Old, London, 1972.
14. *Global Review of Human Settlements*, Pergamon Press, London, 1976.
15. Kohun, Arthur, *History Builds the Towns*, Lund Humphries, London, 1953.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Terminology: Culture, Social Institutions, social organizations, Social Stratification, Social Change	2
1.2	Concept of Social Structure, Relationship between Social structure and spatial structure. Urban and Rural Sociology; Sociological concepts of Marx, Weber, Jacobs	2
1.3	Social aspects of planning in the growth patterns of city and neighbourhood communities, Slums and squatter settlement	2
1.4	Case studies	2
MODULE II [7 hours]	**COs addressed: CO2**	
2.1	Sources of demographic data- sources of Population data: Census, NSS (National Sample Survey) CRS, SRS etc.;	1

2.2	Population size, composition and distribution in India. Population growth and transition in India, Population forecasts and projection methods	2
2.3	Population Policy in India, Migration and its implication in settlement planning and development; case studies	2
2.4	Population growth and settlement planning – Case study	2
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	Economic growth and development, Human Development Index, GDP, GNP & Per capita Income, Concept of Demand & Supply, Economies of Scale;	2
3.2	Micro Economics and Macro Economics, Production and consumption - Production economics: Factors of production-land, labour, capital, Entrepreneurship	2
3.3	Land economics and Economic principles of land values and land use planning	2
3.4	Local Economic development and sectoral push	1
3.5	Determinants of National Income, Inflation, Budgetary process in India, Short-term and Long-term investment planning.	1
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	Basic axioms of Urban economics	2
4.2	Economics of urban agglomeration, urban finance	2
4.3	Importance of economics in planning, Core concepts of economics: Scarcity & efficiency	2
4.4	Application of economic tools in the estimation of Demand and supply	2
4.5	Cost of urban services and amenities	1
MODULE V [10 hours]	**COs addressed: CO5**	
5.1	Introduction and meaning of Globalization, Sociological impacts of Globalization, Merits and Demerits	2
5.2	Urbanisation and its impacts in the Indian Scenario: Gentrification, Ghettofication, Slumification, Marginalization, Gender and Equity concerns	2
5.3	National Commission on Urbanization; Public Participation and urban and rural development	1
5.4	Elements of Inclusive growth and Development. Inclusive development through local government and governance, Inclusive cities-case studies.	1
5.5	Case studies _Global scenario Social change impacting communities, social structure Macro and micro economics in a city/ region Urban economics	2

5.6	Case studies_ national scenario Relation between social structure and spatial structure	2

CO Assessment Sample Questions	
CO1	1. Discuss social stratification in India and its influence on settlements. 2. Discuss sociological concepts as propagated by a few thinkers like Marx, Weber.
CO2	1. How would you collect demographic data for a planning area? 2. Discuss a few population projection techniques.
CO3	1. Differentiate Macro and micro economics. How does it support urban economy? 2. Discuss economic principles of land value and land use planning.
CO4	1. How could you estimate demand and supply? Discuss with a relevant method. 2. Elaborate on cost of amenities and services with reference to urban economy.
CO5	1. What are the sociological impacts of globalization? 2. Discuss the sociological changes due to urbanization observed in the Indian scenario. 3. Discuss some of the approaches that promote inclusive cities in India.

26MPH102	RESEARCH METHODOLOGY AND PLANNING TECHNIQUES	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

It aims to introduce various research paradigms to understand and formulate a good research design, to inform about ethics in research. It introduces students to various statistical methods in research and various data collection methods. It also introduces the key concepts in planning techniques and newer techniques in planning to learn about the data base for physical survey and detailing for various levels of plans.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the concept of research in planning and analyze various processes involved in research design.
CO 2	Understand the concept of ethics in research, identify data requirement for relevant surveys and apply in data collection from reliable sources of information.
CO 3	Apply statistical methods in research to demonstrate population forecasting and projections, data analysis, and interpretation.
CO 4	Demonstrate appreciation of the types of plans required for spatial planning and the components and detailing for the various levels of plans
CO 5	Analyse and apply the techniques and tools in planning.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	2	3	1		1	
CO 2	2	2	3	1	2	3	
CO 3	3	2	3	2	3	3	
CO 4	2	3	3	3		1	
CO 5	3	2	3	3	3	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	40

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to research

Key Concepts, Constructs and Operational Definitions: Variables, Propositions, Hypothesis, Types of research.

Research process: Literature review, Literature map, identifying gap areas from literature review, Problem identification, Development of working hypothesis, formulating research, Referencing styles.

Research Design: Components of research design, Features of a good design, Qualitative and quantitative research designs, Examples of research designs in relevant fields- Architecture, Planning, Housing and Urban Design.

Preparation of Research proposals and reports, Dissertation, Thesis, Scholarly articles.

MODULE II: Sources of information

Ethics in Research, plagiarism, Intellectual Property rights.

Methods of data collection – Documents, Observation, Surveys, Experiment, Types of data and measurement, Data collection and analysis, Grounded theory, Ethnography, Phenomenology. Types of Analysis, Interpretation and Generalization.

Data for regional surveys: Use of NASA, Google, NRSA, and other sources for Remote Sensing and Drones, Survey of India, NIC classification of map codes, and Agricultural and Forest Ministry sources.

Data requirements for urban and regional planning; Sources of primary and secondary data;

Use of Digital tools for Quantitative and Qualitative Surveys – Use of mobile network, sensors, drones, and other tools. Use of existing published data (Census of India, NSSO, CSO, NFHS, and other Government and Non-Government sources of information).

MODULE III: Data collection, analysis and Presentation

Types of sampling, Sample size determination, Statistical Analysis, Descriptive, Inferential and Predictive statistics, Data distribution, Measures of central tendency- Mean, Median, Mode, Variance, Standard deviation and Data dispersion.

Testing of Hypothesis, Statistical errors in Hypothesis testing, Anova, Chi Square tests, Correlation and Regression. Their application in planning

Quantitative and Qualitative methods of data collection, Validity and reliability of data, Questionnaire design, measurement scales and their applications, sampling techniques, types of socio-economic surveys; Self-surveys, interviews, mailed questionnaires and observer participation, focus groups etc.

Demography: Methods of population forecasts and projection techniques including Arithmetical increase, Geometrical increase, Incremental increase, Graphical method and Comparative Graphical method

Land suitability analysis, Land use classification, coding and analysis; residential and non-residential density patterns and their analyses; population and economic analysis. Tabulation of data, graphical presentation of data; Preparing pie diagrams, histograms, bar charts, normal, semi-log and double log graphs

Data analysis using Statistical softwares.

MODULE IV: Planning Techniques

Introduction to planning techniques: Database for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Sampling and survey techniques; Land use classification or coding and expected outputs. Understanding the concepts of scales, Components and detailing for various levels of plans like Perspective plan, Regional plan, Development plan, Local area plan, special purpose plans and Annual plan.

Ranking of settlements; Guttmann's Scalogram, Desire line diagrams, Threshold analysis: Input output analysis, SWOT analysis, Planning models (descriptive and decision-making models) etc.

Self-learning: Land information systems – Aerial photography, remote sensing, photogrammetry, photo interpretation and mapping.

MODULE V: Tools and Techniques in spatial planning

Land pooling, land assembly, PRT (Plot reconstitution techniques), land readjustment, Transfer of Development Right, Various approaches to urban land zoning (mixed zone, floating zone, white zoning etc. TOD (Transit Oriented Development), PIU (Principles of Intelligent Urbanism).

Public participation, Monitoring and evaluation in the planning process. Collaborative, Advocacy, inclusive and conflict resolution.

Self-learning: Newer techniques in planning –national/ international case studies.

Planning Standards Spatial standards, performance standards and benchmarks, and variable standards. URDPFI, RADFPI, SVAMITVA guidelines

References:

1. De Vaus, D. A. (2002). *Surveys in social research*. Rawat Publications.
2. Gawatre, D. W., Kandgule, M. H., Kharat, S. D., et al. *Comparative study of population forecasting methods*.
3. Keeble, L. B. *Principles and practice of town and country planning*. Estates Gazette Ltd.
4. Kothari, C. R. (1990). *Research methodology*. Sultan Chand & Sons.

5. Kruekeberg, D. A., & Silvers, A. L. *Urban planning analysis: Methods and models*. John Wiley & Sons.
6. Majumdar, P. K. (2010). *Fundamentals of demography*.
7. Marko, & Mooi. (2019). *A concise guide to market research: The process, data and methods using IBM SPSS Statistics*.
8. NPTEL IIT Kharagpur. *Population forecasting* (Web course, Module 5, Lecture 5).
9. Robert, M. *An introduction to town planning techniques*. Hutchinson Educational.
10. Preston, S., et al. (2000). *Demography: Measuring and modeling population processes*. Wiley- Blackwell.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [9 hours]	**COs addressed: CO1**	
1.1	Key Concepts, Constructs and Operational Definitions: Variables, Propositions, Hypothesis, Types of research.	2
1.2	Research process: Literature review, Literature map, identifying gap areas from literature review, Problem identification, Development of working hypothesis, formulating research, Referencing styles.	3
1.2	Research Design: Components of research design, Features of a good design, Qualitative and quantitative research designs, Examples of research designs in relevant fields- Architecture, Planning, Housing and Urban Design	3
1.3	Preparation of Research proposals and reports, Dissertation, Thesis, Scholarly articles.	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Ethics in Research, plagiarism, Intellectual Property rights. Methods of data collection – Documents, Observation, Surveys, Experiment, Types of data and measurement, Data collection and analysis, Grounded theory, Ethnography, Phenomenology. Types of Analysis, Interpretation and Generalization.	2
2.2	Data for regional surveys: Use of NASA, Google, NRSA, and other sources for Remote Sensing and Drones, Survey of India, NIC classification of map codes, and Agricultural and Forest Ministry sources. Data requirements for urban and regional planning; Sources of primary and secondary data	2
2.3	Use of Digital tools for Quantitative and Qualitative Surveys – Use of mobile network, sensors, drones, and other tools.	1
2.4	Use of existing published data (Census of India, NSSO, CSO, NFHS, and other Government and Non-Government sources of information).	1
MODULE III [12 hours]	**COs addressed: CO3**	
3.1	Types of sampling, Sample size determination	1

3.2	Statistical Analysis, Descriptive, Inferential and Predictive statistics, Data distribution, Measures of central tendency- Mean, Median, Mode, Variance, Standard deviation and Data dispersion.	3
3.3	Testing of Hypothesis, Statistical errors in Hypothesis testing, Anova, Chi Square tests, Correlation and Regression.	1
3.4	Quantitative and Qualitative methods of data collection, Validity and reliability of data, Questionnaire design, measurement scales and their applications, sampling techniques, types of socio-economic surveys; Self-surveys, interviews, mailed questionnaires and observer participation, focus groups etc.	3
3.5	Demography: Methods of population forecasts and projection techniques including Arithmetical increase, Geometrical increase, Incremental increase, Graphical method and Comparative Graphical method	1
3.6	Land suitability analysis, Land use classification, coding and analysis; residential and non-residential density patterns and their analyses; population and economic analysis.	1
3.7	Tabulation of data, graphical presentation of data; Preparing pie diagrams, histograms, bar charts, normal, semi-log and double log graphs	1
3.8	**Data analysis** using Statistical softwares	1
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	Introduction to planning techniques. Database for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Sampling and survey techniques; Land use classification or coding and expected outputs.	2
4.2	Understanding the concepts of scales, components and detailing for various levels of plans like Perspective plan, Regional plan, Development plan, Local area plan, special purpose plans and Annual plan.	3
4.3	Land information systems – Aerial photography, remote sensing, photogrammetry, photo interpretation and mapping.	1
4.4	Ranking of settlements: Guttmann's Scalogram, Desire line diagrams, Threshold analysis: Input output analysis, SWOT analysis,	2
4.5	Planning models (descriptive and decision-making models) etc.	1
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Land pooling, land assembly, PRT (Plot reconstitution techniques), land readjustment, Transfer of Development Right,	2
5.2	Various approaches to urban land zoning (mixed zone, floating zone, white zoning etc. TOD (Transit Oriented Development), PIU (Principles of Intelligent Urbanism).	1

5.3	Planning Standards: Spatial standards, performance standards and benchmarks, and variable standards. URDPFI, RADFPI, SVAMITVA guidelines	1
5.4	Public participation, Monitoring and evaluation in the planning process. Collaborative, Advocacy, inclusive and conflict resolution	1
5.5	Newer techniques in planning – through national/ international case studies.	1

CO Assessment Sample Questions	
CO1	1. Briefly discuss the components of research design. Outline the qualitative and quantitative methods.
CO2	1. Briefly discuss the various methods of data collection for research. Give examples.
CO3	1. What are the different types of sampling? Explain its application in planning. 2. Application – Statistical analysis for testing of hypothesis. Any example.
CO4	1. Expain the Perspective Plan for the State and its importance in Planning.
CO5	1. Discuss the relevance of Public participation, Monitoring and evaluation in the planning process.

26MPP101	GIS APPLICATIONS I	L	T	P	S	C	Year of Introduction
		0	0	2	2	1	2026

Preamble:

This course aims to enable students to learn and apply GIS in their planning exercises and equip them to become proficient in the professional practice of applying GIS.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the fundamentals of Geographic Information Systems (GIS) including coordinate systems, data types, projections, and spatial referencing methods.
CO 2	Manage spatial data and perform thematic analysis using GIS software, and tasks such as querying, buffering, overlay analysis, and raster operations.
CO 3	Use open-source GIS tools and conduct spatial analysis related to urban planning themes.
CO 4	Identify the ethical and professional issues in GIS-based planning practice, including data accuracy, and decision-support systems.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	3		3	1	
CO 2	3	2	3		3	3	
CO 3	3	2	3		3	3	
CO 4	2	2	3		2	2	

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignments	Viva	
Remember	✓		✓	-
Understand	✓	✓	✓	-
Apply	✓	✓	✓	-
Analyse	✓	✓	✓	-
Evaluate		✓		
Create		✓		

Mark Distribution of CIA

Course Structure [L-T-P]	Test-1	Theory [L- T]		Total Marks
		Assignment/ Project	Viva	
0-0-2	15	25	10	50

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
50	50	-	-

SYLLABUS

MODULE I: Introduction to GIS & Urban Data

GIS basics: Components of GIS, Areas of GIS Application,

Interface, data models (vector/raster), spatial and attribute data, digitization and geo-referencing

Coordinate systems and their projections, concept of datum, UTM zones

Urban data sources (census, land use, infrastructure networks). Ethical considerations (data privacy, biases in urban data).

Navigate GIS Software and explore urban datasets (e.g., OpenStreetMap, city open-data portals).

Basemap preparation using GIS Software

MODULE II: Spatial Analysis for Urban Planning

Spatial queries (zoning compliance, service area delineation).

Density analysis (population, employment, amenities).

Proximity analysis (schools, hospitals, transit stops).

Map walkability using buffer analysis.

Create a land-use suitability map using overlay techniques.

Introduction to remote sensing

Principles and techniques of digital image classification- Supervised and Unsupervised classification (LULC Classification);

Download and process satellite imagery, perform Urban Heat Island (UHI) analysis using land surface temperature extraction (Landsat, Sentinel, and MODIS)

Python and other scripting possibilities for GIS

References:

1. Chang, K. T. (2019). *Introduction to geographic information systems* (9th ed.). McGraw-Hill Education.
2. Jensen, J. R. (2016). *Remote sensing of the environment: An earth resource perspective* (3rd ed.). Pearson.
3. Lo, C. P., & Yeung, A. K. W. (2007). *Concepts and techniques of geographic information systems* (2nd ed.). Pearson.
4. Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2020). *Remote sensing and image interpretation* (8th ed.). Wiley.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 (12 hours]	**COs addressed: CO1, CO2**	
1.1	GIS basics: Components of GIS, Areas of GIS Application Interface, data models (vector/raster), spatial and attribute data,	2
1.2	Digitization and geo-referencing	2
1.3	Coordinate systems and their projections, concept of datum, UTM zones	2

1.4	Urban data sources (census, land use, infrastructure networks). Ethical considerations (data privacy, biases in urban data).	2
1.5	Navigate GIS Software and explore urban datasets (e.g., OpenStreetMap, city open-data portals).	2
1.6	Basemap preparation using GIS Software	2
MODULE II [16 hours]	**COs addressed: CO1, CO2, CO3, CO4**	
2.1	Spatial queries (zoning compliance, service area delineation).	2
2.2	Density analysis (population, employment, amenities).	2
2.3	Proximity analysis (schools, hospitals, transit stops).	2
2.4	Map walkability using buffer analysis.	2
2.5	Create a land-use suitability map using overlay techniques.	2
2.6	Introduction to remote sensing Principles and techniques of digital image classification- Supervised and Unsupervised classification (LULC Classification)	2
2.7	Download and process satellite imagery, perform Urban Heat Island (UHI) analysis using land surface temperature extraction (Landsat, Sentinel, and MODIS)	2
2.8	Python and other scripting possibilities for GIS	2

CO Assessment Sample Questions	
CO1	1. Prepare a base map for a ward after georeferencing the image of the ward.
CO2	1. Prepare different layers for roads, schools, hospitals etc.
CO3	1. Determine the variation in population density in the wards for a given city.
CO4	1. Determine the locations with high UHI effect for a given study area.

26MPS101	PLANNING STUDIO I	L	T	P	S	C	Year of Introduction
		0	0	10	10	5	2026

Preamble:

It aims to comprehensively analyze the area and integrate infrastructure and utilities under the existing conditions. It should enable to create all-encompassing solutions for physical, social, economic, and environmental infrastructure that comply with relevant planning guidelines and standards.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Critically analyse the field conditions and demonstrate effective site evaluation.
CO 2	Apply planning techniques effectively and adhere to planning norms and standards.
CO 3	Devise solutions for preparing and executing plans involving complex and interrelated factors within spatial planning

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	3	2	3	3	2	3	1
CO 2	2	2	3	3	2	2	1
CO 3	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Field visit	Literature review	Reviews	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate	✓		✓	
Create			✓	

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Field visit/ Project	Reviews	
0-0-10	-	200		200

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
300	200	100	Jury

End Semester Examination [ESE]: Pattern

PATTERN	ESE Marks

Jury examination	100
Total Marks: 100	

SYLLABUS

MODULE I: Planning Exercise

Prepare an area plan for a part of a city with multiple uses/housing areas/ urban rural interfaces etc. related services. Each student in a group or individually is required to prepare infrastructure plan for the study area. The process is designed to facilitate a multidisciplinary approach in addressing the various sectors, utilities, and infrastructure that must be considered in spatial planning to attain balanced development. The exercise shall cover the following aspects:

1. Literature review – This project begins with a literature review of relevant topics and areas from research papers, book chapters, journals, documents, reports, and other scholarly sources.
2. Preliminary site investigation and analysis:
   Site inventory: topography, soil characteristics, site resources and physiographic conditions.
   Site suitability for development – slope, drains.
   Site in relation to its surrounding and city/village level infrastructure lines.
   The layout and population distribution.
3. General planning guidelines
4. Application of norms and standards
5. Requirements
6. Design considerations and conceptual plans
7. Proposals for infrastructure: Physical - water supply, sewerage network, drainage, rain water harvesting, street & street furniture, solid waste management; Social – education, health, recreational, postal, religious

The relevant policies, strategies, and other considerations must be submitted as the outcome of this exercise.

The plan shall be suitably presented in the form of a report illustrated with necessary drawings, maps charts, diagrams and photographs.

The project aims to enhance student engagement through various means, including data collection, fieldwork, stakeholder interaction, collaboration, critical analysis, survey methods, planning techniques, analytical tools, software applications, and presentation of study, encompassing map preparation and reporting compilation.

Reference books

1. Southall, A. (1998). *The city in time and space*. Cambridge University Press.
2. Perdicoulis, A. (2011). *Building competences for spatial planners: Methods and techniques for performing tasks with efficiency*. Taylor & Francis.
3. Alexander, E. R. (1992). *Approaches to planning: Introducing current planning theories, concepts and issues*. Gordon and Breach Science Publishers.
4. LaGro, J. A., Jr. (2013). *Site analysis: Informing context-sensitive and sustainable site planning and design*. John Wiley & Sons.
5. Jacobs, J. (1989). *The death and life of great American cities*. Knopf Doubleday Publishing Group.
6. Hall, P., & Tewdwr-Jones, M. (2010). *Urban & regional planning*. Routledge.

7. Ramachandran, R. (1991). *Urbanization and urban systems in India*. Oxford University Press.
8. Ministry of Urban Affairs & Employment, Government of India. (2014). *Urban and regional development plans formulation & implementation guidelines*. Government of India.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [140 hours]
MODULE 1 [140 hours]	**COs addressed: CO1, CO2, CO3**	
1.1	Literature review of relevant topics and areas from research papers, book chapters, journals, documents, reports, and other scholarly sources.	20
1.2	Preliminary site investigation and analysis	30
1.3	General planning guidelines	10
1.4	Application of norms and standards Requirements	20
1.5	Design and conceptual plan	20
1.6	Drawings and Report	30
1.7	Final presentation and jury	10

CO Assessment Sample Questions	
CO1	1. Site Analysis and evaluation of existing situation
CO2	1. Apply norms and standards and list requirements for the study area
CO3	1. Design solution for housing in the study area. Apply neighborhood planning norms in the area.

26MPAU101	SPORTS AND YOGA	L	T	P	S	C	Year of Introduction
		2	0	0	2	0	2026

Preamble:

The course aims to make the students understand the importance of sound health and fitness principles as they relate to better health. It aims to familiarise students with a variety of physical and yogic activities to stimulate inquiry about Yoga, physical education, health and fitness. The course thus would strive to develop among students an appreciation of physical activity as a lifetime pursuit and a means to better health.

Course Outcomes: After the completion of the course the student will be able to

CO1	Practice Physical fitness activities, breathing exercises and Yoga for strength, flexibility, and relaxation.
CO2	Learn techniques for increasing concentration and decreasing anxiety which leads to stronger academic performance.
CO3	Develop understanding of health-related fitness components: cardiorespiratory endurance, flexibility and body postures etc. and apply in daily life
CO4	Develop understanding of psychological problems associated with the age and lifestyle.
CO5	Demonstrate an understanding of different sports/ games

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	-	-	2	-	-	1	-
CO2	1	-	2	-	-	2	-
CO3	-	-	2	-	-	1	-
CO4	1	-	2	-	-	2	-
CO5	-	1	2	-	-	2	1

Bloom's Category	Study/ Activities			
	Fitness (Physical and mental)	Improving concentration	Yoga	Games (discussion)
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	
Analyse	✓	✓	✓	✓
Evaluate	✓	✓		✓
Create				

Mark Distribution of CIA				
Course Structure [L-T-P]	**Attendance**	**Theory [L- T]**		**Total Marks**
		Assignments	**Activities**	
2-0-0	**-**			**-**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
0	0	0	-

End Semester Examination [ESE]: Pattern

Non-credit course	ESE Marks
	-

SYLLABUS

MODULE I: Introduction to Physical Education

Meaning & definition of Physical Education, Aims and objectives, changing trends in physical education; Ancient & Modern Olympics, Olympic Symbols, Ideals, Objectives & Values; Awards and Honours in the field of Sports in India (Dronacharya Award, Arjuna Award, Dhayanchand Award, Rajiv Gandhi Khel Ratna Award etc.)

Physical Fitness, Wellness & Lifestyle

Meaning & Importance of Physical Fitness & Wellness, Components of Physical fitness, Components of Health-related fitness, Components of wellness, Preventing Health Threats through Lifestyle Change, Concept of Positive Lifestyle

Sports Medicine

First Aid – Definition, Aims & Objectives; Sports injuries: Classification, Causes & Prevention; Management of Injuries: Soft Tissue Injuries and Bone & Joint Injuries

MODULE II: Fundamentals of Anatomy in Physical education and Postures

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

Kinesiology, Biomechanics & Sports

Meaning & Importance of Kinesiology & Biomechanics in Physical Edu. & Sports

Postures

Meaning and Concept of Postures. Causes of Bad Posture, Advantages & disadvantages of weight training, Concept & advantages of Correct Posture.

Common Postural Deformities – Knock Knee, Flat Foot, Round Shoulders, Lordosis, Kyphosis, Bow Legs and Scoliosis; Corrective Measures for Postural Deformities

MODULE III: Yoga

Meaning & Importance of Yoga, Elements of Yoga; Introduction - Asanas, Pranayama, Meditation & Yogic Kriyas; Yoga for concentration & related Asanas (Sukhasana; Tadasana; Padmasana & Shashankasana); Relaxation Techniques for improving concentration - Yog-nidra

Yoga & Lifestyle
Asanas as preventive measures for lifestyle diseases like hypertension, diabetes

MODULE IV: Psychology & Sports

Definition & Importance of Psychology in Physical Edu. & Sports; Adolescent Problems & Their Management; Emotion: Concept, Type & Controlling of emotions; Meaning, Concept & Types of Aggressions in Sports; Psychological benefits of exercise; Anxiety & Fear and its effects on Sports Performance; Motivation, its types & techniques; Understanding Stress & Coping Strategies.

MODULE V: Sports / Games

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

Reference books
1. Modern Trends and Physical Education by Prof. Ajmer Singh.
2. Light on Yoga by B.K.S. Iyengar.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [6 hours]	**COs addressed: CO1**	
1.1	Meaning & definition of Physical Education, Aims and objectives, changing trends in physical education; Ancient & Modern Olympics, Olympic Symbols, Ideals, Objectives & Values;	2
1.2	Awards and Honours in the field of Sports in India (Dronacharya Award, Arjuna Award, Dhayanchand Award, Rajiv Gandhi Khel Ratna Award etc.)	1
1.3	Meaning & Importance of Physical Fitness & Wellness, Components of Physical fitness, Components of Health-related fitness	1
1.4	Components of wellness, Preventing Health Threats through Lifestyle Change, Concept of Positive Lifestyle	1
1.5	First Aid – Definition, Aims & Objectives; Sports injuries: Classification, Causes & Prevention; Management of Injuries: Soft Tissue Injuries and Bone & Joint Injuries	1
MODULE II (6 hours)	**COs addressed: CO3**	
2.1	Define Anatomy, Physiology & Its Importance; Effect of exercise on the functioning of Various Body Systems. (Circulatory System, Respiratory System, Neuro-Muscular System etc.)	2

2.2	Meaning & Importance of Kinesiology & Biomechanics in Physical Edu. & Sports	1
2.3	Meaning and Concept of Postures. Causes of Bad Posture, Advantages & disadvantages of weight training, Concept & advantages of Correct Posture.	2
2.4	Common Postural Deformities – Knock Knee, Flat Foot, Round Shoulders, Lordosis, Kyphosis, Bow Legs and Scoliosis; Corrective Measures for Postural Deformities	1
MODULE III (6 hours)	**COs addressed: CO1, CO2**	
3.1	Meaning & Importance of Yoga, Elements of Yoga; Introduction - Asanas, Pranayama, Meditation & Yogic Kriyas;	2
3.2	Yoga for concentration & related Asanas (Sukhasana; Tadasana; Padmasana & Shashankasana); Relaxation Techniques for improving concentration - Yog-nidra	2
3.3	Asanas as preventive measures for lifestyle diseases like hypertension, diabetes	2
MODULE IV (6 hours)	**COs addressed: CO4**	
4.1	Definition & Importance of Psychology in Physical Edu. & Sports; Adolescent Problems & Their Management;	2
4.2	Emotion: Concept, Type & Controlling of emotions; Meaning, Concept & Types of Aggressions in Sports	1
4.3	Psychological benefits of exercise; Anxiety & Fear and its effects on Sports Performance	1
4.4	Motivation, its types & techniques; Understanding Stress & Coping Strategies.	2
MODULE V (4 hours)	**COs addressed: CO5**	
5.1	Any one Game/Sport of choice of student History of the Game/Sport, Latest General Rules of the Game/Sport, Specifications of Play Fields and Related Sports Equipment, Important Tournaments and Venues, Sports Personalities, Proper Sports Gear and its Importance.	4

CO Assessment Sample Questions	
CO1	1. Discuss components of physical fitness and wellness. 2. Briefly discuss the common sports injuries.
CO2	1. What are the advantages of correct posture? Discuss some of the postural deformities.
CO3	1. Discuss the importance of yoga in concentration and meditation. 2. How do different Asanas help in the relief of lifestyle disease?

CO4	1. What are the psychological benefits of exercise? 2. Discuss the relation between psychology and physical education and sports.
CO5	1. Discuss any sport/ game with details of its history, rules of the game, important personalities associated with the game etc.

TKM COLLEGE OF ENGINEERING KOLLAM

DEPARTMENT OF ARCHITECTURE AND PLANNING

MASTER OF PLANNING (URBAN PLANNING)

SEMESTER II

2026

26MPC201	REGIONAL PLANNING AND RESOURCE DEVELOPMENT	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

It aims to familiarize students with the regional planning theories, evolution of regional planning in India and in the world. It is intended to make students aware of the institutional mechanisms involved in regional planning and resource development.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the relevance of regional planning, key concepts, various types of regions and their delineation.
CO 2	Understand and apply theories of regional interaction, growth, and location
CO 3	Examine institutional and legislative frameworks for regional planning.
CO 4	Explore approaches for achieving balanced regional development and reducing disparities.
CO 5	Analyse and evaluate the role of regional planning in resource development and infrastructure

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1		1	3				
CO 2	2		3	2	1		
CO 3	1	2	2	3			
CO 4	2		3	3		2	
CO 5	2		3	3	2	2	

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Regional Planning and Regions

Introduction to regional planning: Aims, objectives, relevance, and scope;
Concepts and classification of regions, Characteristics of a planning region; Use of clusters in regional planning; Delineation of regions and regional delineation techniques, Case studies in regional delineation: Factor analysis, Cluster analysis, Flow analysis;
Overview of regions in India

MODULE II: Theories of Regional Interaction and Growth

Regional interaction theories: Central Place Theory, Zipf's Rank-Size Rule;
Regional growth theories: Sector Theory, Export Base Theory, Input-Output Model;
Least-cost location theories: Von Thunen's model, Weber's Industrial Location Theory

MODULE III: Institutional and legislative Framework for regional planning in India

Role of 73rd and 74th Constitution Amendment Acts in preparation and implementation of regional plans; District as a region – scope and limitations; Planning for metropolitan regions: Examples from NCR, Mumbai, Chennai, Kolkata

MODULE IV: Regional Development and Dynamics

Role of regional planning in addressing regional imbalances, and spatial disparities – human development index, infrastructure index, environment index, social development index;
Characteristics and reasons for backwardness and overcoming inequalities – spatial, economic social, infrastructure and governance, sectoral push, investment regions;
Theories of regional economic divergence: Cumulative Causation Theory, Growth Pole Theory, Misra's Growth foci approach

MODULE V: Relevance of regional planning in resource development

Resource regions in India: Western Ghats, South-East Resource Region, Coastal and River Valley Regions, Industrial and Coastal Regions; Infrastructure planning in regional development, Planning for special areas and mega projects; Case studies of

regional planning and resource development from other nations; UN Centre for Regional Development and regional development goals

References:

1. Chaudhuri, J. R., & Chaudhuri, R. (2001). An introduction to development and regional planning: With special reference to India. Orient Blackswan.
2. Glasson, J., & Marshall, T. (2007). Regional planning (2nd ed.). Routledge.
3. Hall, P., & Tewdwr-Jones, M. (2010). Urban and regional planning (5th ed.). Routledge.
4. Ministry of Urban Affairs & Employment, Government of India. (2014). Urban and regional development plans formulation & implementation guidelines. Ministry of Urban Affairs & Employment.
5. Wang, X., & von Hofe, R. (2008). Research methods in urban and regional planning. Springer Science & Business Media.
6. Rengasamy S. (2009). Types of Regions and Regionalization of India. Madurai Institute of Social Sciences.
7. Wheeler S. (2009). Regions, Mega regions, and Sustainability. Taylor and Francis, New York.
8. Department of Town and Country Planning (2005). Decentralised Development Plan. Government of Kerala, Thiruvananthapuram.
9. United Nation Development Program (2008). Decentralised Development Plan. UNDP, New Delhi.
10. GIZ (2018). Regional Development Guidelines: Urban Vertical, Technical Collaboration with Government of India & Germany, New Delhi.
11. Walter Isard (1975). Introduction to Regional Science. Prentice Hall, New Jersey.
12. The World Bank (2009). New Economic Geography. Washington DC.
13. Nallari Raj, Breda Griffith, and Shahid Yusuf (2012). Geography of Growth: Spatial Economics and Competitiveness. The World Bank, Washington DC.
14. Tukker Arnold, and Erik Dietzenbacher. (2013). Global Multiregional Input Output Frameworks: An Introduction and Outlook. Taylor and Francis, New York.
15. Board N.C.R.P. Regional Plan (2021). National Capital Region. Government of India, New Delhi.
16. Ministry of Panchayati Raj. (2021). Rural Area Development, Formulation, Policy. Government of India.
17. Ministry of Panchayati Raj. (2022). SVAMITVA. Government of India.
18. Jiwan J. (2021). Regional Development and Planning. Rawat Publications, New Delhi.
19. Dr. Ghosh T.K. and Dr. Satyen Sarkar (2022). Regional Disparities in Economic Development: Policies and Prospects for Balanced Development. Serials Publications Pvt. Ltd., New Delhi.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Introduction to regional planning: Aims, objectives, relevance, and scope	1
1.2	Concepts and classification of regions, Characteristics of a planning region; Use of clusters in regional planning	2
1.3	Delineation of regions and regional delineation techniques	2

1.4	Case studies in regional delineation: Factor analysis, Cluster analysis, Flow analysis	2
1.5	Overview of regions in India	1
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Regional interaction theories: Central Place Theory, Zipf's Rank-Size Rule	2
2.2	Regional growth theories: Sector Theory, Export Base Theory, Input-Output Model;	2
2.3	Least-cost location theories: Von Thunen's model, Weber's Industrial Location Theory	2
2.4	Application	2
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	Role of 73rd and 74th Constitution Amendment Acts in preparation and implementation of regional plans	1
3.2	District as a region – scope and limitations	1
3.3	Planning for metropolitan regions: Examples from NCR	2
3.4	Planning for metropolitan regions: Examples from NCR, Mumbai	2
3.5	Planning for metropolitan regions: Examples from Chennai, Kolkata	2
MODULE IV [8 hours]	**COs addressed: CO4**	
4.1	Role of regional planning in addressing regional imbalances, and spatial disparities – human development index, infrastructure index, environment index, social development index	2
4.2	Characteristics and reasons for backwardness and overcoming inequalities – spatial, economic social, infrastructure and governance, sectoral push, investment regions	2
4.3	Theories of regional economic divergence: Cumulative Causation Theory, Growth Pole Theory, Misra's Growth foci approach	2
4.4	Case studies	2
MODULE V [10 hours]	**COs addressed: CO5**	
5.1	Resource regions in India: Western Ghats	2
5.2	Resource regions in India: South-East Resource Region, Coastal and River Valley Regions, Industrial and Coastal Regions;	2
5.3	Infrastructure planning in regional development, Planning for special areas and mega projects	2
5.4	Case studies of regional planning and resource development from other nations	2
5.5	UN Centre for Regional Development and regional development goals	1
5.6	Revision	1

CO Assessment Sample Questions	
CO1	1. Discuss the characteristics of different types of regions. 2. What are the delineation techniques for regions? Explain.
CO2	1. Discuss the interaction theories for planning regions. 2. Discuss the location theories as applicable for planning regions.
CO3	1. What is the constitutional basis for preparation of regional plans? 2. Explain the growth of the National Capital Region with relevant examples.
CO4	1. How does regional planning help to remove disparities in regions? Discuss some of the measures that can be taken up for resource development.
CO5	3. Analyse the resources in a given region and evaluate how regional planning has brought about a change in the region with a relevant example.

26MPC202	URBAN UTILITIES AND INFRASTRUCTURE PLANNING	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The course aims to introduce students to the components, processes and funding mechanisms essential to infrastructure development and its social and economic implications.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the concept of urban utilities and infrastructure planning
CO 2	Understand and analyse the planning and management of water supply, sanitation and storm water.
CO 3	Understand and analyse planning and management of municipal waste, and other urban utilities.
CO 4	Understand and analyse planning and management of social and economic infrastructure.
CO 5	Analyse the planning and execution of infrastructure projects and evaluate the environment of multiple service providers including finance, for infrastructure development.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1		1	3				
CO 2	2		3	3	2	2	
CO 3	2		3	3	2	2	
CO 4	2		3	3	1	2	
CO 5	3	2	2	3	2	1	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	40

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Concept of Infrastructure Planning

Infrastructure Planning: Basic Definitions, Concepts, Significance; The Role of Infrastructure ~~Planning~~ in urban and regional development, Critical Infrastructure in urban and regional development and indicators of infrastructure development;

Types of Infrastructure: Physical, Social, Economic Infrastructure, Utilities and Services, Urban Infrastructure, Smart City Infrastructure;

Role of different actors in urban utility and infrastructure projects, the government and NGOs that deliver urban utility and infrastructure services in India;

Infrastructure facilities, including components and qualitative and quantitative techniques for assessing requirements, standards and benchmarks for infrastructure provision and delivery at various levels, norms and standards URDPFI and CPHEEO

Self-learning: Role of Spatial Information Technology in planning, provision, and monitoring infrastructure; Regional Resource Mapping across forest resource, mineral resource, agricultural resource, water resource etc.

MODULE II: Planning and Management of Physical Infrastructure (Water, Sanitation, and Stormwater)

Water – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, Policies, Programmes. Planning provisions and management issues, Case study

Sanitation – generation points, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, Policies and Programmes in the provision of Sanitation: Rajiv Gandhi Technology Mission on Water supply and Sanitation (Urban & Rural), City Sanitation Plan, and State Sanitation Strategies; Sanitation and MDG; Resource Commitment for Sanitation; Access to Sanitation: Cost and Coverage; Role of Institutions: Public, Private and community; Sanitation and environment; Sanitation and health; planning provisions and management issue, Case study

Storm water – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, ground water replenishment, storm water collection and disposal, norms and standards, case study

Case study examines the critical management challenges, institutional frameworks, and strategic planning processes associated with each urban utility and infrastructure projects

MODULE III: Planning and Management of Municipal Wastes, Power, and Fire

Municipal and other wastes – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, planning provisions and management issues, case study
Power – Sources of power procurement, distribution networks, demand assessment, norms and standards, Case study
Fire – vulnerable locations, methods of firefighting, norms and standards, case study related to specific infrastructure

Case study examines the critical management challenges, institutional frameworks, and strategic planning processes associated with each urban utility and infrastructure project

MODULE IV: Social, economic and Digital Infrastructure

Health: Provisions, availability, access and future requirement, government policies;
Education: Provisions, availability, access and future requirement, government policies;
Socio- Cultural and Recreational: Provisions, availability, access and future requirement, government policies;
Banking and Insurance; Tourism Infrastructure; Ports, Airports, Inland Waterways, Special Economic Zones (SEZ), Energy, Railways and Digital infrastructure;

Roads: Provision and institutions involved, Investment, pricing and maintenance, Access, coverage and conditions;
Railways: Goods and passenger trains, dry ports, container depot etc., high-speed connectivity and Metro, supply projections
Case study: It examines the critical management challenges, institutional frameworks, and strategic planning processes associated with each urban utility and infrastructure project
Self-learning: National, State and District Policies for Roads.
National Highway Project: Golden Quadrilateral, North-South and East- West Corridors and its impact on regional space

MODULE V: Infrastructure Management projects

Terms: Equity, Efficiency, Quality of Service, Paying Capacity, and Pricing of Infrastructure Services;
Ownership and Control: Public, Private, Special Purpose Vehicle (SPV), and various Public-Private Partnership (PPP) models; multi-service providers and their collaboration and operation in infrastructure provision, Emerging opportunities in infrastructure development;

Infrastructure Policy: Regulatory and Facilitative;
Investment requirement at various levels and actual investments in Infrastructure;
Financing mechanism associated with infrastructure development.

National and International agencies involved in infrastructure provision

Case studies from cities showcasing innovative solutions and equitable economic growth.

Reference books

1. *Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines*. (Vol. I). Ministry of Urban Development, Town and Country Planning Organization.
2. CPHEEO. Manuals on water supply, sewerage, and solid waste management. Central Public Health and Environmental Engineering Organisation, Ministry of Housing and Urban Affairs, Government of India.
3. Stein, J. M. (1988). Public infrastructure planning and management. Sage Publications.
4. Schübeler, P. (1996). Participation and partnership in urban infrastructure management. World Bank Publications.
5. Sethi V.K. (2007). Infrastructure Development in India. New Century Publications, New Delhi.
6. Ministry of Urban Development (2011). Report on Indian Urban Infrastructure and Services. The High-Powered Expert Committee (HPEC) for Estimating the Investment Requirements for Urban Infrastructure Services, Government of India
7. National Institute of Urban Affairs (1997). Financing Urban Infrastructure in India: Research Study Series 59. NIUA, New Delhi.
8. Venugopal R.A. (2009). State of Urban services in Indian cities. Oxford University Press, New Delhi.
9. McLoughlin Brian J. (2019). Urban and Regional Planning: A Systems Approach. Rawat Publications, New Delhi.
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11. Rana Muhammad Ehsan and Manoj Jayabalan (2023). Emerging Technologies for Digital Infrastructure Development. Bentham Books, Sharjah.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [9 hours]	**COs addressed: CO1**	
1.1	Infrastructure Planning: Basic Definitions, Concepts, Significance; The Role of Infrastructure in urban and regional development, Critical Infrastructure in urban and regional development and indicators of infrastructure development	2
1.2	Types of Infrastructure: Physical, Social, Economic Infrastructure, Utilities and Services, Urban Infrastructure, Smart City Infrastructure	2
1.3	Role of different actors in urban utility and infrastructure projects, the government and NGOs that deliver urban utility and infrastructure services in India	1
1.4	Infrastructure facilities, including components and qualitative and quantitative techniques for assessing requirements, standards and benchmarks for infrastructure provision and delivery at various levels, norms and standards URDPFI and CPHEEO	2

1.5	Role of Spatial Information Technology in planning, provision, and monitoring infrastructure	1
1.6	Regional Resource Mapping across forest resource, mineral resource, agricultural resource, water resource etc.for infrastructure development	1
MODULE II [9 hours]	**COs addressed: CO2**	
2.1	**Water supply** – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, Policies, Programmes, planning provisions and management issues, Case study	2
2.2	**Sanitation** – generation points, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, Policies and Programmes in the provision of Sanitation at various levels	2
2.3	Rajiv Gandhi Technology Mission on Water supply and Sanitation (Urban & Rural), City Sanitation Plan, and State Sanitation Strategies	1
2.4	Sanitation and MDG; Resource Commitment for Sanitation; Access to Sanitation: Cost and Coverage; Role of Institutions: Public, Private and community; Sanitation and environment; Sanitation and health; Case study	2
2.5	**Storm water** – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, ground water replenishment, storm water collection and disposal, norms and standards, case study	2
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	**Municipal and other wastes** – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, case study	2
3.2	**Power** – Sources of power procurement, distribution networks, demand assessment, norms and standards, Case study	1
3.3	**Fire** – vulnerable locations, methods of firefighting, norms and standards, case study related to specific infrastructure	1
3.4	Case studies	2
MODULE IV [8 hours]	**COs addressed: CO4**	
4.1	Health: Provisions, availability, access and future requirement, government policies	1
4.2	Education: Provisions, availability, access and future requirement, government policies Socio- Cultural and Recreational: Provisions, availability, access and future requirement, government policies	1
4.3	Banking and Insurance; Tourism Infrastructure; Ports, Airports, Inland Waterways, Special Economic Zones (SEZ), Energy, Railways and Digital infrastructure	1
4.4	Roads: Provision and institutions involved, Investment, pricing and maintenance, Access, coverage and conditions; National,	1

	State and District Policies for Roads	
4.5	National Highway Project: Golden Quadrilateral, North-South and East- West Corridors and its impact on regional space	1
4.6	Railways: Goods and passenger trains, dry ports, container depot etc., high-speed connectivity and Metro, supply projections	1
4.7	Relevant case studies	2
MODULE V [10 hours]	**COs addressed: CO5**	
5.1	Terms: Equity, Efficiency, Quality of Service, Paying Capacity, and Pricing of Infrastructure Services.	1
5.2	Ownership and Control: Public, Private, Special Purpose Vehicle (SPV), and various Public-Private Partnership (PPP) models	2
5.3	Multi-service providers and their collaboration in infrastructure Provision, Emerging opportunities in infrastructure development	2
5.4	Infrastructure Policy: Regulatory and Facilitative; Investment requirement at various levels and actual investments in Infrastructure	2
5.5	Financing mechanism associated with infrastructure development	1
5.6	National and International agencies involved in infrastructure provisions; Case studies from cities showcasing innovative solutions and equitable economic growth.	2

CO Assessment Sample Questions	
CO1	1. Briefly elaborate the role of the government in the provision of infrastructure projects. Discuss with provision of any one such infrastructure project.
CO2	1. Discuss the policies and programs for sanitation in an urban area with a relevant example.
CO3	1. With reference to a city, discuss the municipal waste management and disposal.
CO4	1. What are the planning considerations for social infrastructure? Discuss relevant government policies in this regard. (Choose any two)
CO5	1.Discuss any PPP model for any infrastructure development in Kerala. 2. With reference to a SPV, elaborate the implementation of any infrastructure project in Kerala/ India.

26MPC203	CITY AND METROPOLITAN PLANNING	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

The course aims to introduce students to urbanisation across the world and the transformation of towns and metro cities with an understanding of the theories emerging in the field of city and metropolitan planning.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the structure of cities and City – Region Linkages
CO 2	Comprehend the theories of urban structure and analyse a city for the emerging model.
CO 3	Understand metropolitan growth characteristics.
CO 4	Apply the planning standards for different landuses to execute different levels of plan such as master Plan, Structure Plan etc.
CO 5	Analyse and evaluate best practices in spatial planning, identify and apply the planning techniques for special areas in a city

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1		1	3				
CO 2	2		3	2	1	2	
CO 3			3	1			
CO 4	2	2	3	3	2		
CO 5	2	2	3	3	2	2	1

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	40

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: City - Urban Structure and Growth Implications

Cities as engines of growth; City-region linkages – structure of city region, area of influence, City, fringe and the periphery - physical and functional linkages- peri-urban development, multi-nuclei developments, hierarchy of urban centers and their functional linkages;

Land value and economic attributes of activity location; Impact of technology on urban form; Transportation and urban form; location characteristics and impact of urban settlements.

MODULE II: Theories of Development and Emerging Concepts

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

Case studies

MODULE III: Metropolitan growth characteristics

Metropolitan growth - Trends, characteristics, theories on growth of human settlements, Metropolis, Dynapolis and Megalopolis, emerging social and economic characteristics of the central city and the suburbs, special problems of the central area; migration and sub-urban development

Metro & mega cities: problems & issues, issues related to diversity and unintended growth- economic, social and environmental sustainability- quality of life, inclusivity and equity- climate change, transit-oriented development, participatory planning

MODULE IV: Planning standards, Approaches and Techniques

Spatial standards for residential, industrial, commercial, institutional, transport, ecological spaces, recreational areas etc.; space standards for facility areas, utilities and networks; performance standards;

Plan making process, Master Plans, Structure plans and Strategy Plan; Public Participation and plan implementation; technique of urban renewal and redevelopment;

Case studies of metropolitan planning in India and abroad

MODULE V: Planning for Special Areas and Best practices in planning

Special area planning-definition, types, attributes, requirements, planning process; inner areas, peri- urban areas issues and planning approaches; smart city- concepts, elements, features, planning approaches and strategies, policy efforts in India; inclusive planning concepts and components, essential dimension of inclusive planning; growth of informal sector, characteristics, linkages with formal sector, planning interventions, inclusive zoning, development and building regulation, slum improvement;
Best practices of city and metropolitan planning in India and abroad, inter-disciplinary policy issues and public actions for guiding metropolitan development.

References:

1. Aggarwalla Astha. (2011). Agglomeration Economies and Productivity Growth in India. Indian Institute of Management, Ahmadabad.
2. BMRDA (2016). Bangalore Metropolitan Region Revised Structure plan 2031. BMRDA, Bangalore.
3. Board N. C.R. P. Regional Plan 2021. National Capital Region. Government of India, New Delhi.
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5. Glasson J. (1974). An Introduction to Regional Planning. Taylor and Francis ltd., London.
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7. Jaidit Brar S. G. A. M. C. M. S. R. M. S. (2014). India’s Economic Geography in 2025: States, Clusters and Cities. McKinsey and Company, Delhi.
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11. Bhattacharya Shromoyee & Sujaya Rathi (2015). Re-conceptualizing Smart Cities: A reference framework for India. Niti Aayog, Government of India.
12. The World Bank (2015). World: Inclusive Cities Approach Paper. Report No. AUS8539. IBRD, The World Bank, Washington D.C.
13. Deuskar Chandan (2020). Informal Urbanization and Clientelism: Measuring the global relationship. Sage, London.
14. Mahadevia D. (2024). Urban Planning and its Discontents: Practice in Contemporary India. Taylor & Francis Books India Pvt. Ltd, London.
15. Keitel M.L. and Lukas Behrend (2023). The Topology of Planning Theories. Springer, Berlin.
16. Bawa, V. K., (1987), Indian Metropolis: Urbanization, Planning and Management, Inter-India Publications, New Delhi
17. City and Metropolitan Planning and Design, ITPI, New Delhi
18. Ernest R. Alexander (1992), Approaches to Planning: Introducing Current Planning Theories, Concepts and Issues. Philadelphia: Gordon and Breach Science Publishers
19. John L, Taylor and David G. Williams, 1982. Urban Planning Practice in Developing Countries, Pergamon Press, Oxford.
20. John M. Levy (2011), Planning theory, Contemporary Urban Planning,9th Ed., Upper Saddle River, NJ
21. Miles R. Simon, 1970, ‘Metropolitan Problems’ Methuen Publications, Canada

COURSE CONTENTS AND LECTURE SCHEDULE		
No.		No. of Hours [28 hours]
MODULE 1 [6 hours]	**COs addressed: CO1**	
1.1	Cities as engines of growth; City-region linkages – structure of city region, area of influence, City, fringe and the periphery - physical and functional linkages	2
1.2	Peri-urban development, multi-nuclei developments, hierarchy of urban centers and their functional linkages	2
1.3	Land value and economic attributes of activity location; location characteristics and impact of urban settlements	1
1.4	Impact of technology on urban form; Transportation and urban form	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Theories of urban structure and land use- Centre place theory, urban realm model, core frame theory	1
2.2	New urbanism; Territorial Development Theory: Growth pole theory, urban bias critique, secondary cities and urban diffusion	1
2.3	Emerging Rural Urban Relationship models: urban rural linkage, expanding city, globalization and extended metropolitan region, Desakota model, Networked model	1
2.4	Territoriality of rural – urban interaction; Peri-urban Interface (PUI),	1
2.5	Case studies	2
MODULE III [4 hours]	**COs addressed: CO3**	
3.1	Metropolitan growth - Trends, characteristics, theories on growth of human settlements, Metropolis, Dynapolis and Megalopolis	1
3.2	Emerging social and economic characteristics of the central city and the suburbs, special problems of the central area; migration and sub-urban development	1
3.3	Metro & mega cities: problems & issues, issues related to diversity and unintended growth- economic, social and environmental sustainability- quality of life, inclusivity and equity- climate change, transit-oriented development, participatory planning	1
3.4	Case studies	1
MODULE IV [6 hours]	**COs addressed: CO4**	
4.1	Spatial standards for residential, industrial, commercial, institutional, transport, ecological spaces, recreational areas etc.; space standards for facility areas, utilities and networks; performance standards	2

4.2	Plan making process, Master Plans, Structure plans and Strategy Plan; Public Participation and plan implementation; technique of urban renewal and redevelopment	2
4.3	Case studies of metropolitan planning in India and abroad	2
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Special area planning-definition, types, attributes, requirements, planning process; inner areas, peri- urban areas, issues and planning approaches	1
5.2	Smart city- concepts, elements, features, planning approaches and strategies, policy efforts in India	1
5.3	Inclusive planning concepts and components, essential dimension of inclusive planning	1
5.4	Growth of informal sector, characteristics, linkages with formal sector	1
5.5	Planning interventions, inclusive zoning, development and building regulation, slum improvement, Inter-disciplinary policy issues and public actions for guiding metropolitan development	1
5.6	Best practices of city and metropolitan planning in India and abroad	1

CO Assessment Sample Questions	
CO1	1. Why are cities called engines of growth? Explain. 2. Discuss city region linkages with relevant examples.
CO2	1. Compare and contrast the central place theory with the core frame theory. Discuss with an example. 2. Discuss the emerging urban-rural relationship evident in present day cities.
CO3	1. With reference to a region, discuss the metropolitan growth characteristics evident in the area.
CO4	1. Spatial standards are relevant for any planning exercise. Explain. 2. Discuss the concept of urban renewal and urban redevelopment with relevant examples.
CO5	1. Briefly outline the planning approach for a smart city. 2. Discuss the growth of informal sector in a city and its linkage with the formal sector.

26MPC204	PLANNING LEGISLATION AND PROFESSIONAL PRACTICE	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

The course aims to educate students with the basic concept of law and the Indian Constitution, and the requirements of various Acts, rules and regulations for urban planning. It also aims to help students understand the scope, nature and procedure of professional practice, and prepare consultancy proposals for work in spatial planning.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the concept of legislation, the Indian Constitution and the constitutional basis of provisions relating to land and development.
CO 2	Comprehend the role of planning and development organisations in planning and implementation and identify the relevance of public participation
CO 3	Analyse the laws in India and abide by them in the planning process.
CO 4	Identify the scope, nature, and procedural aspects of professional practice in spatial planning.
CO 5	Prepare detailed consultancy proposals, including project scopes, objectives, and methodologies

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1		1	3	3			
CO 2	2	2	2	3		3	1
CO 3	2		3	3			
CO 4		2	3	3			2
CO 5	2	3	2	2			3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	40

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 10 questions with 2 questions from each module, of which the student should answer any one. Each question carries 8 marks. One or two questions can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Legislation

Significance and Objectives of Legislation; Constitution of India: Concept and contents, provisions regarding property rights and features, Constitutional basis and provisions relating to land, its development and use; Meaning of terms of law, legislation, ordinance, Bill, Act, Regulations and Bye-laws; Significance of law and its relationship to Urban planning, benefit of statutory provisions- law of eminent domain & police powers; A brief history of Planning Legislation in India and abroad.

MODULE II: Planning & Development organisations

The Planning Commission, National Development Council, NITI Ayog, Town and Country Planning Organisation and their role in planning and development; Other institutions for urban and rural development planning at national level, state level, regional/ district level. National level committees and commissions on urbanisation, urban development departments, City Improvement Trust, state level institutions like metropolitan/urban development authorities, regional planning and district level organisations like Municipal Corporation -objectives, functions and duties, organizational structure, technical capacity, statutory obligations, budgetary outlays.

MODULE III: Planning Acts and Legislation in India

Town and Country Planning Act - Its implication on preparation and implementation of regional plans, development plans, town planning schemes, area plans etc., Town and country planning Act, Kerala.

Critical Appraisal of: Improvement Trust Act, Development Authorities Act, Land Acquisition Act 1986, Urban Land (Ceiling and Regulation) Act 1976, Slum Clearance/Slum Improvement Act, Rent Control Act, legislations on conservation of natural and manmade resources including Coastal Zone regulations, Air and Water (Prevention and Control) of Pollution Act, Mining and Forestry act, Conservation and management of ancient monuments and archaeological sites and remains Act, 73rd and 74th Constitutional Amendment Acts, Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement Act, 2013.

Legislations for public-private partnerships in urban development and infrastructure projects; Hazardous waste management and handling rules/ biomedical rules, Solid

waste management rules; Hill area regulations; Climate change protocols and Conventions, MoEF guidelines; Regulations relating to development of integrated townships, Special economic zones, export processing zones, and IT Parks; Various Acts related to urban governance; land resources, environment protection, public participation in statutory process;

Tools to control: zoning, sub-division regulations, building regulations and bye-laws.

MODULE IV: Professional Activities and Responsibilities

Aims and objectives of professional institutes and bodies in planning; professional roles and responsibilities of planning consultants; professional ethics; responsibilities towards clients, fellow professionals and public; Scope of services for different projects.

Consultancy agreements and safeguards; Fees and scales of professional charges; negotiation, liability, code of conduct, arbitration;

Study of selected projects

MODULE V: Planning Practice and Project Management

Project context; Project rationale and objectives; Bid documents, Tenders, Contracts; Implementation approaches and methods, Work plan, Budget, Assumptions, risks and sustainability; Implementation arrangements; Organizational structure and stakeholder involvement mechanisms; Reporting, review, monitoring and evaluation; Dissemination and mainstreaming of project learning

Case study

References

1. Divan, S., & Rosencranz, A. (2022). Environmental law and policy in India: Cases and materials (3rd ed.). Oxford University Press.
2. Doabia, T. S. (2023). Environmental and pollution laws in India (Vols. 1–3). LexisNexis
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4. Randolph, J. (2012). Environmental land use planning and management (2nd ed.). Island Press.
5. Ministry of Health, Government of India - Report of the Committee on Model Planning Legislation.
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7. Viswambar Nath, Administration and Development Planning in India
8. Kulshrestha S. K. (2012), Urban and Regional Planning in India: A Handbook for Professional Practice. Saga Publications, New Delhi.
9. Naseem Mohammad (2011). Environmental Law in India. Kluwer Law International, Netherlands.
10. Institute of Town Planners, India. (2003). Memorandum Articles of Association and Byelaws. New Delhi.
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12. Shah Uttam Chand (2023). Planning Legislation covering Urban & Regional Planning and Environmental Laws in India. Notion Press, Chennai.

COURSE CONTENTS AND LECTURE SCHEDULE		
No.		No. of Hours [28 hours]
MODULE 1 [6 hours]	**COs addressed: CO1**	
1.1	Significance and Objectives of Legislation; Constitution of India: Concept and contents, provisions regarding property rights and features, Constitutional basis and provisions relating to land, its development and use	2
1.2	Meaning of terms of law, legislation, ordinance, Bill, Act, Regulations and Bye-laws	2
1.3	Significance of law and its relationship to Urban planning, benefit of statutory provisions; law of eminent domain & police powers	1
1.4	A brief history of Planning Legislation in India and abroad	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	The Planning Commission, National Development Council, NITI Aayog, Town and Country Planning Organisation and their role in planning and development	2
2.2	Other institutions for urban and rural development planning at national level, state level, regional/ district level	1
2.3	National level committees and commissions on urbanisation, urban development departments, City Improvement Trust- objectives, functions and duties	1
2.4	State level institutions like metropolitan/urban development authorities, regional planning and district level organisations like Municipal Corporation - objectives, functions and duties, organizational structure, technical capacity, statutory obligations, budgetary outlay	2
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	Town and Country Planning Act - Its implication on preparation and implementation of regional plans, development plans, town planning schemes, area plans etc., Town and country planning Act, Kerala.	1
3.2	Critical Appraisal of: Improvement Trust Act, Development Authorities Act, Land Acquisition Act 1986, Urban Land (Ceiling and Regulation) Act 1976, Slum Clearance/Slum Improvement Act, Rent Control Act, legislations on conservation of natural and manmade resources including Coastal Zone regulations, Air and Water (Prevention and Control) of Pollution Act, Mining and Forestry act, Conservation and management of ancient monuments and archaeological sites and remains Act, 73rd and 74th Constitutional Amendment Acts, Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement Act, 2013	2

	Presentation	
3.3	Legislations for public-private partnerships in urban development and infrastructure projects; Hazardous waste management and handling rules/ biomedical rules, Solid waste management rules; Hill area regulations; Climate change protocols and Conventions, MoEF guidelines; Regulations relating to development of integrated townships, Special economic zones, export processing zones, and IT Parks; Various Acts related to urban governance; land resources, environment protection, public participation in statutory process *Presentation*	2
3.4	Tools to control: zoning, sub-division regulations, building regulations and bye-laws.	1
MODULE IV [4 hours]	**COs addressed: CO4**	
4.1	Aims and objectives of professional institutes and bodies in planning; professional roles and responsibilities of planning consultants	1
4.2	Professional ethics; responsibilities towards clients, fellow professionals and public; Scope of services for different projects.	1
4.3	Consultancy agreements and safeguards; Fees and scales of professional charges; negotiation, liability, code of conduct, arbitration	1
4.4	Study of selected projects	1
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Project context; Project rationale and objectives; Bid documents, Tenders, Contracts	2
5.2	Implementation approaches and methods, Work plan, Budget, Assumptions, risks and sustainability; Implementation arrangements	1
5.3	Organizational structure and stakeholder involvement mechanisms	1
5.4	Reporting, review, monitoring and evaluation; Dissemination and mainstreaming of project learning	1
5.5	Case study	1

CO Assessment Sample Questions	
CO1	1. What is the constitutional basis for land and its development? Explain. 2. Discuss legislation in India. With relevant examples briefly discuss a bill, an Act and an ordinance.
CO2	1. Discuss the role of Planning Commission and Niti Aayog. 2. Discuss the objectives, functions and duties of Municipal Corporations. What are the statutory provisions outlined in the Municipality Act?

CO3	1. What are the tools for development control? Discuss with relevant examples. 2. Briefly discuss the LARR Act 2013.
CO4	3. Discuss consultancy agreements with reference of scale of professional charges. 4. Briefly outline the roles and responsibilities of a planning consultant.
CO5	4. Discuss the implementation mechanism for a planning project. 5. Briefly discuss the review and monitoring for any planning project.

26MPP201	GIS APPLICATIONS II	L	T	P	S	C	Year of Introduction
		0	0	2	2	1	2026

Preamble:

This course aims to enable students to learn and apply GIS and Remote sensing in their planning exercises and equip them to become proficient in the professional practice of applying GIS for decision making.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Design and manage spatial databases to support complex planning processes and integrate multisource spatial and non-spatial data (apply and create).
CO 2	Perform advanced spatial analysis and modelling, including network analysis, spatial statistics, and geostatistics, to understand urban patterns and dynamics (analyse and evaluate)
CO 3	Apply GIS-based Multi-Criteria Decision Analysis (MCDA) and site suitability techniques to support evidence-based decision-making in planning (evaluate and create)
CO 4	Execute a GIS-based planning project, demonstrating proficiency in spatial problem solving, map-making, and communicating planning solutions using geospatial tools (evaluate and create)

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	3	2	3	2	
CO 2	3		3	2	3	2	
CO 3	2		3	3	3	2	
CO 4	3	2	3	3	3	2	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	-
Understand	✓	✓	✓	-
Apply	✓	✓	✓	-
Analyse	✓	✓	✓	-
Evaluate		✓	✓	
Create	✓	✓	✓	

Mark Distribution of CIA

Course Structure [L-T-P]	Test 1	Theory [L- T]		Total Marks
		Assignment/ Project	Viva	
0-0-2	15	25	10	50

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
50	50	-	-

SYLLABUS

MODULE I: GIS- Urban growth modelling and scenario planning

Land-use change detection and application in planning (remote sensing: NDVI, urban sprawl).
Predictive modelling (Markov chains, cellular automata).
Climate resilience (flood risk, heat islands).
Remote sensing and its application
Analyse urban expansion using Landsat imagery
Simulate future growth scenarios with plugins

MODULE II: GIS and Decision Support

Public participation GIS (PPGIS): Crowdsourcing data (e.g., KoboToolbox).
3D visualisation (SketchUp integration, TINs for terrain).
Dashboard creation (Power BI/ArcGIS Urban for planners).

Class project: GIS model of a proposed development in line with the studio, including advanced spatial analysis.

References:

1. Chang, K. T. (2019). *Introduction to geographic information systems* (9th ed.). McGraw-Hill Education.
2. Jensen, J. R. (2016). *Remote sensing of the environment: An earth resource perspective* (3rd ed.). Pearson.
3. Lo, C. P., & Yeung, A. K. W. (2007). *Concepts and techniques of geographic information systems* (2nd ed.). Pearson.
4. Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2020). *Remote sensing and image interpretation* (8th ed.). Wiley.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 (12 hours]	**COs addressed: CO1, CO2**	
1.1	Remote sensing: Introduction and application Land-use change detection (remote sensing: NDVI, urban sprawl)	4
1.2	Predictive modelling (Markov chains, cellular automata)	2
1.3	Climate resilience (flood risk, heat islands)	2
1.4	Analyse urban expansion using Landsat imagery (1990– 2025)	2
1.5	Simulate future growth scenarios with plugins	2
MODULE II [16 hours]	**COs addressed: CO2, CO3, CO4**	
2.1	Public participation GIS (PPGIS): Crowdsourcing data (e.g., KoboToolbox)	2
2.2	3D visualisation (SketchUp integration)	2
2.3	3D visualisation (TINs for terrain)	2
2.4	Dashboard creation (Power BI/ArcGIS Urban for planners).	2
2.5	Class project: GIS model of a proposed development in line with the studio, including advanced spatial analysis.	6

CO Assessment Sample Questions	
CO1	1. Prepare a map for a region showing the landuse change using NDVI mapping.
CO2	2. Show the areas of urban heat islands for a given region.
CO3	2. Demonstrate the use of Kobotoolbox for survey and analysis. 3. Interpret the terrain of a region on the basis of TIN analysis.
CO4	1. Part of the Planning studio project to be done with TIN analysis, Network analysis, and landuse mapping.

26MPS201	PLANNING STUDIO II	L	T	P	S	C	Year of Introduction
		0	0	10	10	5	2026

Preamble:

It aims to enable students to prepare a Development Plan with a good understanding of the statutory framework and planning process.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the statutory framework and planning process for the preparation of Development Plan.
CO 2	Analyse physical, socio-economic, environmental and institutional structure to identify developmental issues, potentials and constraints and forecast future scenarios
CO 3	Formulate spatial strategies and detail out plan proposals
CO 4	Prepare a development Plan assessing and integrating the possible solutions and devise an implementation framework in line with the legal requirements.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	3	3			
CO 2	3		3	2	2	3	1
CO 3	3	2	3	3	2	2	
CO 4	3	3	3	3	2	2	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Field visit	Literature review	Reviews	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate	✓		✓	
Create			✓	

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Field visit/ Project	Reviews	
0-0-10	-	200		200

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
300	200	100	Jury

End Semester Examination [ESE]: Pattern

PATTERN	ESE Marks
Jury examination	100
Total Marks: 100	

SYLLABUS

MODULE I: Planning Exercise – Development Plan

Project I: Development plan/ master plan for one or more local bodies having urban/peri-urban character.

The basic aim of this project is to develop a comprehensive development plan/ master plan for one or more local bodies having urban/peri-urban character. The scope of master plan preparation will include working out the detailed requirements; formulation of goals, objectives and policies; planning considerations; conceptual framework; planning proposals including zoning and phasing; and implementation strategy covering organizational and financial aspects.

The development planning process should consider the local and regional context, in alignment with physical, socio-economic, environmental, institutional and legal framework and future growth trajectories.

The project exposes the student to data collection, analytical research methodologies, field work, interaction with relevant stakeholders, teamwork, critical analysis, presentation of the study verbally and illustratively, and report preparation at a city/peri-urban level.

Minor project should address any sector in the master plan and detailed plans and proposals should be prepared for that sector. (Tourism/Industrial/or any other relevant sector)
Scale of the study area- One or more local-bodies within urban/peri-urban areas.

Reference books

1. Southall, A. (1998). *The city in time and space*. Cambridge University Press.
2. Perdicoulis, A. (2011). *Building competences for spatial planners: Methods and techniques for performing tasks with efficiency*. Taylor & Francis.
3. Alexander, E. R. (1992). *Approaches to planning: Introducing current planning theories, concepts and issues*. Gordon and Breach Science Publishers.
4. LaGro, J. A., Jr. (2013). *Site analysis: Informing context-sensitive and sustainable site planning and design*. John Wiley & Sons.
5. Jacobs, J. (1989). *The death and life of great American cities*. Knopf Doubleday Publishing Group.
6. Hall, P., & Tewdwr-Jones, M. (2010). *Urban & regional planning*. Routledge.
7. Ramachandran, R. (1991). *Urbanization and urban systems in India*. Oxford University Press.
8. Ministry of Urban Affairs & Employment, Government of India. (2014). *Urban and regional development plans formulation & implementation guidelines*. Government of India.

COURSE CONTENTS AND LECTURE SCHEDULE		
No.		No. of Hours [140 hours]
MODULE 1 [140 hours]	**COs addressed: CO1, CO2, CO3, CO4**	
1.1	Statutory framework and planning process for the preparation of Development Plan	10
1.2	Preliminary site investigation and analysis - planning considerations, local and regional context, physical, socio-economic, environmental, institutional and legal framework and future growth trajectories	20
1.3	Field work – survey, stakeholder meetings	10
1.4	Formulation of goals, objectives and policies; conceptual framework	10
1.5	Literature review and case studies for identifying strategies	10
1.6	Planning proposals including zoning and phasing and implementation strategy covering organizational and financial aspects	30
1.7	Minor project: Detailed proposal for a particular sector identified	20
1.8	Presentation of the study verbally and illustratively, and report preparation	20
1.9	Final presentation and jury	10

CO Assessment Sample Questions	
CO1	2. Site Analysis, legal considerations and evaluation of existing situation
CO2	1. Apply norms and standards and list requirements with detailed analysis of all sectors for the study area
CO3	1. Formulate goals and strategies for the study area.
CO4	2. Proposal and detailed area plan for the sector identified for a potential location.

TKM COLLEGE OF ENGINEERING KOLLAM

DEPARTMENT OF ARCHITECTURE AND PLANNING

MASTER OF PLANNING (URBAN PLANNING)

SEMESTER III

2026

26MPC301	URBAN DEVELOPMENT MANAGEMENT AND FINANCE	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The course aims to familiarize students with the administration and financing of urban/rural housing and other infrastructure development and the management strategies adopted for their implementation and monitoring. The course aims to introduce concepts of development finance, revenue and municipal finance. The student will learn the innovative methods of financing for urban infrastructure, Revenue and expenditure management, Innovative means of financial resource mobilisation for local bodies, and best practices.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend process of management of urban planning and infrastructure projects
CO 2	Apply strategies and methods of resource mobilisation for various development projects.
CO 3	Demonstrate understanding about the public private partnership and identify the means of financing, monitoring and implementing projects at local level
CO 4	Comprehend major aspects of development finance including municipal finance and demonstrate specialized knowledge in urban finance.
CO 5	Propose effective financial management systems with enhanced organizational capacity

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2			1
CO 2	2	1	2	3		1	2
CO 3	2	2	3	3		2	2
CO 4	2	2	3	2		1	2
CO 5	3	3	3	3		2	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools/ Seminar	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓	✓	
Create		✓	✓	

Mark Distribution of CIA

	Attendance	Theory [L- T]	

Course Structure [L-T-P]		Assignment/ Project	Test-1	Total Marks
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Urban Development Management and Administration

Development management concepts, definition, characteristics, objectives, scope and its relevance to the planning sector. Management strategies for Urban planning projects; Development goals and processes, effect of political-economic system on development management.

Development Administration: Municipal administration system, rural administration system, urban development authorities, urban management agencies etc.

National, state and local level organisations, role of housing boards, development authorities, improvement trusts and boards, cooperatives, agencies, private sector, NGOs etc in housing / development management.

MODULE II: Development Strategies

Development strategies: land management techniques for urban planning, housing and infrastructure development. Organizational techniques for development management. Management, monitoring and evaluation techniques for development projects, participatory management processes, managing joint ventures, Practice of PPP in Urban Infrastructure projects, post occupancy management of housing and other development projects.

Alternative development management strategies: persuasive strategies, non-persuasive strategies, measures of inducements and promotion of development etc.

MODULE III: Public Private Partnership (PPP) and Investment

PPP: Concept, need, preconditions for Partnerships; Advantages of Collaboration, Methods of Promoting Participation, Regulations and Administrative Procedures; Role of Government as Partner, Regulator and Enforcer; Principles of PPP- Contractual Framework, Selection of Service Provider, Payment Mechanism, Monitoring and Evaluation, Risk and Revenue Sharing; Regulatory Authority for PPP; Model Contract Agreement.

Investment Planning- Process, components and investment needs; budgeting, finance investments in infrastructure and services; Manpower planning- performance appraisal, motivational aspects

MODULE IV: Development Finance

Development Finance- approaches, concepts, components, process, credits rating; Role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles (SPV) in Urban Finance Management; Central Finance Commission and state finance commissions: constitution, powers and functions; consolidated fund of central and state; Financing municipalities and panchayats and financial categorisation of sources of revenue; Reforms in municipal and panchayat finances, rationalisation of user charges, and streamlining of municipal tax administration.

MODULE V: Innovative Methods for Financing Urban Development

Monetary Exaction: betterment levy, impact fees, external development charges and vacant land development tax; New and innovative fiscal tools: Land exactions: Using land as a resource to finance urban development projects, transfer of development rights, town planning schemes, monetisation of underutilised public assets; Development financing tools – development improvement financing, value capture financing etc. Valorisation charges; Debt financing, partnership financing, financing through intermediaries, Municipal bonds, and pooled financing; Funding of development plan proposals and projects, Market mechanisms for raising finances, corporate finance - best practices in financial resource mobilisation at local level.

References:

1. Bell, C. (2003) Development Policy as Public Finance, Oxford University Press, Oxford.
2. Fisher, R.C. (2018) State and Local Public Finance, Routledge, New York.
3. Kaushik, B. (2003) Analytical Development Economics: The Less Developed Economy Revisited, MIT Press, Cambridge, MA.
4. Mohanty, P.K. (2016) Financing Cities in India: Municipal Reforms, Fiscal Accountability and Urban Infrastructure, Sage, New Delhi.
5. Bamberger M & Hewitt E, Monitoring and Evaluation of Urban development Programs.
6. Jain D K, Project Planning and Appraisal in Planned Economy in India.
7. Maljotra D D Management of Urban Development.
8. Mohanty, P.K., Cities and Public Policy – An Urban Agenda for India
9. Oberman J, Planning and Managing the Economy of the City.
10. Panandiker, V A P, Development Administration in India.
11. Prof. N S Saini, Reading Material on Development Management.

12. Rao P.K (2001), "Sustainable Development", Blackwell Publishers, Massachusetts, USA.
13. Rao P.S.N. et.al., Municipal Finance in India – Role of 12th Finance Commission
14. Sharma K S R N, Financing Urban Development in India.
15. TCPO: Perspectives on Management of Urban Development – Financing Urban Services.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Development management concepts, definition, characteristics, objectives, scope and its relevance to the planning sector.	2
1.2	Management strategies for Urban planning projects; Development goals and processes, effect of political-economic system on development management	2
1.3	Municipal administration system, rural administration system, urban development authorities, urban management agencies	2
1.4	National, state and local level organisations; role of housing boards, development authorities, improvement trusts and boards, cooperatives, agencies, private sector, NGOs etc in housing / development management.	2
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Development strategies: land management techniques for urban planning, housing and infrastructure development.	2
2.2	Organizational techniques for development management	1
2.3	Management, monitoring and evaluation techniques for development projects	1
2.4	Participatory management processes, managing joint ventures, Practice of PPP in Urban Infrastructure projects	2
2.5	Post occupancy management of housing and other development projects	1
2.6	Alternative development management strategies: persuasive strategies, non-persuasive strategies, measures of inducements and promotion of development etc.	1
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	PPP: Concept, need, preconditions for Partnerships	1
3.2	Advantages of Collaboration, Methods of Promoting Participation, Regulations and Administrative Procedures	1
3.3	Role of Government as Partner, Regulator and Enforcer	1
3.4	Principles of PPP- Contractual Framework, Selection of Service Provider, Payment Mechanism, Monitoring and Evaluation, Risk and Revenue Sharing	2
3.5	Regulatory Authority for PPP; Model Contract Agreement.	1

3.6	Investment Planning- Process, components and investment needs; budgeting, finance investments in infrastructure and services	1
3.7	Manpower planning- performance appraisal, motivational aspects	1
MODULE IV [10 hours]	**COs addressed: CO4**	
4.1	Development Finance- approaches, concepts, components, process, credits rating;	2
4.2	Role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles (SPV) in Urban Finance Management	2
4.3	Central Finance Commission and state finance commissions: constitution, powers and functions	2
4.4	Consolidated fund of central and state; Financing municipalities and panchayats and financial categorisation of sources of revenue	2
4.5	Reforms in municipal and panchayat finances, rationalisation of user charges, and streamlining of municipal tax administration	2
MODULE V [8 hours]	**COs addressed: CO5**	
5.1	Monetary Exaction: betterment levy, impact fees, external development charges and vacant land development tax	1
5.2	New and innovative fiscal tools: Land exactions: Using land as a resource to finance urban development projects, transfer of development rights, town planning schemes, monetisation of underutilised public assets	2
5.3	Development financing tools – development improvement financing, value capture financing etc. Valorisation charges	2
5.4	Debt financing, partnership financing, financing through intermediaries, Municipal bonds, and pooled financing	1
5.5	Funding of development plan proposals and projects, Market mechanisms for raising finances, corporate finance - best practices in financial resource mobilisation at local level.	2

CO Assessment Sample Questions	
CO1	1. Briefly elaborate the management strategies in the provision of infrastructure projects. Discuss with provision of any one such infrastructure project. 2. Discuss the role of various organisations in urban development and management with relevant examples.
CO2	1. Discuss a post occupancy management of any development project. 2. Briefly discuss a few development strategies that may be adopted for development projects.
CO3	1. Briefly explain PPP. Discuss selection of Service Provider, Payment Mechanism, Monitoring and Evaluation for any project under PPP.
CO4	1. Discuss the financial resource mobilization for local bodies. 2. Evaluate the role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles (SPV) in Urban Finance Management
CO5	1. Discuss a few financing tools prevalent for infrastructure/ planning projects. 2. With reference to any infrastructure project case, discuss how development was financed.

26MPC302	URBAN GOVERNANCE AND POLICIES	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

It aims to make students aware of the governance mechanisms involved in development planning, administration and management. It also emphasises the importance of participatory governance in planning.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the governance mechanism in place for planning and development in India.
CO 2	Appreciate the relevance of public participation in governance and evaluate its application in practice.
CO 3	Analyse the e-governance systems and processes in the government in use by stakeholders
CO 4	Explore and analyse the urban policies in place in India, and apply in their planning exercise.
CO 5	Evaluate and develop policies in emerging areas within the scope of planning

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2		1	
CO 2	2	1	2	2		3	1
CO 3	2	2	3	2	2	2	1
CO 4	2	2	3	3		2	2
CO 5	3	3	3	3		2	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create			✓	

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to governance

Governance: Definition, concepts and components, Government and governance, salient provisions in the Constitution of India.

Governance systems in India - Overview of urban and rural governance structure in India, evolution, processes and the role of The Planning Commission, National Development Council, NITI Ayog, and their role in framing development policies;

Role of states in planning processes: facilitative, regulatory and other powers, decentralization of powers after the 73rd and 74th CAA, Local institutions in the governance process, Post 73rd and 74th CAA environment and the modified role and functions of local bodies, local authorities, district authorities and state level agencies, case examples.

MODULE II: Participatory governance

Participatory governance, people's participation, role of people's participation in the planning process, process of inclusion and exclusion in governance, access to government by various stakeholders, role of advanced locality management, resident welfare associations and other such agencies in urban governance system; role of other stakeholders like NGO's, civil society, private sector, scientific network, international institutions etc.;

Participatory process in housing and community development; Community participation, community involvement, community action; role of CBOs, NGOs, SHGs, etc.; Participatory Monitoring and Evaluation, Beneficiary Assessment, social assessment, & stakeholder analysis.

International and National best practices on participatory governance and development planning

MODULE III: Digital governance

Principles of good governance and practices, new forms of governance, Digital Governance, E-Democracy, E- Governance and Grievance Redressal system;

effectiveness of E- governance mechanisms, institutional and organizational change, e-governance system, e-service, e participation, m-governance, e-readiness of local govt, e governance for villages, districts, towns and smart cities in India and abroad; case study related to digital and e-governance

MODULE IV: Indian Urban and Regional Policies

Role of the Centre and State Governments in Urban and Regional Policy; Implied Spatial Policies since Independence, Rural-Urban Relationship Committee (1964), Programmes Vs. Policies from the First Five Year Plans to recent Five-Year Plans; National Commission on Urbanisation(1988), National Urban Policy Framework, 2018, Urban Housing and Habitat Policy, Urban Rental Housing Policy, Rural Housing Policy, National Policy for urban Street Vendors, Environment Policy, Urban Transport Policy, ToD Policy, Water Policy, Urban Sanitation policy, National Policy on Energy; Regional Planning Policies: Central Level: Western Ghats, National Capital Region, Coastal Region, Hill Area Development, and Agro-Climatic Regions; Emerging policies and programmes of government-AMRUT 2.0, Smart Cities Mission, PMSVANidhi etc

MODULE V: Emerging Policy Thrust Areas

Policies to promote efficient urban spatial development; development of eco-friendly neighbourhoods; flexible FSI in urban design and planning; transport and land use integration; integrated spatial and economic planning; inclusionary zoning regulations; renewal of neglected historic districts and derelict inner city areas; integrating environment in urban planning and development; green urban economy approach; environment and social opportunities of densities; green urban infrastructure; green urban governance; Other policies such as Industrial Policies, Environmental Policies, Road Policies; Centre-State and Local Self-Governments' role in implementation; Policy Tools at various levels for implementation;
Case studies on urban development policies- best practices of urban development and planning policies- approach and impacts, procedure and inter-disciplinary issues related to policies.

References:

1. Ministry of Housing and Urban Affairs (2018). National Urban Policy Framework. Government of India, New Delhi.
2. Ministry of Urban Development (1988). National Commission on Urbanisation. Government of India, New Delhi.
3. Mohan, R. and S. Dasgupta (2004). Urban Development in India in the Twenty First Century: Policies for Accelerating Urban Growth. Working Paper No. 231. Stanford University: Centre for International Development.
4. Ministry of Housing and Urban Affairs. Transit Oriented Policy. Government of India.
5. Lauria Mickey and Carissa Schively Slotterback (2020). Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement. Routledge, London.
6. Jain R B, Public Administration in India, 21st Century Challenges for Good Governance, Deep and Deep Publications. PVT. LTD., 2002

7. Mario Pinto, Metropolitan City Governance in India, Sage Publications, New Delhi, 2000
8. Pai Panadiker V A, Governmental Systems and Development, Bombay: Popular Prakashan, 1976.
9. S N Mishra, Sweta Mishra, ChaitaliPai, Decentralised Planning and Panchayati Raj Institutions, Mittal Publications, A-110, Mohan Garden, New Delhi, 2000.
10. Singh M.K. (2022). Community Participation and Civic Engagement in the Digital Era: Localizing Sustainable Development. Emerald Publishing, Bingley.
11. Kelly Staphanie B. (2020). Community Planning. Rowman and Littlefield, Maryland.
12. Gilchrist A. (2021). Community Development: Principles and Practice. Cambridge University Press, Cambridge.
13. Mohanty Prasanna K. (2015). Cities and Public Policy: An Urban Agenda for India. SAGE Publications, New Delhi.
14. Matani Lohit (2021). Public Administration and Public Policy. OakBridge Publishing, Gurugram.
15. Jones Andrew and Patrik Ström (2024). Research Handbook on the Green Economy. Edward Elgar Publishing, Basel

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Governance: Definition, concepts and components, Government and governance, salient provisions in the Constitution of India.	1
1.2	Governance systems in India - Overview of urban and rural governance structure in India	1
1.3	Evolution, processes and the role of The Planning Commission, National Development Council, NITI Ayog, and their role in framing development policies	1
1.4	Role of states in planning processes: facilitative, regulatory and other powers, decentralization of powers after the 73rd and 74th CAA, Local institutions in the governance process	2
1.5	Post 73rd and 74th CAA environment and the modified role and functions of local bodies, local authorities, district authorities and state level agencies,	1
1.6	Case examples – Role of state level agencies	2
MODULE II [10 hours]	**COs addressed: CO2**	
2.1	Participatory governance, people's participation, role of people's participation in the planning process	1
2.2	Process of inclusion and exclusion in governance, access to government by various stakeholders	1
2.3	Role of advanced locality management, resident welfare associations and other such agencies in urban governance system	1

2.4	Role of other stakeholders like NGO's, civil society, private sector, scientific network, international institutions etc	1
2.5	Participatory process in housing and community development; Community participation	1
2.6	Community participation, community involvement, community action; role of CBOs, NGOs, SHGs	1
2.7	Participatory Monitoring and Evaluation, Beneficiary Assessment, social assessment, & stakeholder analysis	2
2.8	International and National best practices on participatory governance and development planning	2
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	Principles of good governance and practices, new forms of governance	2
3.2	Digital Governance, E-Democracy, E- Governance and Grievance Redressal system	1
3.3	Effectiveness of E- governance mechanisms, institutional and organizational change, e-governance system, e-service, e participation, m-governance, e-readiness of local govt	2
3.4	E governance for villages, districts, towns and smart cities in India and abroad	1
3.5	Case study related to digital and e-governance	2
MODULE IV [8 hours]	**COs addressed: CO4**	
4.1	Role of the Centre and State Governments in Urban and Regional Policy; Implied Spatial Policies since Independence, Rural-Urban Relationship Committee (1964)	1
4.2	Programmes Vs. Policies from the First Five Year Plans to recent Five-Year Plans; National Commission on Urbanisation (1988)	1
4.3	National Urban Policy Framework, 2018, Urban Housing and Habitat Policy, Urban Rental Housing Policy, Rural Housing Policy	1
4.4	National Policy for urban Street Vendors, Environment Policy, Urban Transport Policy, ToD Policy	1
4.5	Water Policy, Urban Sanitation policy, National Policy on Energy	1
4.6	Regional Planning Policies: Central Level: Western Ghats, National Capital Region, Coastal Region, Hill Area Development, and Agro-Climatic Regions	2
4.7	Emerging policies and programmes of government- AMRUT 2.0, Smart Cities Mission, PMSVANidhi etc	1
MODULE V [8 hours]	**COs addressed: CO5**	
5.1	Policies to promote efficient urban spatial development; development of eco-friendly neighbourhoods; flexible FSI in urban design and planning	1
5.2	Transport and land use integration; integrated spatial and economic planning; inclusionary zoning regulations; renewal of neglected historic districts and derelict inner-city areas	1

5.3	Integrating environment in urban planning and development; green urban economy approach; environment and social opportunities of densities; green urban infrastructure; green urban governance	1
5.4	Other policies such as Industrial Policies, Environmental Policies, Road Policies	1
5.5	Centre-State and Local Self-Governments' role in implementation; Policy Tools at various levels for implementation	2
5.6	Case studies on urban development policies- best practices of urban development and planning policies	2

CO Assessment Sample Questions	
CO1	1. Briefly explain the role of local bodies post 73rd and 74th CAA.
CO2	1. Discuss the role of resident welfare associations in participatory governance with supporting cases.
CO3	1. Briefly explain the principles of good governance. 2. Discuss the relevance of e-governance in the state of Kerala.
CO4	1. Discuss the National Urban Policy framework and highlight some important features
CO5	1. Discuss the recent policies formulated. Examples can be taken from Kerala. Identify a suitable policy intervention in Kerala for any specific area. 2. Critically assess the policy tools for implementation of projects with a relevant example. (e.g. Kerala's TOD policy in achieving transit oriented landuse goals)

26MPC303	URBAN LAND MARKET AND MANAGEMENT	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

It aims to inform students with the market mechanism for the supply and demand for urban land, and help them adopt methods to manage land for orderly spatial development. It familiarizes students with different tools to manage limited land resources.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the economics of landuse for its impact on land market.
CO 2	Analyse the dynamics of land supply and demand and forecast supply and demand.
CO 3	Examine land rights and determine land availability for varied uses.
CO 4	Explore and analyse land management techniques and determine valuation of land.
CO 5	Critically evaluate land information systems and assess their application in managing urban land records.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2		2	1
CO 2	3	2	3	2		3	2
CO 3	2	1	2	3		2	1
CO 4	2	2	3	3	1	2	2
CO 5	2	2	3	2	3	2	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Land Economics, Land Policy and Land Markets

Economic Principles of Land use; Interpretation of Revenue Maps (Cadastral maps); Use of GIS Based Mapping and SVAMITVA for land titling, & Property Titling;
Market: Types of Markets, Concept of Rent and its application; Market Conditions: formal and informal, legal and illegal; Regulation, monopoly power and its use, private development; Rent-seeking and its impact on land supply, access to land by various segments of population and PPP in land;
Instruments of land policy and impact on markets: Planning instruments, market development instruments, financial development instruments, fiscal instruments, and other supportive instruments; Introduction to Resettlement & Rehabilitation (R&R).

MODULE II: Supply and Demand Side Management

Supply Side

Property Rights: ownership, user and exchange rights: its implication on land supply; Corruption, black money and land markets; Master Plan, Zoning and other planning regulations and their impact on supply. Regulation in Land Markets: Social justice and land distribution: public domain, social- democratic regulation, corporatist regulation, collective action of the state and regulation of its supply of land – overall impact of regulation on land prices.
Demand side Management: Income elasticity of land, business cycles and its impact on demand for land, externalities and internalities in land development and induced demand for land; Changes in tastes and preferences and its effect on type of land; Poor and their demand; Physical, fiscal, financial and legal incentives for inducing or restricting the demand for land; Mega investments and its effect on land. Demand forecasting for land and Real Estate

MODULE III: Land, Acquisition, Assembly and Disposal

Public Land, Acquisition, Assembly and Disposal

Land Rights, Public Land, Common Land, Religious Institutional Land, and Private Land; Land Acquisition, Compensation and Fair Price; Land Acquisition Policies by Government/Public Enterprises and compensation variations; Land possession, dispersion and use assignment: Process and delivery to final user; Special Areas: Special Economic Zones, Port, Airport and Railways, Public Undertaking Areas, and other public lands; Land Policies and Land Pricing Policies on Land Management in the Urban, Metropolitan and Village Areas; State Variations in Governance.

Private Land Acquisition, Assembly and Disposal

Private Land Rights, Size and Typology of Land, Land Assembly Policies: Large Scale Assembly, Town Planning Scheme and ownership, Institutional governance post development, Pricing Policy, Land Development Policies and Regulations, Land Disposal Policies vis-à-vis Government Land Policies. Commercial Land Policies, Industrial Land Policies: Land Policy within Industrial Policy: Housing and infrastructure for workers; Disinvestment policies for industrial land: variations in States.

MODULE IV: Land Management and Land Pricing

Land management definitions, policies, issues and challenges and risks; In line with UN conventions, ways of achieving land degradation neutrality, climate change and land and long-term actions for land management practices for co-eco system benefits and reduction of negative impacts.

Land Management Techniques: Private land assembly, co-operatives in land development, FDI in land development, land pooling and plot reconstitution, Transfer of development rights, land sharing and land lease;

Types of land utilization and its relevance to planning; Land conversions and its regulation/facilitation in peri-urban areas; Land utilization analysis; Common property and its use, tenancy and ownership, holding size and its relevance, irrigated and non-irrigated, and land values.

Land Pricing: Land valuation techniques, land pricing, subsidies, auctions; type of development: plotted, flatted system, and their effect on land pricing; Hedonistic pricing; land price behaviour; Constructing the land price index

MODULE V: Land Management Technologies & Land Information System (LIS)

Land information systems and technologies: land data registers, land tenures, land value, land use, cadastral mapping, topographical mapping, natural resource mapping, utility mapping and coordinated land information management; Land revenue systems, land records, its methods and current scenario, its management aspects in India and few global examples; Traditional maps, Land titles, land measurement units and land management systems and practices and land monitoring aspects (covering tools, techniques, and technologies such as GIS/Block Chain e.g. of Telengana/AI/Big Data/ remote sensing/drones)

Sources of information for land information: Land records in Urban and Rural areas: GIS Based property valuation (Unit based pricing, zone based, etc.); Peri-urban areas, (SVAMITVA), transparency in land transaction, methods of publicising land price monitoring.

References:

1. Sarkar P. K. (2019). Acquisition of Immovable Property). Eastern Law house, New Delhi.
2. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013
3. Land Based Fiscal Tools and Practices for Generating Additional Financial Resources (2013). Ministry of Urban Development. Government of India, New Delhi.
4. Model Guidelines for Urban Land Policy. (2013). Town and Country Planning Organization report. Government of India, New Delhi.
5. C. Sanjoy. (2013), The Price of Land: Acquisition, Conflict, Consequence. Oxford Press, New Delhi.
6. A.A.A Faizi and H.C. Behera. (2014). Land Records Management in India: A Plea for Reforms. Concept Publishing Co. Pvt. Ltd, Delhi.
7. *Government of India. (1872). Indian Contract Act No. 9 of 1872. Government of India.*
8. Government of India (1882). Transfer of Property Act. Government of India.
9. J. Ammar and Mehdi Mili Blockchain. (2024). Technology in Real Estate: Potential Future and Challenges. Springer, Berlin.
10. Vidhya D. and G. Shyam Sunder. (2023). Property Registration, Land Records and Building Approval procedures followed in various States in India,
11. M. Gaurav, Krishna Giri, Sanjay Singh, Manoj Kumar. (2024). Sustainable Land Management in India: Opportunities and Challenges. Springer, Berlin.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [7 hours]	**COs addressed: CO1**	
1.1	Economic Principles of Land use; Interpretation of Revenue Maps (Cadastral maps);	1
1.2	Use of GIS Based Mapping and SVAMITVA (rural areas) for land titling, & Property Titling;	1
1.3	Market: Types of Markets, Concept of Rent and its application; Market Conditions: formal and informal, legal and illegal	1
1.4	Regulation, monopoly power and its use, private development; Rent-seeking and its impact on land supply, access to land by various segments of population and PPP in land;	2
1.5	Instruments of land policy and impact on markets: Planning instruments, market development instruments, financial development instruments, fiscal instruments, and other supportive instruments; Introduction to Resettlement & Rehabilitation (R&R).	2
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Property Rights: ownership, user and exchange rights: its implication on land supply; Corruption, black money and land markets;	1

2.2	Master Plan, Zoning and other planning regulations and their impact on supply. Regulation in Land Markets: Social justice and land distribution: public domain, social- democratic regulation	2
2.3	Corporatist regulation, collective action of the state and regulation of its supply of land – overall impact of regulation on land prices.	2
2.4	Income elasticity of land, business cycles and its impact on demand for land, Externalities and internalities in land development and induced demand,	1
2.5	Changes in tastes and preferences and its effect on type of land; Poor and their demand	1
2.6	Physical, fiscal, financial and legal incentives for inducing or restricting the demand for land; Mega investments and its effect on land. Demand forecasting for land and Real Estate	1
MODULE III [11 hours]	**COs addressed: CO3**	
3.1	Land Rights, Public Land, Common Land, Religious Institutional Land, and Private Land; Land Acquisition, Compensation and Fair Price;	1
3.2	Land Acquisition Policies by Government/Public Enterprises and compensation variations; Land possession, dispersion and use assignment: Process and delivery to final user; State Variations in Governance.	2
3.3	Special Areas: Special Economic Zones, Port, Airport and Railways, Public Undertaking Areas, and other public lands; Land Policies and Land Pricing Policies on Land Management in the Urban, Metropolitan and Village Areas;	2
3.4	Private Land Rights, Size and Typology of Land; Land Assembly Policies: Large Scale Assembly, Town Planning Scheme and ownership,	2
3.5	Institutional governance post development, Pricing Policy, Land Development Policies and Regulations, Land Disposal Policies vis-à-vis Government Land Policies.	2
3.6	Commercial Land Policies, Industrial Land Policies: Land Policy within Industrial Policy: Housing and infrastructure for workers; Disinvestment policies for industrial land: variations in States.	2
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	Land management definitions, policies, issues and challenges and risks; In line with UN conventions, ways of achieving land degradation neutrality, climate change and land and long-term actions for land management practices for co-eco system benefits and reduction of negative impacts.	2
4.2	Land Management Techniques: Private land assembly, co-operatives in land development, FDI in land development, land pooling and plot reconstitution, Transfer of development rights, land sharing and land lease;	2

4.3	Types of land utilization and its relevance to planning; Land conversions and its regulation/facilitation in peri-urban areas; Land utilization analysis;	2
4.4	Common property and its use, tenancy and ownership, holding size and its relevance, irrigated and non-irrigated, and land values.	1
4.5	Land Pricing: Land valuation techniques, land pricing, subsidies, auctions; type of development: plotted, flatted system, and their effect on land pricing; Hedonistic pricing; land price behaviour; Constructing the land price index	2
MODULE V [7 hours]	**COs addressed: CO5**	
5.1	Land information systems and technologies: land data registers, land tenures, land value, land use, cadastral mapping, topographical mapping, natural resource mapping, utility mapping and coordinated land information management;	2
5.2	Land revenue systems, land records, its methods and current scenario, its management aspects in India and few global examples; Traditional maps, Land titles, land measurement units and land management systems and practices and land monitoring aspects (covering tools, techniques, and technologies such as GIS/Block Chain, a pilot case of Telangana/AI/Big Data/ remote sensing/drones)	3
5.3	Land records in Urban and Rural areas: GIS Based property valuation (Unit based pricing, zone based, etc.); Peri-urban areas, (SVAMITVA), transparency in land transaction, methods of publicising land price monitoring.	2

CO Assessment Sample Questions	
CO1	1. Discuss access to land by various segments of population. 2. Discuss PPP model for land management
CO2	1. What are the factors that affect supply of land? 2. Discuss the factors that restrict land demand.
CO3	1. Discuss the types of land which come under special areas. 2. Discuss 2 policies associated with land, namely commercial land policy and industrial land policy.
CO4	1. What are the means of land utilization? Discuss land conversion in peri urban areas.
CO5	1. Discuss some of the land record systems and the data maintained by government. 2. Explain some of the land information systems in practice in India and assess its application in managing urban land records.

26MPP301	DISSERTATION	L	T	P	S	C	Year of Introduction
		0	3	0	3	3	2026

Preamble:

It enables students to undertake research in any aspect of planning and thus enrich literature pertaining to the topic of research.

Course Outcomes: After the completion of the course the student will be able to

CO1	Identify topics where there is a gap in research in relevant field of study
CO2	Conduct literature search to develop suitable research designs and apply it in research.
CO3	Disseminate the findings of the research in professionally acceptable standards.
CO4	Adhere to research ethics, academic integrity standards, and professional norms in the conduct and reporting of planning research.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	3	1	2	1	-	2	1
CO 2	3	2	3	2	2	3	2
CO 3	3	3	3	2	2	2	2
CO 4	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Review 1	Review 2	Review 3	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate	✓	✓	✓	✓
Create		✓	✓	✓

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T] Reviews with Report	Total Marks
0-3-0	-	100	**100**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**

200	100	100	Jury

End Semester Examination [ESE]: Pattern

Jury

COURSE PLAN

MODULE I: First Internal Review (20 marks)

The submission for first internal review should have the following:
Synopsis which includes a working title, background to the study, need for the study aim and objectives, methodology, scope and limitations, preliminary literature studies, and brief introduction about the study area. The study is to be presented as sheets with all necessary data including maps, statistics, photos etc. An A4 size draft report should be submitted with minimum 20 pages.

MODULE II: Second Internal Review (30 marks)

The submission for second internal review should have the following:
All previous sheets/slides with improvement, objectives realized, all secondary data about the study area including maps, statistics & photographs, results from primary studies & its analysis. The study is to be presented as sheets with all necessary maps, statistics, photos etc. An A4 size draft report should be submitted with minimum 40 pages.

MODULE III: Third Internal Review (50 marks)

The submission for third internal review should have the following:
All previous sheets/slides with improvement, Data Analysis /Findings/Results/, Inferences, Strategies/guidelines/proposals, Conclusion. The study is to be presented as sheets with all necessary maps, statistics, photos etc. An A4 size draft report should be submitted with minimum 60 pages.

MODULE IV: Final End semester review (Jury exam) (100 marks)

The final end semester review will be conducted by an Evaluation committee. The students should submit 2 copies of the final thesis report before the final review. The study is to be presented as A1 sheets (max. 40 no's) with all necessary maps, statistics, photos etc. The students may also present models/ short videos/ power point presentations about the project. Turnitin plagiarism check with a 15% similarity threshold to be ensured before final submission.

26MPP302	INTERNSHIP	L	T	P	S	C	Year of Introduction
		0	0	0	-	2	2026

Preamble:

It aims to acquaint the student with real time practices in Planning related projects under competent professional guidance.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the institutional mechanism and organizational setup involved in planning projects.
CO 2	Understand the procedure followed for preparation of master plans, local area plans and town planning schemes.
CO 3	Demonstrate relevant skills in the preparation of master plans, and town planning schemes.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2			
CO 2	2	2	3	3	1	2	2
CO 3	3	2	3	3	2	2	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Legal tools	Plan preparation, software skills	Field visits, stakeholder meetings	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	✓
Create		✓		✓

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T] / Internship / training	Total Marks
0-0-0	-	-	-

Total Mark distribution

Total Marks	CIA (Marks)	ESE (Marks)	ESE Duration
100	-	100	Jury

End Semester Examination [ESE]: Pattern

Jury

SYLLABUS
MODULE I: Internship
At the end of the second semester the students are required to undergo an internship for eight weeks in an organisation (public, private or NGO that specializes in urban and regional planning. The students are encouraged to get hands-on training in Planning techniques and approach employed by local self-government department, district town planning offices, planning boards/ Housing boards and practicing planners. Students must be engaged in relevant and productive work in the stream of specialization. The work must ideally be part of a live/active planning project, and may involve data collection, data analysis and visualization, field surveys and map preparation exercises, design stage, participation in stakeholder meetings and Focus Group Discussions, as well as report preparation. The students should ensure that the organization in which training is undertaken is capable of providing opportunity to undertake work of such nature. Further, the student must be able to clearly identify his/her contribution towards the planning exercise and be able to present the same in the form of a report/ presentation. Work of clerical nature shall not qualify as fulfilling internship requirements.
MODULE II: Jury (100 marks)
At the end of the internship, the students will submit a report which will be evaluated by an internal committee. A training certificate from the concerned organization, listing the nature of work undertaken by the student, is to be produced during the evaluation by the internal committee.

CO Assessment Sample Questions	
CO1	1. Identify the organizational setup in the preparation and sanction of a Master Plan as observed and studied in the office.
CO2	1. Discuss the procedure followed for the preparation of a Master Plan during your time at the office.
CO3	1. Briefly explain the planning exercise carried out in the office. Relevant drawings and report should be presented.

26MPS301	PLANNING STUDIO III	L	T	P	S	C	Year of Introduction
		0	0	12	12	6	2026

Preamble:

It aims to train students in the preparation of Regional Plan conceived within the framework of the approved perspective plan of a medium/large town/district/state. The students learn to analyse components such as physical characteristics, natural resources, demographic characteristics, economic base, employment, shelter, transportation, social and infrastructure facilities, finance, institutional set-up, regional interdependencies etc. and propose implementable solutions for growth and development.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Analyze components such as physical characteristics, natural resources, demographic characteristics, economic base, employment, shelter, transportation, social and infrastructure facilities, finance, institutional set-up, and regional interdependencies
CO 2	Develop problem-solving skills to address regional planning issues and propose innovative solutions to challenges such as transportation, housing, environmental conservation, and economic development.
CO 3	Comprehend the principles of spatial planning and design, including land use planning, transportation planning, and infrastructure development, and create sustainable and functional spatial arrangements within the region.
CO 4	Communicate planning proposals effectively through professional quality drawings, maps, reports and presentations to diverse stakeholder audiences.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	3	2	2	2	2	3	1
CO 2	3	2	3	3	2	3	2
CO 3	2	3	3	3	2	2	2
CO 4	2	3	3	3	3	3	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Field visit and survey, data	Reviews	Report	
Remember	✓			✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate	✓	✓	✓	✓
Create		✓	✓	✓

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T] Field visit, survey, data collection Reviews, Report	Total Marks (CIA)
0-0-12	-	200	**200**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
300	200	100	Jury

End Semester Examination [ESE]: Pattern

Jury

SYLLABUS

MODULE I: Major Project (10 weeks)

Major Project I: Development/ Master Plan for a region (municipal area and beyond)

Preparation of Master Plan for Metropolitan Region: interlinks between core and periphery, sectoral links, resource flows, land use plan implementation, Source of funding the plan, project identification for steering future development, phasing, and spatial budgeting.

The components such as physical characteristics, natural resources, demographic characteristics, economic base, employment, shelter, transportation, social and infrastructure facilities, finance, institutional set-up etc. are to be studied. The information regarding the components stated above should be collected both from the primary and secondary sources and analyzed. A vision for the planning area with detailed goals to be set out. Strategies and proposals to be laid out for the potential zones. A report/ maps/ charts are the media through which the study is expected to be presented.

MODULE II: Minor Project (Attributes of land parcels and their development) (4 weeks)

The main purpose is to make the students appreciate the locational attributes of land parcels for future development in a city (same as major project). Due to the size of the area, this exercise is done in groups of students being assigned to a particular area.

The following planning issues at area level should be identified:

1. Review of the Master Plan / Zonal / Area plan in relation to the selected areas.
2. Appreciation / Analysis of ward level data.
3. Perception of areas in terms of legal / illegal / authorized / unauthorized, Slums, Urban Aesthetics.
4. Social Categorizations of people - Type of population living, people's perception about the area and its planning problems.
5. General land tenure of the area and land value for different uses.

6. Major types of transport, type of roads, hierarchy of roads, type of transport modes used.
7. Amenities: Location of Social and Physical infrastructure and their problems as perceived by local population. Locate specific infrastructure such as Water supply, drainage (water logging areas), waste collection and disposal system, sanitation, etc.
8. Environmental Issues: Open Spaces – Availability and extent of open space to built-up area, garbage disposal, encroachment (through photographic evidences and sketches).

The study area in the zone, city or regional context should be analysed with respect to all the above aspects.

End semester Jury exam (100 marks)

References:

1. Ernest R. Alexander (1992), Approaches to Planning: Introducing Current Planning Theories, Concepts and Issues. Philadelphia: Gordon and Breach Science Publishers
2. James A. LaGro, Jr. (2013) Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design, John Wiley & Sons
3. Jane Jacobs (1989) The Death and Life of Great American Cities Knopf Doubleday Publishing Group
4. Peter Hall and Mark Tewdwr-Jones (2010) Urban & Regional Planning, Routledge, London
5. R. Ramachandran (1991), Urbanization and urban systems in India, Oxford University Press
6. Urban and Regional Development Plans Formulation & Implementation Guidelines (2014) Ministry of Urban Affairs & Employment, Govt. of India, New Delhi.
7. Misra, R.P. (ed.) (1992) Regional Planning Concepts Techniques Policies and Case Studies, Concept Publishing, New Delhi.
8. Sundaram, K.V. (1978) Urban and Regional Planning in India, Vikas Publishing, New Delhi.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Weeks [14 w]
MODULE 1 [120 hours, 10 w]	**COs addressed: CO1,CO2,CO3**	
1.1	Introduction to URDPFI guidelines, planning theories, Perspective Plan, Master Plan: Review	1
1.2	Data collection: Primary survey and secondary sources	1
1.3	Field visit: Questionnaire, Survey and stakeholder meetings	2
1.4	Situation analysis: SWOT and potential zones identified	1
1.5	Vision and goals	1

1.6	Literature Review	1
1.7	Strategies and Proposals	1
1.8	Report, Maps and sheets	2
MODULE II [48 hours, 4 w]	**COs addressed: CO1, CO2, CO3**	
2.1	Land parcel attributes based on Major project, detailed analysis	1
2.2	Proposals for potential areas	1
2.3	DTP scheme for the planning area identified, DPR for the sector	1
2.4	Sheets and Report	1

CO Assessment Sample Questions	
CO1	1. SWOT Analysis and identification of potential zones
CO2	1. Strategies and Proposals for the potential zones
CO3	1. Maps and Reports to discuss the proposed solutions for development

TKM COLLEGE OF ENGINEERING KOLLAM

DEPARTMENT OF ARCHITECTURE AND PLANNING

MASTER OF PLANNING (URBAN PLANNING)

SEMESTER IV

2026

26MPTH401	PLANNING THESIS	L	T	P	S	C	Year of Introduction
		0	0	24	24	12	2026

Preamble:

Thesis provides an opportunity for each student to do original and independent study and research on a subject concerning planning. The student will be able to explore in depth a subject of his/her own choice, and use the knowledge he/she has acquired from theory and planning courses previously taken. With his/her research, he/she will be able to add new knowledge to the existing body of knowledge in a field and show its practical significance to the profession of planning.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Perform a detailed literature review and identify and summarize research gaps, methods and approaches relevant to planning to formulate independently a research programme on a chosen topic.
CO 2	Demonstrate appropriate skills to critically analyse existing situation and propose suitable planning approaches including survey, stakeholder interaction, for identifying issues and potentials in the planning area.
CO 3	Examine and apply institutional and legislative frameworks for planning.
CO 4	Explore and apply approaches for achieving balanced development and growth and undertake planning projects independently.
CO 5	Prepare Detailed Project Report for presentation and implementation.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	**3**	**2**	**3**	**1**	**2**	**2**	**1**
CO 2	**3**	**2**	**3**	**3**	**3**	**3**	**2**
CO 3	**2**	**2**	**3**	**3**		**2**	**2**
CO 4	**3**	**2**	**3**	**3**	**3**	**2**	**3**
CO 5	**2**	**3**	**3**	**3**	**2**	**2**	**3**

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Jury Examination
	Literature review	Field visit and Survey	Reviews	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate	✓	✓	✓	✓
Create		✓	✓	✓

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Thesis	Total Marks
		Reviews & Mock jury	
0-0-24	-	350	**350**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE/ Jury (Marks)**	**ESE Duration**
500	350	150	-

End Semester Examination [ESE]: Pattern

Jury examination

SYLLABUS

MODULE I: Thesis requirements

The topic of the thesis may be comparative, or evaluative and should offer scope to adopt a fresh approach in formulating a concept to developing a methodology effective and useful in the field.

Students shall be required to undertake thesis studies in the areas of relevance and concern in the urban and regional development process. The broad areas of study would include any one from the following;

1. Planning for region, urban renewal and development
2. Planning for infrastructural development
3. Environment and sustainable development
4. Housing & Human settlements
5. Tourism planning & development
6. Emerging areas may include but not limited to smart cities, urban resilience, climate adaptation etc.

Assessment:

1. First Review 100 marks
2. Second Review 100 marks
3. Third Review 100 marks
4. Technical paper
5. Mock jury 50 marks

The final end semester review or jury examination will be held at the end of the semester and evaluated by a committee consisting of an external examiner and an internal examiner.

References:

1. Elizabeth A. Wentz (2013), How to Design, Write, and Present a Successful Dissertation Proposal, Sage Publications.
2. John Biggam (2015), Succeeding with Your Master's Dissertation: A Step-By-Step Handbook, Open University Press, McGraw Hill Education, UK.
3. Murray, Rowena (2011), How to Write A Thesis, Open University Press, McGraw Hill Education, LIK UK.
4. Tayie, Sami (2005), Research Methods and Writing Research Proposals, Pathways to Higher Education, Cairo
5. Eco, U. (2015) How to Write a Thesis, MIT Press, Massachusetts.
6. Oliver, P. (2008) Writing your Thesis, Sage, New Delhi.

COURSE CONTENTS AND REVIEW SCHEDULE		
No.		Weeks
MODULE 1 [16 weeks]	**COs addressed: CO1-CO5**	
1.1	Project Formulation, Aim and objectives, Methodology, Literature Review, Introduction of study area	4
	First Review (100 marks) The submission for first internal review should have the following: Synopsis which includes a working title, background to the study, need for the study, aim and objectives, methodology, scope and limitations, preliminary literature studies, and brief introduction about the study area. The study is to be presented as sheets with all necessary data including maps, statistics, photos etc. An A4 size draft report should be submitted with a minimum of 20 pages.	
1.2	Identification of planning approach; Study area- Primary survey and situation analysis; Stakeholder survey and analysis	4
	Second Review (100 marks) The submission for second internal review should have the following: All previous sheets/slides with improvement, all secondary data about the study area including maps, statistics & photographs, results from primary studies & its analysis. The study is to be presented as sheets with all necessary maps, statistics, photos etc. An A4 size draft report should be submitted with minimum 40 pages.	
1.3	Data Analysis /Findings/Results/, Inferences, Strategies/guidelines/proposals, Conclusion	4
	Third Review (100 marks) The submission for third internal review should have the following: All previous sheets/slides with improvement, Data Analysis, Findings/Results, Inferences, Strategies, guidelines, proposals, Conclusion. The study is to be presented as sheets with all necessary maps, statistics, photos etc. An A4 size draft report should be submitted with a minimum 60 pages.	
1.4	Technical paper – in correspondence or published	
1.5	**Mock jury** – All sheets with maps, data, analysis, strategies and proposals, technical paper (50 marks)	
1.6	Presentation sheets, power point presentation, Reports	4

	Final Review The final end semester Viva Voce will be conducted by an Evaluation committee appointed by the CoE/ Head of Department. The students should submit 2 copies of the final thesis report before the final examination. The study is to be presented as A1 sheets (max. 40 nos) with all necessary maps, statistics, photos etc. The students may also present models/ short videos/ power point presentations about the project. Turnitin plagiarism check with a 15% similarity threshold to be ensured before final submission.	

26MPOE401	ELECTIVE - MOOC	L	T	P	S	C	Year of Introduction
		0	0	0	8	2	2026

Preamble:

Massive Open Online Course (MOOC) is introduced and made mandatory for Master of Planning degree course to provide opportunities for learners to get wider exposure to related aspects in planning, through flexible learning. The courses offered in varied topics handled by resource persons from renowned institutions, are easily accessible, transcending geographical barriers.

Course Outcomes: After the completion of the course the student will be able to

CO1	Identify and summarize relevant aspects in planning
CO2	Demonstrate appropriate skills to critically analyse existing situation and propose suitable planning strategies.

1. INSTRUCTIONS FOR MOOC COURSE

1. Students should choose one MOOC Certificate course from AICTE / SWAYAM or NPTEL. The MOOC can be from the list recommended by the Board of Studies and approved by the Academic Council.
2. The MOOC should have a **minimum duration of 8 weeks,** and the content of the syllabus should be enough for **at least 40 hours of teaching**.
3. The course should include a **proctored/ offline examination** at the end of the course.
4. The student is required to **complete the assessment** of the course and to provide the **certificate** of the course for securing the credits.
5. The fees (if any) for the registration and/or assessment of the MOOC course must be borne by the student.
6. Even if the student completes more than one MOOC course, only **2 credits** shall be considered for this subject.
7. The students can do the MOOC according to their convenience but should **complete it by the fourth semester** of the M Plan course.
8. Passing grades must be obtained before the end semester examination of the 4th semester for the award of credits without which the student shall not be eligible for award of M. Plan Degree.
9. The registration details for the MOOC as well as the completion certificate shall be submitted duly with the MOOC Coordinator of the Department/ College.
10. Two credits are given for this on a pass or fail basis and it is mandatory for getting M Plan degree. As no grade is given, this will not be used for CGPA calculation.

2. SUGGESTED AREAS

The suggested broad areas are as follows:

- **Environmental & Sustainable Planning** (Environmental impact assessment, green infrastructure, ecosystem services, circular economy, urban sustainability, compact city development, integrated waste management)
- **Urban Design, Landscape & Heritage** (Urban design, landscape planning, designing for real estate, public space design, urban form, nature-based design, urban heritage, conservation planning, adaptive reuse)
- **Housing, Real Estate & Land Systems** (Real estate development, housing finance, inclusive housing, slum rehabilitation, land value capture, TDR and ToD, land economics, peri-urban planning)
- **Infrastructure, Mobility & Transport Systems** (Urban mobility, intelligent transport systems, transport planning, urban logistics, last-mile connectivity, infrastructure policy, street design)
- **Governance, Policy & Legal Frameworks** (Urban governance, fiscal policy, legal studies, PPP, municipal finance, policy reforms, stakeholder management)
- **Data, Digital & Smart Planning Systems** (GIS, remote sensing, spatial data security, big data, AI in planning, smart cities, digital twins)
- **Disaster Risk, Resilience & Emergency Planning** (Disaster management, urban flood risk, resilience planning, emergency response, climate adaptation, recovery planning)
- **Economics, Policy, and Development Planning** (Urban economics, Development policy, Public finance, Environmental economics, Regional planning, Governance and participation)
- **Social Inclusion, Participation & Citizenship** (Community participation, inclusive planning, citizen engagement, behavioural governance, healthy communities)

3. OTHERS

1. Students can also choose topics / courses relevant to Urban Planning offered by agencies, namely AICTE / NPTEL / SWAYAM with the recommendation of the Board of Studies (at least 70% of the course content shall be in the area/stream of study) and approved by the Academic Council.

2. The Course shall not be considered if its content has more than 40% of overlap with a core/elective course in the concerned discipline or with an open elective. This shall be verified and recommended by the Board of Studies and approved by the Academic Council.

3. ***Approved MOOCs providers:***
   SWAYAM MHRD ***https://swayam.gov.in***
   NPTEL IITs, IISc ***https://onlinecourses.nptel.ac.in***

ELECTIVES

Sem 2	Elective 1	Program Elective
	26MPPE201.1	Environmental Impact Assessment
	26MPPE201.2	Urban Conservation
	26MPPE201.3	Climate Resilient Cities
Sem 2	**Elective 2**	**Interdisciplinary/ Open Elective**
	26MPOE201.1	Urban Analytics
	26MPOE201.2	Circular Economy
	26MPOE201.3	Spatial Data Analysis and Urban Information System
	26MPOE201.4	Universally Accessible Built Environment
Sem 3	**Elective 3**	**Program Elective**
	26MPPE301.1	Planning for Tourism
	26MPPE301.2	Inclusive Urban Planning
	26MPPE301.3	Participatory and Integrated Urban development
	26MPPE301.4	Real Estate Development and Management
MOOC COURSES THAT MAY BE TAKEN BY M. PLAN STUDENTS		
		SWAYAM
		NPTEL

SEMESTER II

PROGRAM ELECTIVES

26MPPE201.1	ENVIRONMENTAL IMPACT ASSESSMENT	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

This course is designed to provide students with a comprehensive understanding of Environmental Impact Assessment (EIA) as a critical tool in sustainable development. It introduces the principles and processes of Environmental Impact Assessment (EIA), and examines the environmental assessment mechanisms of international funding agencies such as the World Bank, Asian Development Bank, and other donor institutions in project appraisal and financing.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Explain the fundamental concepts, evolution, and legal framework of EIA in India.
CO 2	Apply appropriate EIA procedures and methodologies, including screening, scoping, baseline analysis, and impact prediction.
CO 3	Evaluate social and environmental impacts of projects, incorporating public participation and Environmental Management Plans.
CO 4	Conduct project-level environmental assessments for various development proposals using relevant Terms of References and regulatory guidelines.
CO 5	Interpret and compare environmental assessment frameworks of international funding agencies in relation to project approval and financing.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	2	-	-	-
CO 2	2	1	2	3	3	2	-
CO 3	2	2	2	3	2	3	-
CO 4	3	2	3	3	3	3	2
CO 5	2	2	3	2	2	1	1

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓	✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Mark
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Environment and EIA

Concept and components of environment: physical, biological, and socio-economic aspects; Meaning, purpose, and significance of EIA in sustainable development; Origin and global development of EIA; Evolution of EIA in India; Constitutional provisions, Environmental Protection Act, and key policy regulations governing EIA.

MODULE II: EIA Process and Methodologies

Detailed stages of EIA: Screening, Scoping, and formulation of Terms of Reference (TOR); Baseline environmental studies: data collection, environmental settings, and indicators; Impact identification, prediction, and evaluation techniques; Quantitative and qualitative methods of EIA (checklists, matrices, networks, overlays, modelling)
Documentation: preparation of EIA reports; Environmental monitoring, auditing, and evaluation of EIA effectiveness.

MODULE III: Social and Participatory Dimensions of EIA

Integration of social impact assessment within EIA; Environmental impact factors and key areas of consideration; Environmental Management Plans (EMPs): mitigation, monitoring, and compliance strategies; Public participation: objectives, legal provisions, stakeholder engagement processes; Participatory Rural Appraisal (PRA) techniques.
Case studies illustrating social and environmental appraisal.

MODULE IV: Project-Level Environmental Assessment

Sector-specific assessment of development projects (roads, highways, industries, housing, townships, infrastructure projects, etc.); Identification of potential environmental and social impacts in different sectors; Project-specific Terms of Reference (TORs) and EIA Manuals.
Review of relevant environmental notifications and clearance procedures.
Practical exposure to sample EIA reports and appraisal processes.

MODULE V: International Environmental Assessment Frameworks

Role of international financial institutions in environmental governance; Environmental and social safeguard policies of the World Bank; Environmental

assessment requirements and safeguard mechanisms of the Asian Development Bank; Comparison of donor agency frameworks with Indian EIA regulations; Environmental compliance and sustainability criteria for project funding.

References:

1. Gilpin, A. (1994). Environmental Impact Assessment: Cutting Edge for the 21st Century. Cambridge University Press.
2. Kulkarni, V.S., Kaul, S.N., & Trivedy, R.K. (2002). A Handbook of Environmental Impact Assessment. Scientific Publishers.
3. Anjaneyulu, Y., & Manickam, V. (2020). Environmental Impact Assessment Methodologies. Bright Sky Publications.
4. Barthwal, R.R. (2020). Environmental Impact Assessment. New Age International Publishers.
5. Kumar, A., & Rathi, A. (2022). Handbook of Environmental Impact Assessment: Concepts and Practice. Cambridge Scholars Publishing.
6. Bhateria, R., Sharma, M., Singh, R., & Kumar, S. (2024). Environmental Impact Assessment: A Journey to Sustainable Development. Springer Nature.
7. Lohani, B. N., et al. (1997). Environmental impact assessment for developing countries in Asia. Asian Development Bank.
8. Raman, N. S., et al. (2014). Environmental impact assessment. TechSar Pvt Ltd.
9. Glasson, J., Therivel, R., & Chadwick, A. (2012). Introduction to environmental impact assessment. Taylor & Francis Ltd.
10. Wathern, P. (2015). Environmental impact assessment: Theory and practice. Routledge.
11. Satsangi, A., & Sharma, A. (2015). Environmental impact assessment (EIA) and disaster management. Rajat Publications.
12. Srivastava, A. K. (2012). Environmental impact assessment: Theory and practice. APH Publishing Corporation.
13. Das, S. (2024). Environmental planning and impact assessment: Strategies for sustainable management. Global Net Publication.
14. The World Bank. (1991). The environmental assessment sourcebook (Vols. I–III). The World Bank.
15. Reddy, P. J. (2016). Environmental impact assessment theory & practice. BS Publications

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Concept and components of environment: physical, biological, and socio-economic aspects.	1
1.2	Meaning, purpose, and significance of EIA in sustainable development.	1

1.3	Origin and global development of EIA; Evolution of EIA in India.	1
1.4	Constitutional provisions, Environmental Protection Act, and key policy regulations governing EIA.	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Detailed stages of EIA: Screening, Scoping, and formulation of Terms of Reference (TOR).	2
2.2	Baseline environmental studies: data collection, environmental settings, and indicators.	1
2.3	Impact identification, prediction, and evaluation techniques.	1
2.4	Quantitative and qualitative methods of EIA (checklists, matrices, networks, overlays, modelling).	1
2.5	Documentation: preparation of EIA reports; Environmental monitoring, auditing, and evaluation of EIA effectiveness.	1
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	Integration of social impact assessment within EIA.	1
3.2	Environmental impact factors and key areas of consideration.	1
3.3	Environmental Management Plans (EMPs): mitigation, monitoring, and compliance strategies.	1
3.4	Public participation: objectives, legal provisions, stakeholder engagement processes.	1
3.5	Participatory Rural Appraisal (PRA) techniques.	1
3.6	Case studies illustrating social and environmental appraisal.	1
MODULE IV [6 hours]	**COs addressed: CO4**	
4.1	Sector-specific assessment of development projects (roads, highways, industries, housing, townships, infrastructure projects, etc.), Identification of potential environmental and social impacts in different sectors.	2
4.2	Project-specific Terms of Reference (TORs) and EIA Manuals.	2
4.3	Review of relevant environmental notifications and clearance procedures; Practical exposure to sample EIA reports and appraisal processes.	2
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Role of international financial institutions in environmental governance.	1
5.2	Environmental and social safeguard policies of the World Bank.	1
5.3	Environmental assessment requirements and safeguard mechanisms of the Asian Development Bank.	1
5.4	Comparison of donor agency frameworks with Indian EIA regulations.	1
5.5	Environmental compliance and sustainability criteria for project funding.	2

CO Assessment Sample Questions	
CO1	1. Explain the concept and components of the environment. 2. Trace the origin and global development of Environmental Impact Assessment (EIA).
CO2	1. Explain the detailed stages of the Environmental Impact Assessment (EIA) process. 2. Discuss the quantitative and qualitative methods used in EIA.
CO3	1. Discuss the integration of Social Impact Assessment (SIA) within the EIA process. 2. Examine the role of public participation in EIA.
CO4	1. Explain the sector-specific environmental assessment of development projects (roads, industries, housing, townships, etc.) and identify the major environmental and social impacts associated with them. 2. Discuss the role of project-specific Terms of Reference (TORs), EIA Manuals, and environmental notifications in the environmental clearance process.
CO5	1. Discuss the role of international financial institutions in environmental governance. 2. Compare the environmental assessment frameworks of major donor agencies with Indian EIA regulations, and explain the environmental compliance and sustainability criteria required for project funding.

26MPPE201.2	URBAN CONSERVATION	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

This course aims to provide a foundational understanding of heritage and conservation principles, including the ethical and cultural dimensions of preserving built environments. It enables students to analyze urban heritage, historic settlements, and cultural landscapes, and equips them with skills in documentation, assessment, and planning of conservation interventions. The course also emphasizes the evaluation of legal frameworks, policies, and institutional roles, while encouraging critical reflection through case studies to develop context-sensitive conservation strategies.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the core concepts, ethics, and evolution of urban conservation and heritage management. (Remembering, Understanding)
CO 2	Analyze typologies and character of historic settlements, urban heritage, and cultural landscapes. (Analyzing)
CO 3	Apply techniques of heritage documentation, assessment, and planning in urban conservation practice. (Applying)
CO 4	Evaluate tools, legal frameworks, and institutional roles in conservation and regeneration processes. (Evaluating)
CO 5	Propose context-sensitive conservation or regeneration strategies. (Analyzing and Evaluating)

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	-	-
CO 2	2	1	2	2	1	2	-
CO 3	2	2	2	3	3	2	1
CO 4	2	2	3	3	2	2	1
CO 5	3	2	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Mark
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Fundamentals of Conservation

Definitions: Tangible and intangible heritage, built and cultural heritage, conservation vs. preservation: ethics, principles, degrees of intervention.
Distinction between architectural and urban conservation.
Concepts of authenticity, integrity, and cultural landscapes.
International and Indian conservation paradigms.

MODULE II: Urban Heritage and Historic Landscapes

Components of urban heritage: morphology, public spaces, uses, cultural practices and traditions
Historic cities and precincts: Typologies
Concept of historic precincts and cities, Cultural Landscape, Historic Urban Landscape (HUL), charters pertaining to them and case examples.
World Heritage Cities: Case examples and criteria
Historic cities: Indian examples, Case studies to identify components and Issues in Historic cities/cores.

MODULE III: Conservation Process and Practices

Urban conservation process from archival research to management plans.
Tools and Techniques: Inventories, photogrammetry, mapping, visual surveys.
Heritage Impact Assessments (HIAs) - Case examples of interventions in Historic cores: Adaptive reuse, restoration, rehabilitation, infill in historic areas.
Role of public participation, and heritage-led regeneration.

MODULE IV: Tools, Legislations, and Institutional Frameworks

Legal instruments: AMASR Act, CRZ, DCRs, Wetlands Rules, Masterplans: Special zones
National, state institutions and NGOs: ASI, INTACH, UAC, MoHUA
Conservation schemes, funding models, and urban policy integration - AMRUT, HRIDAY, JNNURM, CSR in Heritage conservation
Role of ULBs, state departments, community groups

MODULE V: Urban Conservation and Case Studies
Concepts: Redevelopment, renewal, rejuvenation, reconstruction Triggers for regeneration: degradation, obsolescence, socioeconomic shifts Planning and implementation strategies: phasing, financing, legal tools Comparative regeneration models: East and West Case studies: Global and National.
References: 1. Feilden, B. M. (2003). Conservation of historic buildings (3rd ed.). 2. Glendinning, M. (2013). The conservation movement: A history of architectural preservation. 3. Menon, A. G. K. (Ed.). (n.d.). Conservation of immovable sites. INTACH Publication. 4. Hollis, M. (2000). Surveying buildings. RICS Business Services Limited. 5. Silva, K. D., & Chapagain, N. K. (2013). Asian heritage management: Contexts, concerns and prospects. 6. INTACH. (n.d.). Heritage and conservation: An introductory handbook. INTACH. 7. Banga, I. (2005). The city in Indian history. Manohar Publishers and Distributors. 8. ICOMOS, & UNESCO. (n.d.). Charters and guidelines. 9. Cody, J., & Siravo, F. (2019). Historic cities: Issues in urban conservation. Getty Conservation Institute. 10. Ministry of Housing and Urban Affairs, Government of India. (n.d.). HRIDAY reflections: A monograph on the heritage city development and augmentation Yojana.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Definitions: Tangible and intangible heritage, built and cultural heritage, conservation vs. preservation: ethics, principles, degrees of intervention.	2
1.2	Distinction between architectural and urban conservation. Concepts of authenticity, integrity, and cultural landscapes.	1
1.3	International and Indian conservation paradigms.	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Components of urban heritage: morphology, public spaces, uses, cultural practices and traditions	1
2.2	Historic cities and precincts: Typologies	1
2.3	Concept of historic precincts and cities, Cultural Landscape, Historic Urban Landscape (HUL), charters pertaining to them and case examples.	2
2.4	World Heritage Cities: Case examples and criteria	1
2.5	Historic cities: Indian examples, Case studies to identify components and Issues in Historic cities/cores.	1
MODULE III [6 hours]	**COs addressed: CO3**	

3.1	Urban conservation process from archival research to management plans.	1
3.2	Tools and Techniques: Inventories, photogrammetry, mapping, visual surveys,	1
3.3	Heritage Impact Assessments (HIAs): Case examples of interventions in Historic cores: Adaptive reuse, restoration, rehabilitation, infill in historic areas.	3
3.4	Role of public participation, and heritage-led regeneration.	1
MODULE IV [6 hours]	**COs addressed: CO4**	
4.1	Legal instruments: AMASR Act, CRZ, DCRs, Wetlands Rules, Masterplans: Special zones	1
4.2	National, state institutions and NGOs: ASI, INTACH, UAC, MoHUA	1
4.3	Conservation schemes, funding models, and urban policy integration - AMRUT, HRIDAY, JNNURM, CSR in Heritage conservation	2
4.4	Role of ULBs, state departments, community groups	2
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Concepts: Redevelopment, renewal, rejuvenation, reconstruction	1
5.2	Triggers for regeneration: degradation, obsolescence, socioeconomic shifts	1
5.3	Planning and implementation strategies: phasing, financing, legal tools.	1
5.4	Case studies which shall also include comparative regeneration models: Global and National.	3

CO Assessment Sample Questions	
CO1	1. Explain the core concepts, ethics and evolution of urban conservation. 2. Differentiate between architectural conservation and urban conservation with suitable examples.
CO2	1. Analyse the components and morphology of historic settlements and urban heritage areas. 2. Discuss the concept of Historic Urban Landscape (HUL) and its relevance in conservation planning.
CO3	1. Describe the urban conservation process from documentation to preparation of management plans. 2. Explain tools and techniques such as inventories, photogrammetry and Heritage Impact Assessment (HIA) in conservation practice.
CO4	1. Evaluate the role of legal frameworks and institutional bodies in urban conservation in India. 2. Discuss conservation schemes and funding mechanisms supporting heritage-led regeneration.

CO5	1. Critically analyse a case study of urban regeneration and identify key planning strategies adopted. 2. Compare global and national conservation approaches and propose context-sensitive strategies for historic city cores.

26MPPE201.3	CLIMATE RESILIENT CITIES	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

Climate Resilient Cities, explores the intersection of rapid urbanization and climate change. It transitions from theoretical foundations and socio-ecological frameworks to practical diagnostic tools like GIS and Remote Sensing. Students will examine sectoral strategies such as Nature-Based Solutions and the Sponge City concept, concluding with the governance, policy, and financing mechanisms (e.g., Green Bonds and Carbon Credits) required to mainstream resilience into urban master plans.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Explain the theoretical foundations of urban climate resilience, including the socio-ecological dialectics of vulnerability, risk, and the Urban Heat Island (UHI) effect.
CO 2	Analyze urban areas as complex socio-ecological systems using theoretical frameworks like the Panarchy Model and Political Ecology to understand climate gentrification and disproportionate impacts.
CO 3	Apply diagnostic methodologies, including GIS mapping, Remote Sensing (LST/NDVI), and Climate Risk and Vulnerability Assessments (CRVA), to evaluate urban climate hazards.
CO 4	Formulate multi-sectoral adaptation strategies and design interventions, such as Nature-Based Solutions (NBS), Sponge City concepts, and decentralized energy/water systems.
CO 5	Evaluate governance structures, policy instruments, and financing mechanisms (like Green Bonds and Carbon Credits) required to mainstream climate action into urban master plans.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	-	-	1	-
CO 2	2	1	3	2	1	2	-
CO 3	3	2	2	3	3	3	1
CO 4	3	2	3	3	2	3	2
CO 5	2	2	3	3	2	3	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓	✓	
Create				

Mark Distribution of CIA				
Course Structure [L-T-P]	**Attendance**	**Theory [L- T]**		**Total Marks**
		Assignment/ Project	**Test-1**	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	**PART A**	**PART B**	**ESE Marks**
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Foundations and Terminologies

Global Climate Change vs. Microclimates; The Urban Heat Island (UHI) effect—causes, impacts, and measurement; Defining Resilience; Differentiation: Mitigation vs. Adaptation vs. Resilience; Defining Vulnerability: Exposure, Sensitivity, and Adaptive Capacity; Defining Risk: Hazard × Vulnerability × Exposure; Cities as major contributors to GHG emissions; Cities as hotspots of climate risk

MODULE II: Theoretical Frameworks

Cities as Socio-Ecological Systems; The Panarchy Model: Understanding adaptive cycles (growth, conservation, release, reorganization); The concept of "Climate Gentrification."; Disproportionate impacts: Gender, poverty, and the Global South vs. Global North contexts; Political Ecology of Climate Change: How power structures influence resilience planning; Review of Global Frameworks - IPCC Assessment Reports (AR6) – Urban focus, Sendai Framework for Disaster Risk Reduction (SFDRR), UN Sustainable Development Goals (SDG 11 & 13).

MODULE III: Diagnostic Tools and Methodologies

Methodologies for conducting a CRVA at the city and ward level; Data collection: Quantitative (temperature, precipitation) vs. Qualitative (community perception, participatory appraisal); Using GIS for resilience planning: Mapping flood inundation zones and heat stress areas; Remote Sensing applications: Measuring Land Surface

Temperature (LST) and NDVI (Vegetation Index); Moving beyond "predict and prevent" to "scenario planning."; Developing climate scenarios: Best case, worst case, and business-as-usual.

MODULE IV: Sectoral Strategies and Design Interventions

Nature-Based Solutions (NBS) & Blue-Green Infrastructure; The Sponge City Concept; Urban Forestry and Carbon Sequestration; Retrofitting existing building stock for energy efficiency and disaster safety; Flooding-resilient housing; Transport - Decarbonization strategies, evacuation planning; Water & Waste - Decentralized water management and waste-to-energy systems; Energy: Distributed energy resources (microgrids) for disaster resilience. Use best practices and Case studies for explanation.

MODULE V: Governance, Policy, and Implementation

Mainstreaming climate change into Master Plans and Development Control Regulations (DCRs); Developing a Climate Action Plan (CAP) - Structure, stakeholders, and timeline; Multi-level governance; Funding resilience Instruments: Green Bonds, Carbon Credits, International Climate Funds (GCF), and Public-Private Partnerships (PPP).
Cost-Benefit Analysis of adaptation projects; Community-Based Adaptation (CBA); Role of NGOs and civil society in bridging the gap between policy and people.

References:

[1] T. R. Oke, G. Mills, A. Christen, and J. A. Voogt, Urban Climates. Cambridge, U.K.: Cambridge Univ. Press, 2017.
[2] C. Rosenzweig, W. Solecki, P. Romero-Lankao, S. Mehrotra, S. Dhakal, and S. A. Ibrahim, Eds., Climate Change and Cities: Second Assessment Report of the Urban Climate Change Research Network. Cambridge, U.K.: Cambridge Univ. Press, 2018.
[3] B. Norman, Urban Planning for Climate Change. London, U.K.: Routledge, 2022.
[4] N. Kabisch, H. Korn, J. Stadler, and A. Bonn, Eds., Nature-Based Solutions to Climate Change Adaptation in Urban Areas: Linkages between Science, Policy and Practice. Cham, Switzerland: Springer, 2017.
[5] N. Prasad, F. Ranghieri, F. Shah, Z. Trohanis, E. Kessler, and R. Sinha, Climate Resilient Cities: A Primer on Reducing Vulnerabilities to Disasters. Washington, DC, USA: World Bank, 2009.
[6] S. A. Okyere et al., Eds., Routledge Handbook of Resilient Urban Planning for Small and Medium-Sized Cities. London, U.K.: Routledge, 2025.
7] A. van der Berg and J. Verschuuren, Eds., Urban Climate Resilience: The Role of Law. Cheltenham, U.K.: Edward Elgar Publishing, 2022.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Global Climate Change vs. Microclimates; The Urban Heat Island (UHI) effect—causes, impacts, and measurement;	1
1.2	Defining Resilience; Differentiation: Mitigation vs. Adaptation vs. Resilience;	1
1.3	Defining Vulnerability: Exposure, Sensitivity, and Adaptive Capacity; Defining Risk: Hazard × Vulnerability × Exposure;	1
1.4	Cities as major contributors to GHG emissions; Cities as hotspots of climate risk	1

MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Cities as Socio-Ecological Systems;	1
2.2	The Panarchy Model: Understanding adaptive cycles (growth, conservation, release, reorganization)	1
2.3	The concept of "Climate Gentrification." Disproportionate impacts: Gender, poverty, and the Global South vs. Global North contexts	1
2.4	Political Ecology of Climate Change: How power structures influence resilience planning	1
2.5	Review of Global Frameworks - IPCC Assessment Reports (AR6) – Urban focus, Sendai Framework for Disaster Risk Reduction (SFDRR), UN Sustainable Development Goals (SDG 11 & 13).	2
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	Methodologies for conducting a CRVA at the city and ward level;	1
3.2	Data collection: Quantitative (temperature, precipitation) vs. Qualitative (community perception, participatory appraisal)	1
3.3	Using GIS for resilience planning: Mapping flood inundation zones and heat stress areas	1
3.4	Remote Sensing applications: Measuring Land Surface Temperature (LST) and NDVI (Vegetation Index)	1
3.5	Moving beyond "predict and prevent" to "scenario planning." Developing climate scenarios: best case, worst case, and business-as-usual.	2
MODULE IV [7 hours]	**COs addressed: CO4**	
4.1	Nature-Based Solutions (NBS) & Blue-Green Infrastructure	1
4.2	The Sponge City Concept, Urban Forestry and Carbon Sequestration	1
4.3	Retrofitting existing building stock for energy efficiency and disaster safety; Flooding-resilient housing	1
4.4	Transport - Decarbonization strategies, evacuation planning	1
4.5	Water & Waste - Decentralized water management and waste-to-energy systems	1
4.6	Energy: Distributed energy resources (microgrids) for disaster resilience.	1
4.7	Use best practices and Case studies for explanation.	1
MODULE V [5 hours]	**COs addressed: CO5**	
5.1	Mainstreaming climate change into Master Plans and Development Control Regulations (DCRs);	1
5.2	Developing a Climate Action Plan (CAP) -Structure, stakeholders, and timeline; Multi-level governance;	1
5.3	Funding resilience Instruments: Green Bonds, Carbon Credits, International Climate Funds (GCF), and Public-Private Partnerships (PPP).	1

5.4	Cost-Benefit Analysis of adaptation projects;	1
5.5	Community-Based Adaptation (CBA); Role of NGOs and civil society in bridging the gap between policy and people.	1
5.6	Revision	

CO Assessment Sample Questions	
CO1	1. Define the Urban Heat Island (UHI) effect and explain three primary causes contributing to its intensity in rapidly urbanizing regions. 2. Differentiate between "Adaptation" and "Resilience" in the context of urban climate planning. Provide one example for each.
CO2	1. Describe the four stages of the Panarchy Model (growth, conservation, release, reorganization) and how they relate to the adaptive cycle of a city. 2. Discuss the concept of "Climate Gentrification" and how it manifests as a disproportionate impact on vulnerable urban populations.
CO3	1. Explain the methodology for conducting a Climate Risk and Vulnerability Assessment (CRVA) at the ward level. What qualitative data would you collect? 2. How can Remote Sensing be utilized to measure Land Surface Temperature (LST) and NDVI to identify "hotspots" in a city?
CO4	1. Design a "Sponge City" intervention for a flood-prone urban neighborhood of Kollam, incorporating Blue-Green Infrastructure. 2. Evaluate the role of decentralized microgrids in enhancing the energy resilience of critical urban infrastructure during a disaster.
CO5	1. Compare and contrast Green Bonds and Carbon Credits as financial instruments for funding large-scale urban resilience projects. 2. What are the key challenges in mainstreaming a Climate Action Plan (CAP) into existing municipal Development Control Regulations (DCRs)?

SEMESTER II

OPEN ELECTIVE

26MPOE201.1	URBAN ANALYTICS	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The goal of this course is to equip urban planning students with the knowledge and practical skills needed to understand, analyze, and apply big data and data science tools in the context of urban development and smart cities.

It aims to bridge traditional planning approaches with modern data-driven methods, enabling students to make informed, evidence-based decisions using spatial, statistical, and real-time data. The course fosters the ability to interpret complex urban systems through visualization, mapping, and analytics, preparing students to contribute effectively to contemporary urban governance and policy making.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the use of big data, data science, in the smart city framework in urban planning.
CO 2	Analyse and apply different types of urban datasets with ethical considerations in data use.
CO 3	Apply spatial tools to represent and analyze urban issues.
CO 4	Apply AI, ML and predictive tools for managing and analyzing urban datasets.
CO 5	Apply data science and analytics into any project that addresses real-world urban issue.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	2	1	-
CO 2	2	2	2	2	2	2	1
CO 3	3	2	2	3	3	3	1
CO 4	3	2	3	3	3	2	2
CO 5	3	3	3	3	3	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓	✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Foundations of Urban Data Science and Smart Cities

Big data concepts and characteristics, Emergence of data science in urban planning, Smart cities and digital governance, Importance of data-driven decision-making, Urban systems and ICT applications. NIUA, smart city dashboard; Open City urban Data Portal

MODULE II: Urban Data Sources, Ethics and Policy

Census and economic datasets, IoT, Open data platforms and civic technologies, Real-time data sources and sensors, Data privacy, security, and ethics, Digital inclusion and legal regulatory policies and frameworks

MODULE III: Spatial Mapping, Visualization & Digital Twin

GIS fundamentals (QGIS, ArcGIS), Map elements: scale, legend, projection, Online mapping platforms (OpenStreetMap, Mapbox, kepler.gl), Story maps and thematic mapping, Visualizing urban inequalities and trends.

MODULE IV: Data Handling and Analytics

Data cleaning and pre-processing, SQL for data querying, Programming basics in R or Python for urban data, Statistical analysis methods; Visualization tools: Tableau, Power BI, ggplot2, Google Earth Engine.

AI, ML and Predictive Urban Analytics: Basics of ML, Predictive analytics, Clustering, Forecasting urban growth, Mobility patterns, Satellite image classification (AI for remote sensing).

MODULE V: Data-Driven Urban Planning Solutions

Defining research questions and project goals, Data sourcing and integration, Analytical methods and visualization.
Report writing and presentation, Applied urban data science for planning solutions.

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COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Big data concepts and characteristics, Emergence of data science in urban planning	2
1.2	Smart cities and digital governance, Importance of data-driven decision-making	2
1.3	Urban systems and ICT applications.	2
1.4	NIUA, smart city dashboard; Open City urban Data Portal	2
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Census and economic datasets, IoT, Open data platforms and civic technologies	2

2.2	Real-time data sources and sensors	2
2.3	Data privacy, security, and ethics	2
2.4	Digital inclusion and legal regulatory policies and frameworks	2
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	GIS fundamentals (QGIS, ArcGIS), Map elements: scale, legend, projection	2
3.2	Online mapping platforms (OpenStreetMap, Mapbox, kepler.gl)	2
3.3	Story maps and thematic mapping	2
3.4	Visualizing urban inequalities and trends.	2
MODULE IV [10 hours]	**COs addressed: CO4**	
4.1	Data cleaning and pre-processing	2
4.2	SQL for data querying, Programming basics in R or Python for urban data, Statistical analysis methods	2
4.3	Visualization tools: Tableau, Power BI, ggplot2, Google Earth Engine.	2
4.4	**AI, ML and Predictive Urban Analytics** Basics of ML, Predictive analytics, Clustering, Forecasting urban growth, Mobility patterns	2
4.5	Satellite image classification (AI for remote sensing).	2
MODULE V [8 hours]	**COs addressed: CO4, CO5**	
5.1	Defining research questions and project goals	2
5.2	Data sourcing and integration	2
5.3	Analytical methods and visualization.	2
5.4	Report writing and presentation, Applied urban data science for planning solutions.	2

CO Assessment Sample Questions	
CO1	1. Discuss Big data concepts and characteristics. What is its relevance in urban planning?
CO2	1. Explain in detail about Data privacy, security, and ethics.
CO3	1. Explain the scope of Online mapping platforms and its application. 2. Discuss thematic mapping and its scope.
CO4	1. Discuss in detail a few Statistical analysis methods in data processing. 2. Discuss the application of AI and ML in predicting urban trends.
CO5	1. Discuss how data analytics has been instrumental in an urban planning solution with a relevant example.

26MPOE201.2	CIRCULAR ECONOMY	L	T	P	S	C	Year of Introduction
		2	1	0	2	2	2026

Preamble:

It aims to introduce students to the principles of Circular Economy and its application in urban planning and governance. The course enables understanding of resource efficiency, urban metabolism, policy instruments, and implementation frameworks for circular cities within the Indian planning context.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the concepts, principles and evolution of Circular Economy.
CO 2	Analyse urban resource flows and sectoral applications using circular economy tools.
CO 3	Examine governance, institutional and policy mechanisms for circular economy implementation.
CO 4	Evaluate circular economy practices in diverse socio economic and cultural contexts.
CO 5	Develop a framework for integrating circular economy into urban planning practice.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	1	-
CO 2	2	2	2	2	2	3	1
CO 3	2	2	3	3	1	2	2
CO 4	2	2	3	2	1	2	1
CO 5	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Circular Economy

Introduction to linear and circular economic systems; Replacing linear economy with circular economy; Principles of Circular Economy – reduce, reuse, recycle, recover, regenerate; Circular economy in urban planning; Industrial ecology, cradle-to-cradle concept, biomimicry; Differences in sustainable development, green economy and circular economy; CE and Sustainable Development Goals, with challenges and barriers to its implementation; Global Circular Economy Action Plans and emerging Indian policy context.

MODULE II: Circular Urban Systems and Resource Flow in cities

Material Flow Analysis (MFA) and Life Cycle Assessment (LCA); Urban material and energy flows; Zero waste: Principles of Zero-Waste Urbanism, Waste Management in context of Circular Economy, Circular construction and demolition waste management; Industrial symbiosis and resource efficiency in urban areas; Water reuse systems and decentralized infrastructure; Renewable energy integration in cities.

MODULE III: Governance and Policy Framework for Circular Cities

CE policies at global (EU, UN-Habitat), national (India's Resource Efficiency), and city levels; Financing Mechanisms for Circular Urban Infrastructure, Smart Technologies (IoT, AI) for Resource Efficiency, Challenges & Opportunities in Mainstreaming Circular Urbanism; Future Directions: Doughnut Economics, Bio-Based Urban Systems

MODULE IV: Applications in urban context and Circular Cities – Case Studies

International case studies – San-Francisco, Amsterdam, Copenhagen, Singapore, Glasgow; Indian cities - Panaji, Indore, Pune, and Smart Cities Mission; Adaptive Reuse and Retrofitting in Urban Development, Cradle-to- Cradle Buildings, Extended Producer Responsibility (EPR) & Reverse Logistics. Circular food systems and urban

agriculture, Mobility: shared and electric transport systems, Urban manufacturing and repair economy

MODULE V: Implementation Strategies and Planning Integration for circular urbanism

Circular economy indicators and monitoring frameworks; Preparation of circular economy roadmap for cities; Explaining Butterfly diagram, Concept of Loops; Stakeholder engagement and behavioural change; Barriers and limitations – governance, finance, equity; Assessment of implementation challenges and scalability issues;

Application in neighbourhood and city-scale planning; Material recovery, Waste Reduction, reducing negative externalities, Urban land use and zoning for circularity, Compact city, mixed-use planning, transit-oriented development, Urban commons and shared infrastructure, Green-blue infrastructure integration

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COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Introduction to linear and circular economic systems Replacing linear economy with circular economy	2
1.2	Principles of Circular Economy – reduce, reuse, recycle, recover, regenerate	1
1.3	Industrial ecology, cradle-to-cradle concept, biomimicry	1
1.4	Differences in sustainable development, green economy and circular economy, CE and Sustainable Development Goals, with challenges and barriers to its implementation	2
1.5	Global Circular Economy Action Plans and emerging Indian policy context	2
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Material Flow Analysis (MFA) and Life Cycle Assessment (LCA)	2
2.2	Urban material and energy flows; Principles of Zero-Waste Urbanism, Waste Management in context of Circular Economy, Circular construction and demolition waste management	2
2.3	Industrial symbiosis and resource efficiency in urban areas	1
2.4	Water reuse systems and decentralized infrastructure	1
2.5	Renewable energy integration in cities.	2
MODULE III [9 hours]	**COs addressed: CO3**	
3.1	CE policies at global (EU, UN-Habitat) level	1
3.2	CE policy at national (India's Resource Efficiency), and city levels	2
3.3	Financing Mechanisms for Circular Urban Infrastructure	2
3.4	Smart Technologies (IoT, AI) for Resource Efficiency, Challenges & Opportunities in Mainstreaming Circular Urbanism	2
3.5	Future Directions: Doughnut Economics, Bio-Based Urban Systems	2
MODULE IV [9 hours]	**COs addressed: CO4**	
4.1	International case studies – San-Francisco, Amsterdam, Copenhagen, Singapore, Glasgow	2
4.2	Indian cities - Panaji, Indore, Pune, and Smart Cities Mission	2
4.3	Adaptive Reuse and Retrofitting in Urban Development, Cradle-to- Cradle Buildings	1
4.4	Extended Producer Responsibility (EPR) & Reverse Logistics.	1

4.5	Circular food systems and urban agriculture	1
4.6	Mobility: shared and electric transport systems,	1
4.7	Urban manufacturing and repair economy	1
MODULE V [8 hours]	**COs addressed: CO5**	
5.1	Circular economy indicators and monitoring frameworks	2
5.2	Circular economy roadmap for cities Stakeholder engagement and behavioural change	2
5.4	Barriers and limitations – governance, finance, equity, Assessment of implementation challenges and scalability issues;	2
5.5	Application in neighbourhood and city-scale planning. Material recovery, Waste Reduction, reducing negative externalities Explaining Butterfly diagram, Concept of Loops, Urban land use and zoning for circularity, Compact city, mixed-use planning, transit-oriented development, Urban commons and shared infrastructure, Green-blue infrastructure integration	3

CO Assessment Sample Questions	
CO1	1. Differentiate between linear, green and circular economy models with suitable diagrams.
CO2	1. Explain how Material Flow Analysis can be applied in urban planning.
CO3	1. Discuss governance instruments necessary for implementing circular economy in Indian cities.
CO4	1. Critically evaluate a global circular city initiative and discuss its relevance to India.
CO5	1. Prepare a circular economy integration framework for a medium-sized Indian city.

26MPOE201.3	Spatial Data Analysis and Urban Information System	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

Spatial Data Analysis and Urban Information System, provides a technical foundation in geospatial analytics for modern urban planning. It covers the evolution of Urban Information Systems (UIS), advanced spatial statistics (such as Moran's I and Hotspot Analysis), and network modeling for 15-minute city frameworks. The curriculum integrates Remote Sensing (LULC, NDVI), AI/Machine Learning for simulating urban growth, and explores the ethics of real-time urbanism and Open Data governance.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Analyze the evolution and components of Urban Information Systems (UIS), including 3D voxel modeling and map projections specific to municipal cadastre.
CO 2	Apply Exploratory Spatial Data Analysis (ESDA) techniques, such as Spatial Autocorrelation (Moran's I) and Hotspot Analysis, to identify urban socio-economic clusters.
CO 3	Formulate network and surface analysis models to evaluate urban accessibility (15-minute cities) and environmental risks using DEM and 3.5D Urbanism tools.
CO 4	Utilize Remote Sensing indices and Machine Learning models (Cellular Automata) to monitor urban sprawl and simulate growth patterns
CO 5	Evaluate the governance of Spatial Data Infrastructures (SDI) and the ethical implications of real-time urbanism, including data privacy and the digital divide.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	1	2	2	2	-	-
CO 2	3	2	2	3	3	3	-
CO 3	3	2	3	3	3	3	2
CO 4	3	2	3	3	3	2	2
CO 5	2	2	3	3	2	2	1

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓	✓	
Create		✓		

Mark Distribution of CIA				
Course Structure [L-T-P]	**Attendance**	**Theory [L- T]**		**Total Marks**
		Assignment/ Project	**Test-1**	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Foundations of Urban Informatics

From GIS to UIS: Evolution of Urban Information Systems; Components of a UIS (Data, Software, People, Protocols); Spatial Data Models for Cities: Topology in urban networks; Voxel modeling for 3D urban environments; Data standards (OGC) and Metadata; Coordinate Systems: Map projections and transformations specific to municipal cadastre and regional planning.

MODULE II: Exploratory Spatial Data Analysis

Spatial Autocorrelation: Understanding Tobler's First Law; Global and Local Indicators of Spatial Association (Moran's I, Geary's C, LISA); Hotspot Analysis: Identifying urban clusters (e.g., crime, poverty, or disease outbreaks) using Getis-Ord Gi*; Point Pattern Analysis: Kernel Density Estimation (KDE)

MODULE III: Advanced Urban Network & Surface Analysis

Network Analysis: Shortest path algorithms; Service area analysis for "15-minute city" planning; Location-Allocation modeling for fire stations and schools; Terrain Modeling: Digital Elevation Models (DEM) for flood risk mapping; Slope and Aspect analysis for hill-station urbanism; 3.5D Urbanism: Introduction to CityGML and Building Information Modeling (BIM) integration in urban GIS.

MODULE IV: Remote Sensing & Machine Learning in Planning

Urban Land Use/Land Cover (LULC): Supervised and Unsupervised classification; Change detection analysis for urban sprawl monitoring; Indices for Urban Health: NDVI (Vegetation), NDBI (Built-up), and LST (Land Surface Temperature) integration; AI in Planning: Introduction to Cellular Automata (CA) and Agent-Based Modeling (ABM) for simulating urban growth and traffic flow.

MODULE V: Governance, Open Data, and Future UIS

SDI & Open Data: National Spatial Data Infrastructure (NSDI); Utilizing OpenStreetMap (OSM) and Bhuvan data; Real-time Urbanism: Integration of IoT sensors, GPS traces, and Social Media API data into dashboards; Ethics of Geospatial Data: Data privacy, "Geofencing" concerns, and the digital divide in smart city governance.

References:

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COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [5 hours]	**COs addressed: CO1**	
1.1	From GIS to UIS: Evolution of Urban Information Systems; Components of a UIS (Data, Software, People, Protocols).	1
1.2	Spatial Data Models for Cities: Topology in urban networks; Voxel modeling for 3D urban environments; Data standards (OGC) and Metadata.	2
1.3	Coordinate Systems: Map projections and transformations specific to municipal cadastre and regional planning.	2
MODULE II [10 hours]	**COs addressed: CO2**	
2.1	Spatial Autocorrelation: Understanding Tobler's First Law; Global and Local Indicators of Spatial Association (Moran's I, Geary's C, LISA).	4
2.2	Hotspot Analysis: Identifying urban clusters (e.g., crime, poverty, or disease outbreaks) using Getis-Ord Gi*.	4
2.3	Point Pattern Analysis: Kernel Density Estimation (KDE)	2
MODULE III [10 hours]	**COs addressed: CO3**	

3.1	Network Analysis: Shortest path algorithms; Service area analysis for "15-minute city" planning; Location-Allocation modeling for fire stations and schools.	5
3.2	Terrain Modeling: Digital Elevation Models (DEM) for flood risk mapping; Slope and Aspect analysis for hill-station urbanism.	3
3.3	3.5D Urbanism: Introduction to CityGML and Building Information Modeling (BIM) integration in urban GIS.	2
MODULE IV [10 hours]	**COs addressed: CO4**	
4.1	Urban Land Use/Land Cover (LULC): Supervised and Unsupervised classification; Change detection analysis for urban sprawl monitoring.	5
4.2	Indices for Urban Health: NDVI (Vegetation), NDBI (Built-up), and LST (Land Surface Temperature) integration.	3
4.3	AI in Planning: Introduction to Cellular Automata (CA) and Agent-Based Modeling (ABM) for simulating urban growth and traffic flow.	2
MODULE V [7 hours]	**COs addressed: CO5**	
5.1	SDI & Open Data: National Spatial Data Infrastructure (NSDI); Utilizing OpenStreetMap (OSM) and Bhuvan data.	3
5.2	Real-time Urbanism: Integration of IoT sensors, GPS traces, and Social Media API data into dashboards.	2
5.3	Ethics of Geospatial Data: Data privacy, "Geofencing" concerns, and the digital divide in smart city governance.	2

CO Assessment Sample Questions	
CO1	3. Explain the transition from traditional GIS to Urban Information Systems (UIS) and describe the significance of OGC data standards in municipal planning. 4. How does voxel modeling improve the representation of 3D urban environments compared to traditional 2D vector models?
CO2	1. Illustrate Tobler's First Law of Geography using the concept of Global Moran's I. How is it used to measure spatial autocorrelation in urban poverty? 2. Compare Kernel Density Estimation (KDE) and Getis-Ord Gi* for identifying crime hotspots in a city
CO3	1. Design a workflow using Location-Allocation modeling to optimize the placement of fire stations in a rapidly expanding urban area. 2. Describe how Digital Elevation Models (DEM) are integrated with slope and aspect analysis for flood risk mapping in hill-station urbanism.
CO4	1. Differentiate between supervised and unsupervised classification for monitoring urban land use/land cover (LULC) changes. 2. Explain how Cellular Automata (CA) can be used to simulate future urban growth patterns based on historical sprawl data.
CO5	1. Discuss the role of National Spatial Data Infrastructure (NSDI) and Bhuvan in democratizing access to geospatial data for urban planners. 2. Evaluate the ethical concerns regarding "Geofencing" and data privacy in a smart city governed by real-time IoT sensors.

26MPOE201.4	UNIVERSALLY ACCESSIBLE BUILT ENVIRONMENT	L	T	P	S	C	Year of Introduction
		2	1	0	3	3	2026

Preamble:

The course aims to develop an understanding of barrier free built environment which aims to include all sections of the society including Persons with disabilities and the elderly. It develops a sensitivity to view the practice of building construction critically to analyse the subtle way in which it is marginalising the underprivileged sections. It also aims to familiarise the students with relevant acts, codes and standards mandatory for ensuring inclusion and liveability.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Comprehend the concept of disability, accessibility, and inclusion
CO 2	Interpret and apply the legal and regulatory framework relating to barrier free built environment
CO 3	Interpret and apply the standards in the design of spaces for a barrier free environment
CO 4	Comprehend the accessibility requirements and apply the smart technologies available for accessibility
CO 5	Conduct access audit and create a barrier free built environment through architecture, design and planning

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	2	-
CO 2	2	2	2	3	1	2	-
CO 3	2	2	2	3	2	2	1
CO 4	2	2	2	2	3	2	1
CO 5	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate				
Create	✓	✓	✓	✓

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
2-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Concepts of accessibility, disability and inclusion

Definition of universal accessibility; Importance of inclusivity in built environment; Historical context and evolution of accessibility laws, UNCRPD; Rights of Persons with Disabilities, legislations, guidelines and standards in India, Universal Design Principles, Barriers and Accessibility Challenges; Types of disabilities and understanding the needs of people with various disabilities (mobility, visual, auditory, cognitive); Accessibility in public and private spaces

MODULE II: Accessibility codes and standards for External Environment

National Building Code (NBC), Harmonised Guidelines and other regulations; Accessible Pathways and Circulation; Designing ramps and stairways; Clear and safe circulation routes; Rest areas, waiting zones and bus stops; Accessible parking; Importance of Accessibility in employment, education, leisure and other activities; Designing with Tactile Ground Surface Indicators

MODULE III: Accessibility codes and standards for internal environment

Accessible Entrances and Exits; Automatic doors, thresholds and doorways; Door hardware and controls; Emergency exits and evacuation routes for individuals with disabilities; Accessible toilet design and layout, fixtures, signage, and grab bars, shower and bathing accessibility; Accessible public facilities- Auditorium, commercial areas, offices; Detailing for accessibility and safety- handrails, edge strips etc.

MODULE IV: Accessibility of Transportation system and the digital environment

Accessible transport systems, and transit stations; Smart technologies in accessible design (assistive listening devices, virtual tours, etc.); Interactive and adaptive systems in buildings; Accessible digital spaces (websites, apps, kiosks); Accessible Signage and Wayfinding; Codes and standards for accessible websites and digital spaces.

MODULE V: Best Practices of Accessibility

Case studies of accessible facilities;

Design of special buildings- care homes, special schools, assistive living. Interviews with persons with disabilities and elderly; Accessibility Audit; Best practices in other countries
References: 1. Bureau of Indian Standards. (2016). National Building Code of India 2016 (Vols. 1–2). Bureau of Indian Standards. 2. Ministry of Housing and Urban Affairs. (2021). Harmonised guidelines and standards for universal accessibility in India 2021. Government of India. 3. Telecommunication Engineering Centre. (2018). Accessibility standards for ICT products and services – Part I & II. Department of Telecommunications, Government of India. 4. Raffaelli, B. (2020). The fast guide to accessibility design. BIS Publishers.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [42 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Definition of universal accessibility Importance of inclusivity in built environment Historical context and evolution of accessibility laws, UNCRPD	1
1.2	Rights of Persons with Disabilities, legislations, guidelines and standards in India	2
1.3	Universal Design Principles	1
1.4	Barriers and Accessibility Challenges	1
1.5	Types of disabilities and understanding the needs of people with various disabilities (mobility, visual, auditory, cognitive)	2
1.6	Accessibility in public and private spaces	1
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	National Building Code (NBC), Harmonised Guidelines and other regulations	2
2.2	Accessible Pathways and Circulation	1
2.3	Designing ramps and stairways Clear and safe circulation routes	1
2.4	Rest areas, waiting zones and bus stops; Accessible parking	1
2.5	Importance of Accessibility in employment, education, leisure and other activities	2
2.6	Designing with TGSIs	1
MODULE III [10 hours]	**COs addressed: CO3**	
3.1	Accessible Entrances and Exits	1
3.2	Automatic doors, thresholds and doorways Door hardware and controls	1
3.3	Emergency exits and evacuation routes for individuals with disabilities	1

3.4	Accessible toilet design and layout, fixtures, signage, and grab bars, shower and bathing accessibility	2
3.5	Accessible public facilities- Auditorium, commercial areas, Offices – case studies	3
3.6	Detailing for accessibility and safety- handrails, edge strips etc.	2
MODULE IV [8 hours]	**COs addressed: CO4**	
4.1	Accessible transport systems, and transit stations	1
4.2	Smart technologies in accessible design (assistive listening devices, virtual tours, etc.)	2
4.3	Interactive and adaptive systems in buildings	2
4.4	Accessible digital spaces (websites, apps, kiosks)	1
4.5	Accessible Signage and Wayfinding	1
4.6	Codes and standards for accessible websites and digital spaces.	1
MODULE V [8 hours]	**COs addressed: CO5**	
5.1	Case studies of accessible facilities; Best practices in other countries	2
5.2	Design of special buildings- care homes, special schools, assistive living; Interviews with persons with disabilities and elderly	4
5.3	Accessibility Audit	2

CO Assessment Sample Questions	
CO1	5. Explain the concept of universal accessibility and discuss the principles of Universal Design in built environments. 6. Analyse different types of disabilities and explain how spatial design can respond to their specific needs.
CO2	1. Discuss the legal and regulatory framework governing barrier-free built environments in India. 2. Explain the accessibility provisions in NBC and Harmonised Guidelines with suitable examples.
CO3	1. Examine the physical and social challenges faced by persons with disabilities in public buildings. 2. Explain planning and detailing requirements for accessible entrances, toilets and emergency exits.
CO4	1. Describe design guidelines for accessible circulation including ramps, stairways and TGSIs. 2. Identify accessibility issues in education, employment and leisure spaces with reference to user needs and discuss the use of smart technologies for accessibility.
CO5	1. Explain the process of conducting an accessibility audit for an existing public building. 2. Propose retrofitting strategies to convert an existing building into a barrier-free environment.

SEMESTER III

PROGRAM ELECTIVES

26MPPE301.1	PLANNING FOR TOURISM	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

This course aims to provide a foundational understanding of systematic development and management of tourism activities. It covers tourism types, environmental impacts, infrastructure, and policy frameworks. The subject emphasizes sustainable development, stakeholder involvement, and balancing economic benefits with social and ecological concerns while preparing effective tourism plans for regional and local contexts.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand concepts, types, and significance of tourism and its role in regional development. (Understand)
CO 2	Analyse environmental, social, and economic impacts of tourism, including sustainability and carrying capacity. *(Analyze)*
CO 3	Apply tourism planning principles, methods, and data analysis techniques for destination development. *(Apply)*
CO 4	Analyse and Evaluate tourism infrastructure requirements *(Evaluate)*
CO 5	Analyse and Evaluate tourism policies, institutional frameworks, and stakeholder roles in planning and propose appropriate planning solutions. *(Create)*

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	-	2	1	-	1	-
CO 2	3	1	2	2	1	3	-
CO 3	3	2	3	3	3	2	2
CO 4	2	2	3	3	2	2	2
CO 5	3	3	3	3	2	2	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate		✓		✓
Create		✓		

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**

100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Introduction to Tourism

Definitions, concepts, scope, and significance of tourism in regional development. Purpose and need for tourism planning at different scales. Types of tourism—cultural, eco, heritage, adventure, religious, and leisure tourism—and their characteristics, spatial patterns, and planning implications.

MODULE II: Tourism and Environment

Interrelationship between tourism and the natural/built environment. Environmental impacts of tourism development. Concepts of carrying capacity and sustainable tourism. Ecotourism principles. Role of landscape, biodiversity, and conservation of natural and cultural heritage in tourism planning.

MODULE III: Tourism Sector Impacts

Socio-cultural dimensions of tourism including tourist–host interactions, community participation, cultural change, and gender issues. Economic aspects—tourism as an industry, contribution to regional and urban development, informal sector linkages. Tourism marketing concepts, business aspects, and emerging social concerns.

MODULE IV: Tourism Planning Process and Infrastructure

Concepts and stages of tourism planning—data requirements, surveys, analysis, and plan formulation. Destination and site planning approaches. Role of stakeholders in planning and implementation. Sustainable tourism development strategies. Planning of tourism infrastructure including transport, accommodation, and services; projections and best practices.

MODULE V: Tourism Policies and Management

Tourism as a system involving market forces, functions, and external factors. Government policies, institutional frameworks, and planning mechanisms at local, regional, and national levels. Role of private sector and local communities. Tourism promotion strategies and use of information technology. Global perspectives in tourism development and management. Case studies: Global and National.

References:

1. Gunn, Clare A. *Tourism Planning: Basics, Concepts, Cases*. Taylor & Francis, 1994.
2. Goeldner, C.R. & Ritchie, J.R.B. *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons, 2009.
3. Mitchell, J. & Ashley, C. *Tourism and Poverty Reduction: Pathways to Prosperity*. Routledge, 2009.
4. Sharma, Manoj. *Tourism Infrastructure Development: A Sustainable Approach*. Kanishka Publishers, 2010.
5. Inskeep, Edward. Tourism Planning: An Integrated and Sustainable Development Approach. Van Nostrand Reinhold, 1991.
6. Hall, C. Michael. Tourism Planning: Policies, Processes and Relationships. Pearson Education, 2008.
7. Cooper, Chris et al. Tourism: Principles and Practice. Pearson, 2008.
8. Page, Stephen J. Tourism Management: Managing for Change. Butterworth-Heinemann, 2011.
9. UNWTO. Sustainable Tourism for Development Guidebook. World Tourism Organization.
10. Ministry of Tourism, Government of India. National Tourism Policy Documents and Guidelines.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [5 hours]	**COs addressed: CO1**	
1.1	Definitions, concepts, scope, and significance of tourism in regional development. Purpose and need for tourism planning at different scales.	2
1.2	Types of tourism—cultural, eco, heritage, adventure, religious, and leisure tourism	2
1.3	Types of tourism—their characteristics, spatial patterns, and planning implications.	1
MODULE II [5 hours]	**COs addressed: CO2**	
2.1	Interrelationship between tourism and the natural/built environment.	1
2.2	Environmental impacts of tourism development.	1
2.3	Concepts of carrying capacity and sustainable tourism.	1
2.4	Ecotourism principles.	1
2.5	Role of landscape, biodiversity, and conservation of natural and cultural heritage in tourism planning.	1
MODULE III [6 hours]	**COs addressed: CO2, CO5**	
3.1	Socio-cultural dimensions of tourism including tourist–host interactions, community participation, cultural change, and gender issues.	2
3.2	Economic aspects—tourism as an industry, contribution to regional and urban development, informal sector linkages.	2
3.3	Tourism marketing concepts, business aspects, and emerging social concerns.	2

MODULE IV [7 hours]		COs addressed: CO3, CO4
4.1	Concepts and stages of tourism planning—data requirements, surveys, analysis, and plan formulation.	1
4.2	Destination and site planning approaches. Role of stakeholders in planning and implementation.	2
4.3	Sustainable tourism development strategies.	1
4.4	Planning of tourism infrastructure including transport, accommodation, and services	1
4.5	Projections and best practices.	2
MODULE V [5 hours]		**COs addressed: CO5**
5.1	Tourism as a system involving market forces, functions, and external factors.	1
5.2	Government policies, institutional frameworks, and planning mechanisms at local, regional, and national levels.	1
5.3	Role of private sector and local communities. Tourism promotion strategies and use of information technology.	1
5.4	Global perspectives in tourism development and management. Case studies: Global and National.	2

CO Assessment Sample Questions	
CO1	3. Explain the different types of tourism and their planning implications. 4. Discuss the role of tourism in regional development with examples.
CO2	3. Analyse the environmental impacts of tourism and suggest mitigation measures. 4. Examine the socio-cultural impacts of tourism on local communities..
CO3	3. Describe the stages involved in preparing a tourism development plan. 4. Apply suitable survey methods for tourism planning in a selected destination.
CO4	3. Evaluate the infrastructure requirements for a tourist destination. 4. Suggest planning strategies to improve tourism infrastructure in a developing region.
CO5	3. Discuss the role of government and private sector in tourism development. 4. Explain tourism policies and their impact on planning and management.

26MPPE301.2	INCLUSIVE URBAN PLANNING	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:
It aims to empathize students to focus on creating equitable, accessible, and participatory urban environments that address the needs of all social groups, especially marginalized communities. It emphasizes social justice, universal access, and sustainable development to promote balanced and livable cities.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Relate to the planning process, theory and practice of planning for various stake holders
CO 2	Understand the characteristics of social groups and weaker sections, and develop capacity to identify and plan for different stake holders in an inclusive manner for an area
CO 3	Recognize the principles of inclusive zoning, pro-poor planning, slum improvement, and urban housing strategies to address social exclusion in cities.
CO 4	Interpret participatory planning and the different methods and processes involved.
CO 5	Comprehend different inclusive planning models and interventions from around the world.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	2	-
CO 2	2	2	2	2	-	3	-
CO 3	2	2	3	3	1	3	1
CO 4	2	2	2	2	-	3	-
CO 5	2	2	3	2	-	2	1

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Understanding Inclusive Planning

Inclusive Planning – Definitions, components, Importance and Needs, sustainable planning practices.

MODULE II: Stakeholder Profile and Needs, Access to Shelter, Services and Livelihoods

Identification and characteristics of Social Groups and Weaker Sections - Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc.;
Slums - dimensions, causative factors, determinants, location characteristics of settlements;
Informal sector - growth, characteristics, functions, economic contributions, linkages with formal sector, impact on Urban Development

MODULE III: Planning interventions In India and Innovative concept and approaches

Inclusive zoning, development and building regulations, Slum Improvement.
Pro poor planning in cities, Concepts for urban Housing and Social exclusion.

MODULE IV: Participatory Planning Process and Policies, Programmes and Legislation

Analyzing the Current Legal and Regulatory Environment with respect to Participatory Planning, Examine the practice of participatory methods in national/regional policy making and planning exercises. Methods, role of stakeholders (including civil society organizations), etc.; Related Acts, Five-year plans, policies and programmes at various levels.

MODULE V: Inclusionary Planning Models Practiced in the World's Cities

Experiences from Africa, Asia and Europe towards improving city development

References:

1. . Datta, A., The Illegal City: Space, Law and Gender in a Delhi Squatter Settlement, 2012, Ashgate, Burlington.

2. 2. Roy, A. and Ong, A. (Eds.), Worlding Cities: Asian Experiments and the Art of Being Global, 2011, Wiley Blackwell, London.
3. 3. Eijk, G.V,. Unequal Networks: Spatial Segregation, Relationships and Inequality in the City, 2010, IOS Press, Amsterdam.
4. 4. Harriss, J.. Antinomies of Empowerment: Observations on Civil Society, Politics and Urban Governance in India, Economic and Political. 2007
5. Amnesty International. (2010). Insecurity and Indignity: Women Experiences in the Slums of Nairobi, Kenya. London: Amnesty International.
6. UN Habitat (2012), Gender issue guide – urban planning and design

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Inclusive Planning – Definitions, components, Importance and Needs	2
1.2	Unsustainable current planning practices and sustainable practices	2
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Identification and characteristics of Social Groups and Weaker Sections - Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc.	2
2.2	Slums - dimensions, causative factors, determinants, location characteristics of settlements.	2
2.3	Informal sector - growth, characteristics, functions, economic contributions, linkages with formal sector, impact on Urban Development	2
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	Inclusive zoning, development and building regulations, Slum Improvement.	3
3.2	Pro poor planning in cities, Concepts for urban Housing and Social exclusion.	3
MODULE IV [6 hours]	**COs addressed: CO4**	
4.1	Analyzing the Current Legal and Regulatory Environment with respect to Participatory Planning	1
4.2	Examine the practice of participatory methods in national/regional policy making and planning exercises.	2
4.3	Methods, role of stakeholders (including civil society organizations), etc.;	1
4.4	Related Acts, Five-year plans, policies and programmes at various levels.	2
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Experiences from Africa, Asia and Europe towards improving city development.	2
5.2	Case Study - presentation	4

CO Assessment Sample Questions	
CO1	1. Discuss current Inclusive planning practices and what are its challenges.
CO2	1. Identify the major social groups and weaker sections in urban areas and the relevance of their inclusion in inclusive Planning 2. Describe the growth of Informal Sector, key characteristics, and its role in urban development, including its linkages with the formal sector.
CO3	1. Briefly explain measures adopted for improving living conditions in slum areas with relevant case study.
CO4	1. Explain its importance of participatory planning with suitable case studies.
CO5	1. Analyze the effectiveness of participatory planning approaches by comparing international case studies from Asia, Africa, and Europe and discuss the key lessons for inclusive urban development.

26MPPE301.3	PARTICIPATORY AND INTEGRATED URBAN DEVELOPMENT	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

This course aims to equip postgraduate planning students with theoretical knowledge and practical tools related to participatory planning and integrated urban development. It introduces democratic planning approaches, stakeholder engagement techniques, inclusive governance mechanisms, and cross-sectoral integration in urban development. The course prepares planners to design, facilitate, and implement inclusive, resilient, and sustainable urban development processes in the Indian context.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the concepts, evolution, and principles of participatory and integrated urban development.
CO 2	Apply participatory tools and stakeholder engagement methods in urban planning processes.
CO 3	Examine institutional, governance, and policy frameworks supporting participatory urban development in India.
CO 4	Analyse integrated urban development approaches linking land use, infrastructure, environment, economy, and social equity
CO 5	Prepare development plans for urban development, slum redevelopment with community participation

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	2	-
CO 2	2	2	2	2	1	3	-
CO 3	2	2	3	3	1	2	1
CO 4	2	2	3	3	1	2	1
CO 5	3	3	3	3	2	3	2

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	

1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	**PART A**	**PART B**	**ESE Marks**
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Foundations of Participatory Urban Development.

Evolution of participatory planning: Global and Indian context; Concepts: Participation, empowerment, inclusion, social equity, Ladder of participation and citizen engagement. Participatory democracy and urban governance. Participatory planning in Indian urban reforms

MODULE II: Tools and Techniques of Participation

Stakeholder identification and analysis; Community profiling and social mapping; Participatory Rural and Urban Appraisal (PRA/PUA); Participatory GIS and digital engagement tools. Conflict resolution and ethics in participatory planning

MODULE III: Institutional and Legislative Framework in India

74th Constitutional Amendment Act. Urban Local Bodies and decentralised planning Ward Committees and Metropolitan Planning Committees; Participatory budgeting. Case studies from Indian cities.

MODULE IV: Integrated Urban Development Approaches

Concept of integrated urban development. Land use and transport integration. Infrastructure and environmental integration. Economic and social inclusion strategies. Sustainable Development Goals and integrated planning.

MODULE V: Participatory and Integrated Planning Practice

Preparation of integrated development plans, Urban regeneration and slum redevelopment, Public-private-community partnerships, Monitoring, evaluation and social audit

References:

1. Healey, P. (1997). Collaborative Planning: Shaping Places in Fragmented Societies.

2. Forester, J. (1989). Planning in the Face of Power.
3. Innes, J., & Booher, D. (2010). Planning with Complexity.
4. Ministry of Housing and Urban Affairs (2015). Smart Cities Mission Guidelines.
5. Ministry of Housing and Urban Affairs (2015). AMRUT Guidelines.
6. UN-Habitat (2016). Urban Governance for Sustainable Development.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [8 hours]	**COs addressed: CO1**	
1.1	Evolution and concepts of participatory planning	2
1.2	Theories and models of participation	2
1.3	Governance and empowerment frameworks	2
1.4	Indian context and reforms	2
MODULE II [8 hours]	**COs addressed: CO2**	
2.1	Stakeholder analysis	2
2.2	PRA/PUA tools and applications	2
2.3	Participatory GIS and digital tools	2
2.4	Conflict resolution and ethics	2
MODULE III [8 hours]	**COs addressed: CO3**	
3.1	74th Constitutional Amendment and decentralisation	2
3.2	Urban Local Bodies and Metropolitan Planning Committees	2
3.3	Participatory budgeting and governance practices	2
3.4	National urban missions and participatory frameworks	2
MODULE IV [8 hours]	**COs addressed: CO4**	
4.1	Concept of integrated urban development	2
4.2	Land use–transport integration	2
4.3	Infrastructure, environment and climate integration	2
4.4	Economic inclusion and SDG alignment	2
MODULE V [10 hours]	**COs addressed: CO5**	
5.1	Integrated development plan preparation	4
5.2	Urban regeneration and slum redevelopment	2

5.3	Public–Private–Community partnerships	2
5.4	Monitoring, evaluation and social audit	2

CO Assessment Sample Questions	
CO1	5. Discuss the evolution and principles of participatory urban planning. 6. Explain different levels of citizen participation with examples.
CO2	5. Explain stakeholder analysis and its importance in urban planning. 6. Describe participatory GIS and its applications.
CO3	5. Explain the role of the 74th Constitutional Amendment in participatory planning. 6. Discuss participatory budgeting practices in India.
CO4	1. Discuss the need for integrated urban development approaches. 2. Explain land use–transport integration with examples.
CO5	5. Prepare an outline for an integrated development plan using participatory methods. 6. Evaluate a case study of participatory urban regeneration. Analyse the resources in a given region and evaluate how regional planning has brought about a change in the region with a relevant example.

26MPPE301.4	Real Estate Development and Land Management	L	T	P	S	C	Year of Introduction
		1	1	0	2	2	2026

Preamble:

This course introduces the fundamentals of real estate markets, land economics, development processes, legal regulations, and financial aspects of urban development. It enables students to assess project feasibility, understand institutional frameworks, and manage real estate projects in planning practice.

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand land and real estate market dynamics.
CO 2	Analyse the real estate development process and institutional framework.
CO 3	Examine legal, regulatory, and financial aspects of development.
CO 4	Explore feasibility analysis and project evaluation.
CO 5	Understand and analyse management and operational aspects of property development.

CO - PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	1	-	1	2
CO 2	2	2	2	2	-	1	2
CO 3	2	2	3	3	1	1	2
CO 4	3	2	2	3	1	1	3
CO 5	2	2	2	2	-	1	3

Assessment Pattern

Bloom's Category	Continuous Assessment Tools			End Semester Examination
	Test1	Assignment	Other tools	
Remember	✓		✓	✓
Understand	✓	✓	✓	✓
Apply	✓	✓	✓	✓
Analyse	✓	✓	✓	✓
Evaluate			✓	
Create				

Mark Distribution of CIA

Course Structure [L-T-P]	Attendance	Theory [L- T]		Total Marks
		Assignment/ Project	Test-1	
1-1-0	-	25	15	**40**

Total Mark distribution			
Total Marks	**CIA (Marks)**	**ESE (Marks)**	**ESE Duration**
100	40	60	3 hours

End Semester Examination [ESE]: Pattern

PATTERN	PART A	PART B	ESE Marks
PATTERN 1	Part A contains 5 questions with 1 question from each module, and having 4 marks for each question. Students should answer all the questions. Marks: (5X4 =20 marks)	Part B contains 2 questions from each module, of which the student should answer any one. Each question carries 8 marks, and can have subdivisions. Marks: (5x8 = 40 marks)	60
	Total Marks: 20	Total Marks: 40	

SYLLABUS

MODULE I: Real Estate Market and Land Economics

Introduction to real estate, Definition; Types of real estate; Principles of real estate; Nature of real estate markets; Land economics and land value; Demand–supply mechanisms; Factors affecting supply and demand for property; Property rights and tenure systems; Real Estate cycles.

MODULE II: Real Estate Development Process

Development stages; Site selection and feasibility; Method of development: public-private, private; Community property and its impact on real estate markets; Real estate investment analysis and portfolio management; Speculations, Risks, Options, hedging, and market access by different interest groups in real estate markets; Agents in real estate market and their role in market process.

MODULE III: Legal and Institutional Framework

Introduction to various laws related to real estate - Real Estate Regulation and Development Act; Registration procedures; Transfer of development rights and private sector land pooling; Public Private Partnerships (PPP); Role of the government, para-state agencies and private sector in land and real estate management.

MODULE IV: Finance and Investment Analysis

Project finance; Investment appraisal techniques; Property insurance, taxation and fiscal incentives; Risk analysis; Marketing and brokerage; Market surveys and investment decision making.

MODULE V: Real Estate Management and Practice

Property and asset management; Post-development management; Maintenance and lifecycle management; Institutional, political and socio-economic concerns - Case studies.

References:

1. Institute of Real Estate Management, "Principles of Real Estate Management," 18th ed., Chicago, IL, USA, 2023.

2. S. Mittal, "The ABC of Real Estate in India," 12th ed., White Falcon Publishing, New Delhi, India, 2018.

3. J. Luque, "Urban Land Economics," Springer International Publishing, Switzerland, 2015.

4. F. F. De Souza, T. Ochi, and A. Hosono, "Land Readjustment: Solving Urban Problems through Innovative Approach," 1st ed., Japan International Cooperation Agency Research Institute, Tokyo, Japan, 2018.

COURSE CONTENTS AND LECTURE SCHEDULE

No.		No. of Hours [28 hours]
MODULE 1 [4 hours]	**COs addressed: CO1**	
1.1	Introduction to real estate, Definition, Types of real estate	1
1.2	Principles of real estate, Nature of real estate markets, Land economics and land value.	1
1.3	Demand–supply mechanisms, Factors affecting supply and demand for property.	1
1.4	Property rights and tenure systems, Real Estate cycles.	1
MODULE II [6 hours]	**COs addressed: CO2**	
2.1	Development stages, Site selection and feasibility, Method of development: public-private, private, community property and its impact on real estate markets.	2
2.2	Real estate investment analysis and portfolio management.	2
2.3	Speculations, Risks, Options, hedging, and market access by different interest groups in real estate markets.	1
2.4	Agents in real estate market and their role in market process.	1
MODULE III [6 hours]	**COs addressed: CO3**	
3.1	Introduction to various laws related to real estate - Real Estate Regulation and Development Act;	1
3.2	Registration procedures; Transfer of development rights and private sector land pooling;	1
3.3	Public Private Partnerships (PPP);	2

3.4	Role of the government, para-state agencies and private sector in land and real estate management.	2
MODULE IV [6 hours]	**COs addressed: CO4**	
4.1	Project finance; Investment appraisal techniques;	2
4.2	Property insurance, taxation and fiscal incentives;	2
4.3	Risk analysis; Marketing and brokerage;	1
4.4	Market surveys and investment decision making.	1
MODULE V [6 hours]	**COs addressed: CO5**	
5.1	Property and asset management	1
5.2	Post-development management; Maintenance and lifecycle management;	2
5.3	Institutional, political and socio-economic concerns - Case studies.	3

CO Assessment Sample Questions	
CO1	1. Explain property rights and tenure systems? 2. Describe the factors affecting demand and supply in property markets.
CO2	1. Identify the different agents involved in real estate markets. 2. Describe the role of public and private sectors in real estate development.
CO3	1. Define Transfer of Development Rights (TDR). 2. Explain the role of government and para-state agencies in land and real estate management.
CO4	1. What is property taxation? 2. Explain the importance of investment appraisal techniques in real estate projects.
CO5	1. Define property management and asset management. 2. Describe the institutional and socio-economic concerns influencing real estate practice.