
Outcome Assessment Plan 2022 -2023

Institution	<u>Amity School of Architecture and Planning</u>
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Head of Institution	<u>Prof. (Dr.) Amit Hajela</u>
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1. STRATEGIC ASSESSMENT – MISSION AND BROAD-BASED GOALS /OBJECTIVES

1.1 Mission Statement

Amity School of Architecture and Planning (ASAP) is dedicated to inculcating excellence as a desirable attribute for a carefully curated education program. The school is aligned to the collective vision, mission and core values of the Amity University which aspires to build a society rooted in traditional and contemporary knowledge system. The primary objectives are to provide requisite knowledge and training to the young minds while imbining integrity and ethics for professional practice, future researchers, and academics. The school is committed to developing and maintaining conditions that allow our students to embark on an intellectually, socially, and personally transformative educational journey.

ASAP seeks to develop following key competencies:

1. Graduates from **B.Arch program** should be able to understand ideation as a process-based approach which integrates observations and analysis under multifarious domains of social, political, economic, cultural, and environmental aspects. They would be able to build abstract relationships and be well-versed in graphical, technical writing, oratory, visualization and investigative skills. The graduates should value lifelong learning and inquisitiveness to recognize the needs of client, community, and society.
2. Graduates of **B.Plan program** are required to develop a broad understanding of the knowledge, skills and values pertaining to domains of spatial planning and sustainable development under the social, economic, environmental, institutional and cultural aspects. They would be equipped with the soft and hard skills required to practice professionally as planners to meet the global urban challenges under the agenda of sustainable development goals.
3. Graduates of **M.Arch program** would advance their educational journey from architects to specialized competencies for building advanced design, research and innovation capabilities. The program would enable students to explore ideas and examine multi-faceted perspectives for professional practice.
4. Research scholars under the **PhD Program** should be able to develop mastery of knowledge and in-depth exploration under a relevant and novel architecture/planning sub-discipline. The program would enable the scholars to develop a sound framework for identification of their research hypothesis and methodology. They will be equipped with advanced understanding of research techniques, tools, technical writing, and presentation skills.

Higher Education Framework at ASAP

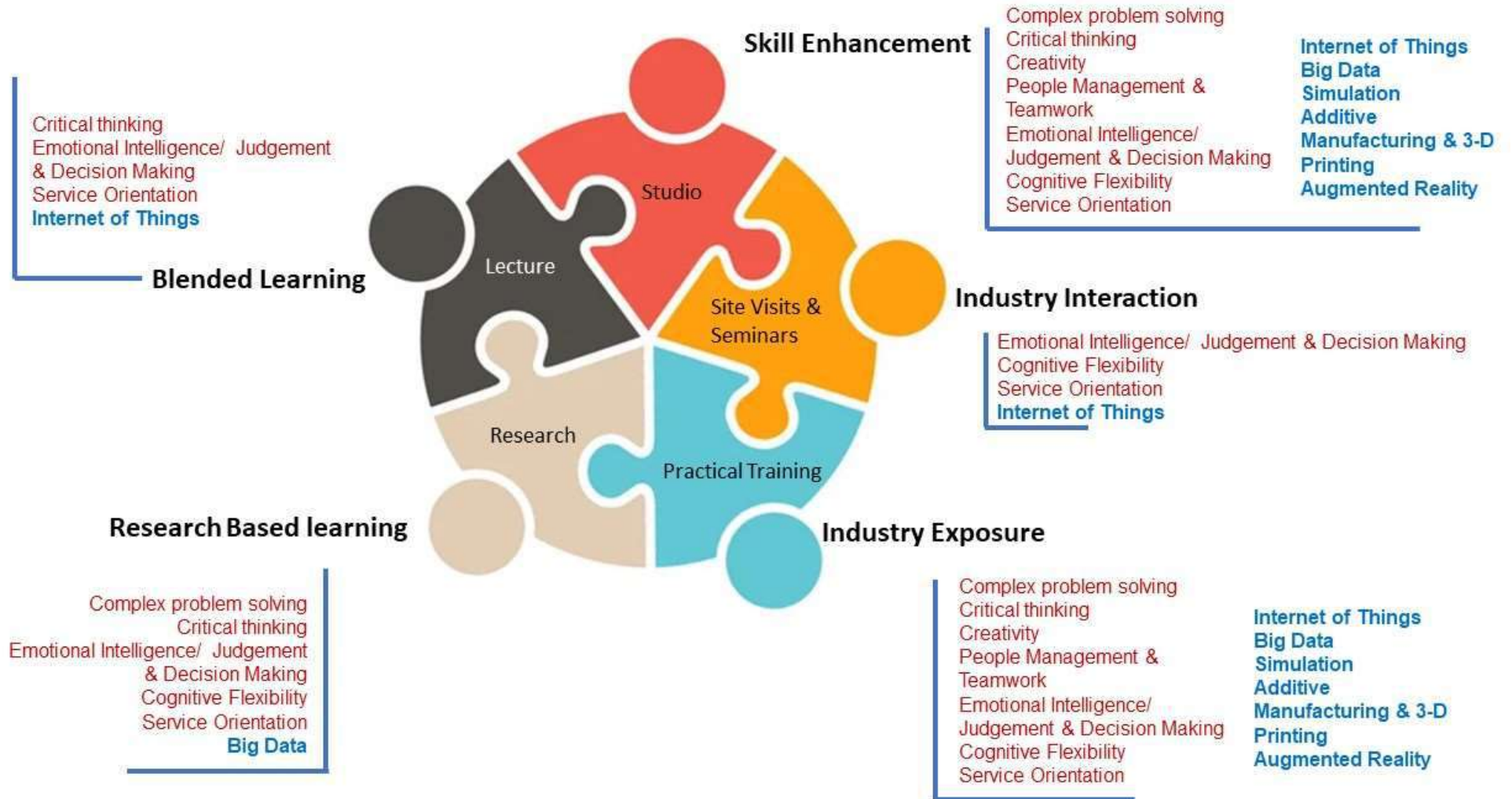


Figure: Course Delivery at ASAP for Graduates and its connectivity with Education 4.0, Industry 4.0

1.2 Broad-Based Goals / Objectives (PEOs) at Domain / Faculty Level

1.2.1 B.Arch Educational Goals	
Students shall be able to:	
1	Acquire knowledge (factual, conceptual, procedural and meta-cognitive) in blended learning environments and gain hands-on experience in design and construction of buildings
2	Identify the theoretical, research and professional knowledge with contemporary and futuristic technologies to acquire necessary hard skills for solving real-world problems in the domain of architecture, design, planning, urbanism, housing, sustainability etc.
3	Explore the necessary soft skills required for an effective and efficient communication to assist in research and professional practice within the purview of global citizenship skills.
4	Select and apply detailed research methods and techniques for real world problem solving in accordance with Education 4.0
5	Recognize the basic and fundamental functional and design requirements of buildings through use of contemporary ICT tools.
6	Demonstrate a sensitive integration of components of critical thinking, design thinking to accommodate the evolving needs of the profession
7	Engage in Life-long learning , through on-the-job training, participation in the activities of professional bodies, explore upskilling options including certifications, continuing education and professional development, research, and self-study.
8	Evaluate the soft skills and ICT know-how through industry exposure and academic interaction to become futurist global citizen and contribute to goals laid under SDGS
9	Qualify as registered professional architect and experiment with architecture as a foundation course to diversify, develop mechanism to adopt ICT and allied skills which can raise the competitive edge of architectural professionals in the global market
10	Adopt and utilize an inquiry based, open-ended thinking process to ideate robust, responsive and resilient solutions for real world urban challenges

1.2.2 B.Plan - Educational Goals	
Students shall be able to:	
1	Acquire knowledge (factual, conceptual, procedural and meta-cognitive) in blended learning environments and gain hands-on experience in spatial planning
2	Identify the theoretical, research and professional Knowledge with contemporary and futuristic technologies to acquire necessary hard skills

	for solving real world problems related to urban, rural, regional, environmental, transport planning, housing etc
3	Explore the necessary soft skills and to communicate, clearly and effectively for efficient research and professional practice within the purview of ethical, social and professional responsibilities
4	Assimilate the principles of physical planning with other urban aspects such as sociology, economics, political set-up and morphology to build responsive and resilient framework in accordance with Objective 7 of Education 4.0 to meet the global sustainability agenda
5	Experience the built-up components of environment, expressed through out of the box thinking, visualization and innovation grounded in URDPFI and relevant guidelines of Govt. of India
6	Demonstrate the shift from critical thinking to design thinking to accommodate the ever-changing human needs
7	Engage in Life-long learning , through on-the-job training, participation in professional bodies, additional formal education, continuing education through certifications and professional development, research, and self-study.
8	Evaluate the soft skills and ICT know-how through industry exposure and academic interaction to become futurist global citizen
9	Qualify as planning professional and experiment with planning as a base course to diversify and charter their own career paths
10	Adopt an inquiry based, open-ended thinking process to ideate robust, responsive and resilient solutions for realities of work and life

1.2.3 M.Arch - Programme Educational Objectives	
Students shall be able to:	
1	Recall the theoretical knowledge acquired at B.Arch and demonstrate the application of technology in contemporary architecture especially advanced building systems
2	Recognize the basic functional and design requirements of buildings through using contemporary ICT tools.
3	Respond to the complexity of urban, Rural, peri-urban regeneration and conservation and realize their alignment with SDGs
4	Carry-out information competence and the skills in alignment with Education 4.0 objective of research, technology and employability.
5	Select and apply detailed research methods, advanced techniques, and research design.
6	Use appropriate communication for real-world problem solving, presentation and collaboration skills for achieving better global employability.

7	Determine the inference derived from the observation and experience to build a robust & responsive approach towards architectural practice
8	Generate the strategies for self-improvement and organizational structural strengths
9	Design realistic ideas for pragmatic implementation of their knowledge, skills, and values in a diverse setting to meet the collective goals and needs of the society
10	Create professional excellence based on advanced skills acquired as architects to more specialized domains such as landscape, urbanism, housing, transportation and conservation for integrated and holistic problem solving.
11	Develop a research mindset which embeds policy research-oriented application of acquired knowledge translating into innovative thinking and design thinking

1.2.4 MUD - Programme Educational Objectives	
Students shall be able to:	
1	Developing a skill to understand the urban settlement pattern in Indian context and to identify the basic need of the society and local, state, regional as well National level with emphasis upon the quality of services provided their access, coverage and service level benchmarks.
2	Understanding the various theories of city developments and the role of systematic planning with estimation of future demand and current gaps in various sector including infrastructure, finance and social aspects.
3	To understand the blend of the social sciences, economics and technical knowledge of various planning specializations (transportation, environment, legislation and policies, infrastructure, etc.
4	Understanding the basic idea of urban planning and management leading to defined zoning patterns and land use planning. Formulation of Development control regulations and controlled industrial and commercial development.
5	Understanding the scale of planning maps, with the skills of GIS and remote sensing tools for mapping the land information for data collection and gap identification. Ability to present projects of diverse scale, complexity, and type in a variety of contexts in response to a brief and to perform proficiently in global competition
6	Development of a responsible Planning professional for the betterment of society and the Planning community. Creating consciousness regarding professional ethics, human value, sustainability, culture and heritage etc.
7	Developing better understanding of ecology, Impact on the environmental, physical social and cultural issues and to deal them through sustainable, public oriented planning approaches
8	Encouraging the students to inculcate the ability to observe and learn persistently from day to day life through critical appraisal of current issues, attending seminar, conference, convention etc.
9	Developing honors for historical, cultural, natural, social context in planning and ability to learn from the traditional concepts and use them in correct manner blending with the modern planning concepts
10	Understanding essential professional responsibility and ethics of planners among the students through industrial exposure, internship, live case studies etc. and encourage advanced skills and ideas to attract the employer or operate own professional organisation.

11	Understand and apply basic research methods including research along with design, data collection, analysis, interpretation by using data centric technological tools to enhance accuracy.
12	Apply a range of communication methods and media to present design proposals, clearly and effectively.
13	Demonstrate stewardship towards societal and professional responsibility and align with the intent of Sustainable Development Goals to evolve as Global citizen.
14	Develop insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement, and inculcate a sense of gender equality and human values and sensitivity towards sustainability and climate change.
15	Outline and Integrate the Professional Knowledge and Expertise with contemporary and futuristic technologies to Solve complex problems, and to communicate, clearly and effectively.

1.2.5 M.Plan - Programme Educational Objectives

Students shall be able to:	
1	Acquire knowledge (factual, conceptual, procedural and meta-cognitive) in blended learning environments and gain hands-on experience in urban design and management.
2	Propose realistic ideas for pragmatic implementation of acquired knowledge, skills, and values in an urban setting to meet the collective goals and needs of the society and built environment.
3	Develop the curiosity to investigate new concepts on their own and make knowledge acquisition a habit and self-evaluation as a tool for professional development.
4	Select and apply appropriate research methods, advanced techniques, research design, principles, and tools of management for real world problem solving in accordance with Education 4.0.
5	Identify the theoretical, research and professional knowledge with contemporary and futuristic technologies to acquire necessary hard skills for solving real-world problems in the domain of architecture, design, planning, urbanism, housing, sustainability etc.
6	Recognize the basic and fundamental functional and design requirements of buildings through use of contemporary ICT tools.
7	Evaluate the soft skills and ICT know-how through industry exposure and academic interaction to become futurist global citizen and contribute to goals laid under SDGS
8	Demonstrate a sensitive integration of components of critical thinking, design thinking to accommodate the evolving needs of the profession.
9	Adopt and utilize an inquiry based, open-ended thinking process to ideate robust, responsive and resilient solutions for real world urban challenges.
10	Explore the necessary hard and soft skills required for an effective and efficient communication for real-world problem-solving, presentation and collaboration skills for achieving better global employability.

11	Develop investigative and critical thinking using analytical tools, visual and verbal expression for cognitive learning, balancing analytical thinking, research and innovation in Urban Design and management profession.
12	Critique the established approaches and scientific enquiries related to urban development, real estate development & management, through observation and data interpretation for effective contribution to the society and built environment; Generate strategies for decision making self-improvement and organizational structural strengths.
13	Develop collaborative and be able to work in and with and team effectively and efficiently to achieve professional goals.
14	Develop awareness, sensitivity and empathy towards cultural diversities, multicultural backgrounds and respective issues for contributing in holistic development of the society.
15	Exhibit integral qualities of professionalism, responsibilities, integrity and competence as professional urban designers

1.3 Graduate Attributes and its Indicators at Faculty / Domain Level (mapped with LOCF)

	AUUP Revised Graduate Attribute	Domain Graduate Attributes	Domain (E&T) - Indicators / Goals (Revised)
1	Discipline Knowledge & Expertise	Discipline Knowledge & Expertise	Accumulate and apply the knowledge of architectural, planning and design towards resolving complex-built environment issues.
2	Self-Directed and Active Learning	Self-Directed and Active Learning	Actively engage in exploring newer concepts for personal and professional growth.
3	Research and Enquiry	Research and Enquiry	Explore areas of concern, apply research methods and propose newer relevant solutions.
4	Information & Communication Technology Skills	Information & Communication Technology Skills	Use technology as a tool to express ideas and for accuracy, speed, and scaling up.
5	Critical Thinking & Problem-Solving Abilities	Critical Thinking & Problem-Solving Abilities	Critically analyze the issues related to the built environment and propose relevant solutions
6	Communication Skills	Communication Skills	Be able to express the thoughts, ideas and concepts through graphical, written or oral representation.

7	Creativity, Innovation & Reflective Thinking	Creativity, Innovation & Reflective Thinking	Find out of the box solutions to real world challenges
8	Analytical & Decision-Making Ability	Analytical & Decision-Making Ability	Be able to make decisions based on the analysis of the built environment-related concerns.
9	Leadership & Teamwork	Leadership & Teamwork	Practice effectively as an individual Architect, Planner, or Designer and as a member or leader of the development team in multidisciplinary settings; even in adverse conditions.
10	Multicultural Understanding & Global Outlook	Multicultural Understanding & Global Outlook	Recognize the responsibility and need for local, national, and international identification of culture, art and architecture.
11	Integrity and Ethics	Integrity and Ethics	Apply humane professional practice and adherence of prescribed norms of concerned authority for ethical professional behavior.
12	Social & Emotional Skills	Social & Emotional Skills	Be sensitive towards the social concerns and issues faced and adopt a human-centric approach
13	Employability, Enterprise & Entrepreneurship	Employability, Enterprise & Entrepreneurship	Demonstrate innovative ideas and skills to attract the employer or operate own professional organization while employing professionals.
14	Lifelong Learning	Lifelong Learning	Develop an ability and capacity to learn persistently throughout the professional practice as a member or a team leader, in broadest context of technological change.
15	Environment & Sustainability	Environment & Sustainability	Address the Global sustainability agenda and strive to accomplish the SDGs through the proposed solutions

1.4 BROAD-BASED OPERATIONAL GOALS (Resources required) AT FACULTY / DOMAIN LEVEL

1.4.1 B.Arch Operational Goals	
1	The Programme of B.ARCH will create excellence in architecture education, teaching and research.
2	The Programme of B.ARCH will provide an academically productive background for multi directional development of future architects.
3	The Programme of B.ARCH will demonstrate environment for innovation and research excellence for the intellectual growth of students.
4	The Programme of B.ARCH will develop the core value, culture and the ethics of the university within the students

5	The Programme of B.ARCH will encourage students for deep sense of responsibility for environment, culture and society..
6	The Programme of B.ARCH will provide ample opportunities for international exposure to students.
7	This program will provide conducive learning environment preparing the student for higher learning in national & international universities.
8	The Programme of B.ARCH will build a strong bond among the industry-practicing architects and alumni of the school to support each other for future development of profession.
9	The Programme of B.ARCH will facilitate employment opportunities and also support students to start their own architectural practice.
10	The Programme of B.ARCH will encourage students to perform best of their capacities and to successfully discharge of responsibilities and execution of policies and programs

1.4.2 B.Plan Operational Goals

1	Create excellence in planning education, learning resources and infrastructure as the requirement of Education 4.0 and Industry 4.0.
2	Demonstrate environment for innovation, teaching skills and knowledge and research of faculty and staff excellence for the intellectual growth of students.
3	Encourage students to demonstrate deep sense of responsibility for environment quality and its sustainability, culture and society
4	Build a strong bond among the industry-practicing planners and alumni of the school to support each other for future development of profession.
5	Create conducive learning environment preparing the student with skills for Industry 4.0 for higher learning in national & international universities.
6	Create employment opportunities and also support students to start their own venture.
7	This program will provide conducive learning environment preparing the student for higher education in national & international universities.
8	Build the knowledge, skills and value competences within the students to be ready professional for future industry.

1.4.3 M.Arch Operational Goals

1	The Programme of M.ARCH will create excellence in architecture education, teaching and research.
2	The Programme of M.ARCH will provide an academically productive background for multi directional development of future architects.
3	The Programme of M.ARCH will demonstrate environment for innovation and research excellence for the intellectual growth of students.
4	The Programme of M.ARCH will develop the core value, culture and the ethics of the university within the students.

5	The Programme of M.ARCH will encourage students for deep sense of responsibility for environment, culture and society.
6	The Programme of M.ARCH will provide ample opportunities for international exposure to students.
7	This Programme of M.ARCH will provide conducive learning environment preparing the student for higher learning in national & international universities.
8	The Programme of M.ARCH will build a strong bond among the industry-practicing architects and alumni of the school to support each other for future development of profession.
9	The Programme of M.ARCH will facilitate employment opportunities and also support students to start their own architectural.
10	The Programme of M.ARCH will encourage students to perform best of their capacities and to successfully discharge of responsibilities and execution of policies and programs

1.4.3 MUD Operational Goals

1	Identify the use of effective methodology and pedagogical tools for teaching, learning and development.
2	Describe the relevant and contemporary curriculum to meet construction industry requirements and benchmarked on global standards for intellectual growth of faculty, staff and students.
3	Estimate potential possibilities for a sustainable and environment friendly growth in construction industry.
4	Determine employment opportunities of all the students and will also support students to start their own consultancy.
5	Examine the scholarly and professional activities and will fetch digital and technical knowledge in order to enhance competencies and to contribute to the existing body of knowledge.
6	Generate employment opportunities and also support students to start their own Venture
7	Assess the need to perform duties ethically and practice the highest standards to serve the society.
8	Justify a habit of continuous lifelong learning and personal development during the work to support their career aspirations in future.

1.4.3 M.PLAN Operational Goals	
1	Identify the use of effective methodology and pedagogical tools for teaching, learning and development.
2	Describe the relevant and contemporary curriculum to meet construction industry requirements and benchmarked on global standards for intellectual growth of faculty, staff and students.
3	Estimate potential possibilities for a sustainable and environmental friendly growth in construction industry.
4	Determine employment opportunities of all the students and will also support students to start their own consultancy.
5	Examine the scholarly and professional activities and will fetch digital and technical knowledge in order to enhance competencies and to contribute to the existing body of knowledge.
6	Generate employment opportunities and also support students to start their own Venture
7	Assess the need to perform duties ethically and practice the highest standards to serve the society.
8	Justify a habit of continuous lifelong learning and personal development during the work to support their career aspirations in future.

2. Bachelor of Planning (B. ARCH) – Programme 1

2.1. Assessment of Programme Learning Outcomes of Bachelor of Planning (B. ARCH)

2.1.2 Programme Learning Outcomes

Students will be able to	
PLO 1	Acquire discipline-specific knowledge (factual, conceptual, procedural, and meta-cognitive) in architecture including theoretical, anthropological, and practical aspects
PLO 2	Assimilate and deconstruct the information gathered by observation, experience, reasoning, and communication in the Architecture domain
PLO 3	Use blended learning and self-evaluation as tools for accumulating integrated knowledge in Architecture.
PLO 4	Respond to design thinking as a tool and critical thinking as a process for balancing creativity and innovativeness in Architecture with pragmatic solutions
PLO 5	Explore and respond with efficient solutions for real-world problems using ICT & IoT to address the requisite skills revolution demanded by the standards of Industry 4.0

PLO 6	Develop leadership qualities, collaborative skills, and team building processes for enabling entrepreneurial abilities for global markets
PLO 7	Empathize with the challenges faced by society and demonstrate effective solution for social, environmental and economic sustainability while practicing architecture.
PLO 8	Develop theoretical construct around socio-cultural, economic, physiological or environmental issues explored through in-depth research.
PLO 9	Build on team working and managerial skills necessary for successful architectural practice
PLO 10	Reflect logical reasoning and decision-making skills for strategic interactions in Architectural collaborations.
PLO 11	Reflect on the knowledge embedded in socio-cultural values and classify the significance of culture as an intrinsic factor for addressing inclusion and diversity in the architectural dimension
PLO 12	Imbibe professionalism, integrity, and competence as integral qualities to fulfill their responsibilities as an Architect
PLO 13	Serve as socially responsible entrepreneurs dedicated to improving the quality of life and supporting the existing cultural & social structure
PLO 14	Inculcate self-awareness, self-management, self-motivation, and self-monitoring skills in Architecture
PLO 15	Instill an innovative, 'out-of-box' thinking approach and sensitivity towards the global sustainable development agenda to contribute in the holistic development of the society

1.1.3. Assessment Instruments for Programme Learning Outcomes	Performance Objectives (Targets/Criteria)
1.1.4. Direct Measures:	
1. Direct Measure 1: Comprehensive Exam 1.1. List of Outcomes assessed by this Measure: i. PLO 1, 2, 4, 8, 10, 12, 15	Objective (Target/Criterion) for Direct Measure 1 100% students shall undertake the Comprehensive examination and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
2. Direct Measure 2: Viva Voce / Jury 2.1 List of Outcomes assessed by this Measure: i. PLO 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15	Objective (Target/Criterion) for Direct Measure 2 80% 100% students shall undertake the viva- voce/ jury and 80% shall pass the same in first attempt; secure a grade of 6 & above on a 10 point scale.
3. Direct Measure 3: Thesis Project 3.1 List of Outcomes assessed by this Measure: i. PLO 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 14, 15	Objective (Target/Criterion) for Direct Measure 3 100% students shall undertake the dissertation and thesis and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.

4. Direct Measure 4: In-house Project, Term Paper, Internship, Minor Project 4.1 List of Outcomes assessed by this Measure: i. PLO 6, 7, 9, 12, 13, 14, 15	Objective (Target/Criterion) for Direct Measure 4 100% students shall undertake the In-house Project, Term Paper, Internship, Minor Project and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
5. Direct Measure 5: Business Communication Rubric Scoring 5.1 List of Outcomes assessed by this Measure: PLO 2	Objective (Target/Criterion) for Direct Measure 5 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
6. Direct Measure 5: Business Communication Rubric Scoring 6.1 List of Outcomes assessed by this Measure: i. PLO 2	Objective (Target/Criterion) for Direct Measure 5 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
6. Direct Measure 6: Behavioral Science Rubric Scoring 6.1 List of Outcomes assessed by this Measure: i. PLO 12, 13, 14	Objective (Target/Criterion) for Direct Measure 6 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
7. Direct Measure 7: Seminars/ Research/Dissertation 7.1. List of Outcomes assessed by this Measure: ii. PLO 12	Objective (Target/Criterion) for Direct Measure 6 100% Students are checked for plagiarism in NTCC report submissions. No report may have plagiarism more than 15%
1.1.5. Indirect Measures:	
1. Indirect Measure 1: Student Exit Survey 1.1. List of Outcomes assessed by this Measure: i. PLO 6, 10, 12, 13	Objective (Target/Criterion) for Direct Measure 1 100% students may have attempt the student exit survey. 80% student's response shall range between 4 and 5 on the Likert scale in student Exit Survey .
2. Indirect Measure 2: Feedback of Industry Internship Guide 2. 2.1 List of Outcomes assessed by this Measure: i. PLO 9, 12, 13, 14	Objective (Target/Criterion) for Direct Measure 2 Feedback would be sought from 100% of industry internship guide. The Industry Internship guide rates the students between 4 and 5 on the Likert scale in the feedback.
3. Indirect Measure 3: Alumni Survey 3. List of Outcomes assessed by this Measure: i. PLO 14, 13, 15	Objective (Target/Criterion) for Direct Measure 3 Feedback would be sought from 100% of alumni. 80% alumni's response shall range between 4-5 on the Likert scale in Alumni Survey

1.1.6 Mapping of Assessment Measures to Intended Student Learning Outcomes

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 1	✓		✓							
PLO 2	✓	✓	✓		✓					
PLO 3		✓	✓				✓			
PLO 4	✓	✓	✓				✓			
PLO 5		✓	✓							
PLO 6				✓				✓		
PLO 7		✓	✓	✓						
PLO 8	✓	✓	✓				✓			
PLO 9		✓		✓					✓	
PLO 10	✓	✓	✓				✓	✓		

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 11		✓	✓							
PLO 12	✓		✓	✓		✓	✓	✓	✓	
PLO 13				✓		✓		✓	✓	✓
PLO 14		✓	✓	✓		✓			✓	✓
PLO 15	✓	✓	✓	✓						✓

2. Bachelor of Planning (B. PLAN) – Programme 2

2.1. Assessment of Programme Learning Outcomes of Bachelor of Planning (B. PLAN)

2.1.3 Programme Learning Outcomes

Students will be able to	
PLO 1	Acquire discipline specific knowledge (factual, conceptual, procedural and meta-cognitive) in urban planning including theoretical and practical aspects
PLO 2	Assimilate and deconstruct the information gathered by observation, surveys, experiences, reasoning to come up with practical solutions
PLO 3	Use integrative learning and self-evaluation as tools for lifelong learning as planners
PLO 4	Respond to design thinking as a tool and critical thinking as a process for balancing creativity and innovativeness in spatial planning with practical solutions responding to current urban challenges
PLO 5	Explore and respond with efficient solutions for real-world problems using ICT & IoT tools, addressing the requisite skills laid under Industry 4.0
PLO 6	Develop leadership qualities, collaborative skills, and team building processes for enabling entrepreneurial abilities for future growth
PLO 7	Empathize with the challenges faced by society and demonstrate effective & scientific emotional control while practicing as a planner
PLO 8	Develop theoretical construct around socio-cultural, economic, physiological or environmental issues explored through in-depth research.
PLO 9	Coordinate physical planning aspects with the policies and guidelines prepared at national and international levels
PLO 10	Reflect on logical reasoning and decision-making skills for strategic interactions in Planning collaborations and Practice.
PLO 11	Reflect on the knowledge embedded in socio-cultural values and classify the significance of society and culture as intrinsic factors for successful spatial and environmental planning
PLO 12	Imbibe professionalism, integrity, and competence as integral qualities to fulfill their responsibilities as a Planner
PLO 13	Serve as socially responsible entrepreneurs dedicated to improving the quality of life and supporting the existing urban fabric
PLO 14	Inculcate self-awareness, self-management, self-motivation, and self-monitoring skills in day to day planning practice
PLO 15	Develop research mindset to dive deep into the global urban challenges (such as climate change and poverty) and contribute to global sustainable development agenda

2.1.3 Assessment Instruments for Programme Learning Outcomes	Performance Objectives (Targets/Criteria)
2.1.4 Direct Measures:	
1. Direct Measure 1: Comprehensive Exam 1.1. List of Outcomes assessed by this Measure: ii. PLO 1,2,4,8,10,12,15	Objective (Target/Criterion) for Direct Measure 1 100% students shall undertake the Comprehensive examination . 80% students shall pass the Comprehensive examination in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale
2. Direct Measure 2: Viva Voce/ Jury 2.2 List of Outcomes assessed by this Measure: ii. PLO 2,3,4,5,7,8,9,10,11,14,15	Objective (Target/Criterion) for Direct Measure 2 100% students shall undertake the Viva Voce/ Jury . 80% students shall pass the Viva Voce/ Jury in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale
3. Direct Measure 3: In-house Project (including local area plans, development plans etc.), Term Paper, Thesis 4.2 List of Outcomes assessed by this Measure: ii. PLO 1, 2,3,4,5,7,8,9,10,11,14,15	Objective (Target/Criterion) for Direct Measure 3 100% students shall undertake the In-house Project, Term Paper, Internship, Minor Project and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10-point scale.
4. Direct Measure 4: Publication of research work 7.2. List of Outcomes assessed by this Measure: iv. PLO 15	Objective (Target/Criterion) for Direct Measure 4 100% Students shall encourage to publish the research.
5. Direct Measure 4: Plagiarism Check for Reports (Term Paper, Internship Report, Project Report, Thesis) 7.2. List of Outcomes assessed by this Measure: iv. PLO 12	Objective (Target/Criterion) for Direct Measure 4 100% Students are checked for plagiarism in report submissions
2.1.5. Indirect Measures:	
3. Indirect Measure 3: Alumni Survey 3.2 List of Outcomes assessed by this Measure: ii. PLO 6,10,12,13	Objective (Target/Criterion) for Direct Measure 3 80% alumni's response shall range between 4-5 on the Likert scale in Alumni Survey

2.1.6 Mapping of Assessment Measures to Intended Student Learning Outcomes

Assessment Tools	Comprehensive Examination	Viva-voce	In-house Project, Term Paper, Internship, Minor Project	Publication of research work	Plagiarism Check for Reports (Term Paper, Internship Report, Project Report)	Alumni Survey
PLO 1	✓		✓			
PLO 2	✓	✓	✓			
PLO 3		✓	✓			
PLO 4	✓	✓	✓			
PLO 5		✓	✓			
PLO 6						✓
PLO 7		✓	✓			
PLO 8	✓	✓	✓			
PLO 9		✓	✓			
PLO 10	✓	✓	✓			✓
PLO 11		✓	✓			
PLO 12	✓			✓	✓	✓
PLO 13						✓
PLO 14		✓	✓			
PLO 15	✓	✓	✓	✓		

3. Masters of Architecture (M.ARCH) – Programme 3

3.1. Assessment of Programme Learning Outcomes of Masters of Architecture (M.ARCH)

3.1.2 Programme Learning Outcomes	
Students will be able to	
PLO 1	Recall creative thinking using visual and verbal expression for cognitive learning balancing creative skills and innovation in Architecture profession.
PLO 2	Integrate logical and rigorous approach focusing heavily on decision making process integrating real-life choices through strategic interactions in Architectural collaborations.
PLO 3	Reflect on the importance of environmental sustainability to reduce the energy needs by exploiting local environmental natural resources and ecosystem.
PLO 4	Analyze cultural diversity and attempt to identify the tangible and non tangible cultural dimensions to be safeguarded using key elements of Architecture
PLO 5	Integrate the skills and learnings of data collection, sorting and analysis to reach design solutions
PLO 6	Encourage peer review, participate in research and consultancy as project associate and disseminate knowledge as teaching assistants for bachelor programs in Architecture
PLO 7	Develop abilities of effective leadership qualities, collaborative skills, and team building processes enhancing interaction among the peer groups primarily to be considered for success in Architectural practice.
PLO 8	Critique the scientific enquiry related to Architectural practice, experimentation, observation and data interpretation for effective contribution to any particular group as well as society as a whole.
PLO 9	Design efficient solutions to real-world problems using contemporary ICT tools as tools of learning, addressing the requisite skills of Industry 4.0
PLO 10	Demonstrate professionalism, integrity, and competence as integral qualities to serve the nation, world, and mankind fulfilling his duties as an Architect Interior Designer.
PLO 11	Achieve the goal of increasing self-awareness, self-management, self-motivation, and self-monitoring skills in Architecture and Planning profession, needed for lifelong learnings to be imbibed in future Architects.
PLO 12	Respond to social problems by improving the quality of life of people and by providing employment opportunities, offering facilities and services that support cultural & social structure.
PLO 13	Serve as socially responsible entrepreneurs dedicated to improving the quality of life and supporting the existing cultural & social structure
PLO 14	Empathize with the challenges faced by society and demonstrate effective emotional control while practicing architecture.
PLO 15	Be sensitive to the global sustainable development agenda and contribute to holistic development

1.1.3. Assessment Instruments for Programme Learning Outcomes	Performance Objectives (Targets/Criteria)
1.1.4. Direct Measures:	
Direct Measure 1: Comprehensive Exam 1.2. List of Outcomes assessed by this Measure: i. PLO 1, 5, 9, 11	Objective (Target/Criterion) for Direct Measure 1 100% students shall undertake the Comprehensive examination and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 2: Viva Voce / Jury 2.2 List of Outcomes assessed by this Measure: i. PLO 1, 2, 3, 5, 8, 11, 13, 15	Objective (Target/Criterion) for Direct Measure 2 80% 100% students shall undertake the viva- voce/ jury and 80% shall pass the same in first attempt; secure a grade of 6 & above on a 10 point scale.
Direct Measure 3: Thesis Project 3.1 List of Outcomes assessed by this Measure: i. PLO 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 15	Objective (Target/Criterion) for Direct Measure 3 100% students shall undertake the thesis and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 4: Studio Assignments, Term Paper, Internship, Minor Project 5.1 List of Outcomes assessed by this Measure: i. PLO 6, 7, 9, 12, 13, 14, 15	Objective (Target/Criterion) for Direct Measure 4 100% students shall undertake the In-house Project, Term Paper, Internship, Minor Project and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 5: Business Communication Rubric Scoring 6.2 List of Outcomes assessed by this Measure: PLO 5,6,10,11,14	Objective (Target/Criterion) for Direct Measure 5 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .

Direct Measure 6: Behavioral Science Rubric Scoring 6.2 List of Outcomes assessed by this Measure: i. PLO 4,12, 13, 14	Objective (Target/Criterion) for Direct Measure 6 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
Direct Measure 7: Seminars/Research/Dissertation 7.2. List of Outcomes assessed by this Measure: ii. PLO 5,10,11,12	Objective (Target/Criterion) for Direct Measure 6 100% Students are checked for plagiarism in NTCC report submissions. No report may have plagiarism more than 15%
1.1.5. Indirect Measures:	
Indirect Measure 1: Student Exit Survey 3.1. List of Outcomes assessed by this Measure: i. PLO 6, 10, 11, 13, 14,15	Objective (Target/Criterion) for Direct Measure 1 100% students may have attempt the student exit survey. 80% student's response shall range between 4 and 5 on the Likert scale in student Exit Survey .
Indirect Measure 2: Feedback of Industry Internship Guide 4. 2.1 List of Outcomes assessed by this Measure: i. PLO 9, 10,11 12, 13, 14	Objective (Target/Criterion) for Direct Measure 2 Feedback would be sought from 100% of industry internship guide. The Industry Internship guide rates the students between 4 and 5 on the Likert scale in the feedback.
Indirect Measure 3: Alumni Survey 5. List of Outcomes assessed by this Measure: i. PLO 12, 13, 14	Objective (Target/Criterion) for Direct Measure 3 Feedback would be sought from 100% of alumni. 80% alumni's response shall range between 4-5 on the Likert scale in Alumni Survey

1.1.7 Mapping of Assessment Measures to Intended Student Learning Outcomes

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 1	✓	✓								
PLO 2		✓	✓		✓					
PLO 3		✓	✓							
PLO 4			✓			✓				
PLO 5	✓	✓	✓				✓			
PLO 6				✓				✓		
PLO 7				✓						
PLO 8		✓	✓							
PLO 9	✓		✓	✓					✓	

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 10			✓				✓	✓		
PLO 11	✓	✓	✓		✓		✓	✓		
PLO 12			✓	✓		✓	✓		✓	
PLO 13		✓	✓	✓		✓		✓	✓	✓
PLO 14				✓	✓	✓		✓	✓	✓
PLO 15		✓	✓	✓				✓		

4 Masters of Architecture (MUD) – Programme 4

4.1 Assessment of Programme Learning Outcomes of Master of Urban Design (MUD)

4.1.1 Programme Learning Outcomes	
Students will be able to	
PLO 1	Acquire discipline specific knowledge (factual, conceptual, procedural and meta-cognitive) in urban design and management and imbibe theoretical, analytical, and practical components to develop expertise in the urban design profession.
PLO 2	Assimilate and reconstruct the information gathered by observation, research, experimentation, experience, reasoning, and communication in urban design and management.
PLO 3	Develop the inquisitiveness to explore new concepts on their own and pursue knowledge acquisition as a habit; Use blended learning and self-evaluation as a tool for continuous professional development
PLO 4	Incorporate research-based enquiry as a tool in urban design exploration processes.
PLO 5	Acquire technology based hard skills (software) for graphical communications required for effective representation of design processes and solutions.
PLO 6	Develop the ability to identify and address on site challenges; critically analyse and propose pragmatic solutions.
PLO 7	Acquire technology based hard skills (software) for graphical communications required for effective representation of design processes and solutions.
PLO 8	Develop effective soft skills like interpersonal communication, listening capabilities to present urban design projects.
PLO 9	Demonstrate creative and innovative capabilities to identify, address and develop unique responses to real time site, social, intellectual and professional challenges.
PLO 10	Develop the ability to analyse complex urban development and management problems by breaking it into smaller simple and practical approach, and propose effective solutions based on it.
PLO 11	Be able to collaborate and work with other members as an integral part of a team to achieve common goals in the most effective and efficient manner.
PLO 12	Hone the leadership qualities and capabilities to be able to make independent decisions, take responsibility of a team and lead the way for others.
PLO 13	Exhibit a sensitivity towards the global sustainable development agenda to contribute in holistic development of the society.
PLO 14	Develop the sensitivity and empathy for people from different cultures and backgrounds, address their issues and suggest relevant solutions.
PLO 15	Imbibe professionalism, integrity, and competence as integral qualities while fulfilling their responsibilities as an urban designer.

1.1.3. Assessment Instruments for Programme Learning Outcomes	Performance Objectives (Targets/Criteria)
1.1.4. Direct Measures:	
Direct Measure 1: Comprehensive Exam 1.3. List of Outcomes assessed by this Measure: i. PLO 1, 5, 9, 11	Objective (Target/Criterion) for Direct Measure 1 100% students shall undertake the Comprehensive examination and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 2: Viva Voce / Jury 2.3 List of Outcomes assessed by this Measure: i. PLO 1, 2, 3, 5, 8, 11, 13, 15	Objective (Target/Criterion) for Direct Measure 2 80% 100% students shall undertake the viva- voce/ jury and 80% shall pass the same in first attempt; secure a grade of 6 & above on a 10 point scale.
Direct Measure 3: Thesis Project 3.1 List of Outcomes assessed by this Measure: i. PLO 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 15	Objective (Target/Criterion) for Direct Measure 3 100% students shall undertake the thesis and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 4: Studio Assignments, Term Paper, Internship, Minor Project 6.1 List of Outcomes assessed by this Measure: i. PLO 6, 7, 9, 12, 13, 14, 15	Objective (Target/Criterion) for Direct Measure 4 100% students shall undertake the In-house Project, Term Paper, Internship, Minor Project and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 5: Business Communication Rubric Scoring 6.3 List of Outcomes assessed by this Measure: PLO 5,6,10,11,14	Objective (Target/Criterion) for Direct Measure 5 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .

Direct Measure 6: Behavioral Science Rubric Scoring 6.3 List of Outcomes assessed by this Measure: i. PLO 4,12, 13, 14	Objective (Target/Criterion) for Direct Measure 6 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
Direct Measure 7: Seminars/ Research/Dissertation 7.3. List of Outcomes assessed by this Measure: ii. PLO 5,10,11,12	Objective (Target/Criterion) for Direct Measure 6 100% Students are checked for plagiarism in NTCC report submissions. No report may have plagiarism more than 15%
1.1.5. Indirect Measures:	
Indirect Measure 1: Student Exit Survey 5.1. List of Outcomes assessed by this Measure: i. PLO 6, 10, 11, 13, 14,15	Objective (Target/Criterion) for Direct Measure 1 100% students may have attempt the student exit survey. 80% student's response shall range between 4 and 5 on the Likert scale in student Exit Survey .
Indirect Measure 2: Feedback of Industry Internship Guide 6. 2.1 List of Outcomes assessed by this Measure: i. PLO 9, 10,11 12, 13, 14	Objective (Target/Criterion) for Direct Measure 2 Feedback would be sought from 100% of industry internship guide. The Industry Internship guide rates the students between 4 and 5 on the Likert scale in the feedback.
Indirect Measure 3: Alumni Survey 7. List of Outcomes assessed by this Measure: i. PLO 12, 13, 14	Objective (Target/Criterion) for Direct Measure 3 Feedback would be sought from 100% of alumni. 80% alumni's response shall range between 4-5 on the Likert scale in Alumni Survey

1.1.8 Mapping of Assessment Measures to Intended Student Learning Outcomes

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 1	✓	✓								
PLO 2		✓	✓		✓					
PLO 3		✓	✓							
PLO 4			✓			✓				
PLO 5	✓	✓	✓				✓			
PLO 6				✓				✓		
PLO 7				✓						
PLO 8		✓	✓							
PLO 9	✓		✓	✓					✓	
PLO 10			✓				✓	✓		

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 11	✓	✓	✓		✓		✓	✓		
PLO 12			✓	✓		✓	✓		✓	
PLO 13		✓	✓	✓		✓		✓	✓	✓
PLO 14				✓	✓	✓		✓	✓	✓
PLO 15		✓	✓	✓				✓		

5. Masters of Architecture (M.Plan) – Programme 5

5.1 Assessment of Programme Learning Outcomes of Masters of Architecture (M.Plan)

5.1.1 Programme Learning Outcomes	
Students will be able to	
PLO 1	Understanding the basic structures and functions of urban systems, the philosophy and fundamental principles of the multidimensional aspects and multi-faceted nature of Planning and Management in urban areas.
PLO 2	Acquire, Assimilate and reconstruct the information gathered by observation, experimentation, experience and reasoning
PLO 3	Conduct independent and directed research to gather information related to the problems in Urban Planning and allied fields.
PLO 4	Enabling the students to understand and implement the relevant technical and software skills to meet the industry demands.
PLO 5	Encourage the students to perform general urban and regional analyses to know the major sources of urban and regional data with various methods to acquire it by enhancing analytical problem-solving skills including critical thinking and assessment to develop planning concepts and solutions.
PLO 6	Attain graphical, written and oral skills as an integral part of learning for effective visual and verbal communication
PLO 7	Reflect on receptiveness to the new ideas and knowledge by infusing a sense of scientific research.
PLO 8	Produce works/technical documents of professional quality consistent with the accepted professional standards and ethical responsibilities by working in collaboration with multi-disciplinary/interdisciplinary planning teams.
PLO 9	Developing the overall personality and professional confidence of the student through collaboration with stakeholders to achieve common goals in the most effective and efficient manner.
PLO 10	Sensitivity towards issues and challenges faced by varied socio-economic strata and suggest relevant solutions through stakeholder engagement.
PLO 11	Design efficient solutions to focus the thrust of planning education to the needs and demands of society by the application of professional ethics.
PLO 12	Empathize and develop effective solutions for addressing socio- economic and psychological issues faced by the society at large.
PLO 13	Integrate the performing standard proficiencies in harmony with global practice, making the student market-ready or employable.
PLO 14	To instill the quest for knowledge through continuous engagement in learning processes to grow mentally, socially, emotionally and intellectually
PLO 15	Be sensitive to the global challenges of mass urbanization, application of public policy and aligning with the SDG 2030 for contributing towards holistic urban development.

1.1.3. Assessment Instruments for Programme Learning Outcomes	Performance Objectives (Targets/Criteria)
1.1.4. Direct Measures:	
Direct Measure 1: Comprehensive Exam 1.4. List of Outcomes assessed by this Measure: i. PLO 1, 5, 9, 11	Objective (Target/Criterion) for Direct Measure 1 100% students shall undertake the Comprehensive examination and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 2: Viva Voce / Jury 2.4 List of Outcomes assessed by this Measure: i. PLO 1, 2, 3, 5, 8, 11, 13, 15	Objective (Target/Criterion) for Direct Measure 2 80% 100% students shall undertake the viva- voce/ jury and 80% shall pass the same in first attempt; secure a grade of 6 & above on a 10 point scale.
Direct Measure 3: Thesis Project 3.1 List of Outcomes assessed by this Measure: i. PLO 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 15	Objective (Target/Criterion) for Direct Measure 3 100% students shall undertake the thesis and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 4: Studio Assignments, Term Paper, Internship, Minor Project 7.1 List of Outcomes assessed by this Measure: i. PLO 6, 7, 9, 12, 13, 14, 15	Objective (Target/Criterion) for Direct Measure 4 100% students shall undertake the In-house Project, Term Paper, Internship, Minor Project and 80% shall pass the same in first attempt of cumulative evaluation and secure a grade of 6 & above on a 10 point scale.
Direct Measure 5: Business Communication Rubric Scoring 6.4 List of Outcomes assessed by this Measure: PLO 5,6,10,11,14	Objective (Target/Criterion) for Direct Measure 5 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .

Direct Measure 6: Behavioral Science Rubric Scoring 6.4 List of Outcomes assessed by this Measure: i. PLO 4,12, 13, 14	Objective (Target/Criterion) for Direct Measure 6 100% students shall undertake rubrics assessment and 80% students should secure a grade of 6 & above on a 10 point scale in Rubrics .
Direct Measure 7: Seminars/ Research/Dissertation 7.4. List of Outcomes assessed by this Measure: ii. PLO 5,10,11,12	Objective (Target/Criterion) for Direct Measure 6 100% Students are checked for plagiarism in NTCC report submissions. No report may have plagiarism more than 15%
1.1.5. Indirect Measures:	
Indirect Measure 1: Student Exit Survey 7.1. List of Outcomes assessed by this Measure: i. PLO 6, 10, 11, 13, 14,15	Objective (Target/Criterion) for Direct Measure 1 100% students may have attempt the student exit survey. 80% student's response shall range between 4 and 5 on the Likert scale in student Exit Survey .
Indirect Measure 2: Feedback of Industry Internship Guide 8. 2.1 List of Outcomes assessed by this Measure: i. PLO 9, 10,11 12, 13, 14	Objective (Target/Criterion) for Direct Measure 2 Feedback would be sought from 100% of industry internship guide. The Industry Internship guide rates the students between 4 and 5 on the Likert scale in the feedback.
Indirect Measure 3: Alumni Survey 9. List of Outcomes assessed by this Measure: i. PLO 12, 13, 14	Objective (Target/Criterion) for Direct Measure 3 Feedback would be sought from 100% of alumni. 80% alumni's response shall range between 4-5 on the Likert scale in Alumni Survey

1.1.9 Mapping of Assessment Measures to Intended Student Learning Outcomes

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 1	✓	✓								
PLO 2		✓	✓		✓					
PLO 3		✓	✓							
PLO 4			✓			✓				
PLO 5	✓	✓	✓				✓			
PLO 6				✓				✓		
PLO 7				✓						
PLO 8		✓	✓							
PLO 9	✓		✓	✓					✓	
PLO 10			✓				✓	✓		

Assessment Tools Programme Learning Outcomes	Comprehensive Examination	Viva-voce	Thesis Project	In-house Project, Term Paper, Internship, Minor Project	Business Communication Rubric Scoring	Behavioral Science Rubric Scoring	Seminars/Research/Dissertation	Student Exit Survey	Feedback of Industry Internship Guide	Alumni Survey
PLO 11	✓	✓	✓		✓		✓	✓		
PLO 12			✓	✓		✓	✓		✓	
PLO 13		✓	✓	✓		✓		✓	✓	✓
PLO 14				✓	✓	✓		✓	✓	✓
PLO 15		✓	✓	✓				✓		

2.5 A Framework for linking Program Learning Outcomes and Course Learning Outcomes using Bloom's taxonomy semester-wise:

B.ARCH

Semester-I	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title -1: Architectural Design Studio I (ARCH142)	CLO1	✓	✓	✓		✓	✓		✓		✓		✓		✓	✓
	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓			✓		✓		✓	✓
	CLO4	✓	✓	✓			✓	✓	✓	✓		✓		✓	✓	✓
	CLO5	✓	✓	✓	✓		✓			✓			✓		✓	✓
	CLO6	✓	✓			✓			✓		✓		✓		✓	✓
	CLO7	✓	✓		✓			✓		✓			✓		✓	✓
Course Title -2: Building Construction -I (ARCH143)	CLO1	✓	✓	✓		✓	✓		✓		✓		✓		✓	✓
	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓	✓	✓	✓		✓			✓		✓		✓	✓
Course Title -3: Theory of Structures-I (ARCH144)	CLO1	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓	✓
	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓		✓	✓		✓		✓	✓
Course Title	CLO1	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓	✓

-4: Architectura l Graphics-I (ARCH145)	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓		✓	✓		✓		✓	✓
Course Title -5: History of Architecture -I (ARCH147)	CLO1	✓	✓	✓		✓	✓	✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓		✓	✓	✓	✓		✓	✓			✓	
	CLO3	✓	✓	✓		✓		✓		✓	✓	✓	✓		✓	✓
Course Title -6: Architectura l Model making (ARCH148)	CLO1	✓	✓	✓		✓	✓	✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓		✓	✓	✓	✓		✓	✓			✓	
	CLO3	✓	✓			✓		✓	✓						✓	
	CLO4	✓	✓	✓		✓		✓		✓	✓	✓	✓		✓	✓
Course Title -3: Surveying (ARCH149)	CLO1	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			✓	
	CLO3	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	

Semester-II	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title -1: Architectura l Computer Application - I (ARCH134)	CLO1	✓	✓											✓	✓	
	CLO2	✓	✓											✓	✓	
	CLO3	✓	✓											✓	✓	
	CLO4	✓	✓											✓	✓	
	CLO5	✓	✓											✓	✓	

Course Title: Architectural design studio-II (ARCH150)	CLO1	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO2	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO3	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO4	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO5	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO6	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
Course Title: Building Construction -II (ARCH151)	CLO 1	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO 2	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
	CLO 3	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
Course Title: Theory of Structures-II (ARCH 152)	CLO 1	✓	✓	✓	✓									✓	✓	
	CLO 2	✓	✓	✓	✓									✓	✓	
		✓	✓													
	CLO 3	✓	✓	✓	✓									✓	✓	
Course Title: Architectural Graphics-II (ARCH153)	CLO 1	✓	✓	✓	✓									✓	✓	
		✓	✓	✓	✓									✓	✓	
	CLO 2	✓	✓													
	CLO 3	✓	✓	✓	✓									✓	✓	
Course Title: History of Architecture -II (ARCH154)	CLO 1	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 2	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 3	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Course Title: climate responsive architecture (ARCH 215)	CLO 1		✓	✓	✓		✓				✓		✓	✓	✓	✓
	CLO 2		✓	✓	✓		✓				✓		✓	✓	✓	✓
	CLO 3		✓	✓	✓		✓				✓		✓	✓	✓	✓

Semester-III	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title -1: BUILDING CONSTRUCTION - III	CLO1	✓	✓	✓		✓	✓							✓	✓	
	CLO2	✓				✓		✓			✓	✓				
	CLO3		✓		✓			✓			✓				✓	
	CLO4		✓		✓	✓	✓					✓			✓	✓
Course Title – 2: Theory of Structures- III	CLO1	✓		✓		✓	✓	✓		✓		✓			✓	
	CLO2	✓		✓							✓					
	CLO3			✓		✓				✓		✓			✓	✓
Course Title -3: Architectural Computer Application - II	CLO1	✓	✓	✓		✓	✓	✓		✓			✓	✓	✓	
	CLO2	✓	✓		✓			✓	✓	✓		✓	✓		✓	✓
	CLO3	✓	✓	✓		✓	✓	✓	✓		✓		✓	✓		✓
	CLO4		✓	✓		✓		✓	✓		✓		✓	✓		✓
	CLO5		✓	✓	✓	✓		✓	✓		✓		✓	✓		✓
Course Title -4: Architectural Design Studio III	CLO1	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
	CLO2	✓	✓	✓			✓							✓		
	CLO3					✓		✓			✓	✓			✓	
	CLO4	✓				✓		✓			✓	✓			✓	
Course-5: INTERIOR DESIGN (ARCHITECTURE)	CLO1		✓		✓			✓			✓				✓	
	CLO2				✓	✓	✓					✓				✓
	CLO3			✓		✓		✓		✓				✓		✓
	CLO4			✓		✓		✓		✓				✓		✓
	CLO5			✓		✓		✓		✓				✓		✓
Course-6: INTELLIGENCE	CLO1	✓		✓		✓		✓		✓		✓			✓	
	CLO2		✓			✓		✓	✓					✓	✓	✓

NT BUILDINGS	CLO3	✓		✓		✓				✓		✓				✓
Course-7: FAÇADE DESIGN	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓		✓			✓		✓		✓	✓			✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
	CLO4	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
Course-8: Architectura l Photography	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓		✓			✓		✓		✓	✓			✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
Course-9: SITE PLANNING AND ARCHITEC TURE	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓		✓			✓		✓		✓	✓		✓	✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
Course-10: ENVIRON MENTAL SCIENCE IN ARCHITEC TURE	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓	✓	✓			✓		✓		✓	✓			✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
	CLO4		✓	✓		✓		✓	✓		✓		✓	✓		✓

Semester-IV	Course Learning Outcome	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Architectur al Design Studio-	CLO1	✓	✓	✓						✓		✓		✓	✓	
	CLO2	✓	✓	✓	✓	✓		✓	✓			✓		✓	✓	✓
	CLO3	✓	✓		✓		✓							✓	✓	

IV(UG)	CLO4	✓	✓	✓				✓	✓				✓	✓	✓	✓
Building Construction-IV(UG)	CLO1	✓	✓		✓									✓	✓	✓
	CLO2	✓	✓		✓		✓							✓	✓	
	CLO3	✓		✓					✓					✓	✓	
Theory of Structures-IV(UG)	CLO1	✓	✓						✓					✓	✓	✓
	CLO2	✓	✓						✓					✓	✓	✓
	CLO3	✓	✓						✓						✓	
Architectural Computer Application-III(UG)	CLO1	✓	✓		✓									✓	✓	
	CLO2	✓	✓											✓	✓	
	CLO3	✓	✓											✓	✓	
	CLO4	✓	✓											✓	✓	
	CLO5	✓	✓											✓	✓	
Building Bye - Laws and Codes Practices (UG)	CLO1	✓												✓	✓	
	CLO2	✓												✓	✓	
	CLO3	✓	✓	✓					✓					✓	✓	
	CLO4	✓	✓	✓					✓					✓	✓	
Product Design (UG)	CLO1		✓	✓		✓			✓	✓				✓	✓	✓
	CLO2		✓	✓		✓			✓	✓				✓	✓	✓
	CLO3		✓	✓					✓	✓				✓	✓	
	CLO4		✓	✓					✓	✓				✓	✓	
	CLO5		✓	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓
	CLO6		✓	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓
Human Settlement and Planning (UG)	CLO1		✓	✓		✓			✓	✓				✓	✓	✓
	CLO2	✓	✓	✓						✓		✓		✓	✓	
	CLO3		✓	✓		✓			✓	✓				✓	✓	✓
	CLO4	✓	✓	✓						✓		✓		✓	✓	
Architectural Seminar -	CLO1		✓	✓		✓			✓	✓				✓	✓	✓
	CLO2	✓	✓	✓						✓		✓		✓	✓	

I(UG)	CLO3		✓	✓		✓			✓	✓				✓	✓	✓
	CLO4	✓	✓	✓						✓		✓		✓	✓	
	CLO5		✓	✓		✓			✓	✓				✓	✓	✓

Semester-V	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO1 0	PLO1 1	PLO1 2	PLO1 3	PLO1 4	PLO1 5
Architectural Design Studio-V (ARCH307)	CLO 1	✓	✓	✓					✓		✓		✓	✓	✓	✓
	CLO 2	✓	✓		✓	✓		✓	✓		✓		✓	✓	✓	✓
	CLO 3		✓	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓
	CLO 4	✓		✓	✓	✓		✓	✓	✓	✓		✓	✓		✓
	CLO 5	✓	✓	✓		✓	✓				✓	✓	✓	✓	✓	✓
Building Construction – V (ARCH308)	CLO 1	✓	✓	✓	✓			✓	✓		✓				✓	✓
	CLO 2	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓
	CLO 3	✓	✓	✓	✓	✓		✓	✓			✓		✓	✓	✓
	CLO 4	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
Theory of structure V (ARCH327)	CLO-1	✓	✓	✓	✓				✓					✓	✓	✓
	CLO-2	✓	✓	✓	✓	✓			✓					✓	✓	✓
	CLO-3	✓	✓	✓	✓	✓		✓	✓					✓	✓	✓
Theory of Design – I	CLO 1	✓	✓	✓		✓		✓	✓		✓			✓	✓	✓
	CLO 2	✓	✓	✓		✓		✓	✓		✓			✓	✓	✓
	CLO 3.	✓	✓	✓		✓		✓	✓		✓			✓	✓	✓
	CLO4	✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	✓
Building Services and	CLO 1	✓	✓	✓	✓				✓					✓	✓	✓
	CLO 2	✓	✓	✓	✓	✓		✓	✓					✓	✓	✓

Engineering – I (ARCH317)	CLO 3	✓	✓	✓	✓	✓		✓	✓					✓	✓	✓
Estimation, Costing and Specifications (ARCH328)	CLO-1	✓	✓	✓	✓	✓			✓						✓	
	CLO 2	✓	✓		✓		✓		✓					✓	✓	
	CLO-3	✓	✓	✓		✓			✓					✓	✓	
Inclusive Design processes	CLO-1	✓	✓	✓		✓		✓	✓		✓			✓	✓	
	CLO-2	✓	✓	✓		✓		✓	✓		✓			✓	✓	✓
	CLO -3	✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	✓
Society Culture & Built Environment	CLO-1	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓
	CLO-2	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓
	CLO-3	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓

Semester-VI	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title - Architectural Design Studio-VI	CLO1	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
	CLO2	✓	✓	✓			✓							✓		
	CLO3	✓				✓		✓			✓	✓			✓	
	CLO4	✓	✓			✓		✓	✓		✓	✓		✓	✓	
	CLO5	✓	✓			✓	✓	✓			✓	✓			✓	
Course Title - BUILDING CONSTRUCTION - VI	CLO1	✓	✓		✓									✓	✓	✓
	CLO2	✓	✓		✓	✓			✓					✓	✓	
	CLO3	✓			✓	✓	✓		✓					✓	✓	
	CLO4	✓				✓			✓	✓				✓	✓	✓

Course Title - Theory of Structures-VI	CLO1	✓		✓					✓						✓	
	CLO2	✓		✓					✓						✓	
	CLO3	✓	✓	✓	✓	✓			✓						✓	
Course Title - Building Services and Engineering - IV	CLO1	✓		✓	✓	✓									✓	ü
	CLO2	✓	✓		✓	✓									✓	ü
	CLO3	✓	✓		✓	✓		✓	✓					✓	✓	ü
	CLO4	✓	✓		✓	✓		✓	✓					✓	✓	ü
Course Title - Building Economics and Project Financial Planning	CLO1	✓												✓	✓	
	CLO2	✓										✓		✓	✓	
	CLO3	✓	✓	✓	✓	✓			✓			✓		✓	✓	
Course Title - Theory of Design – II	CLO1	✓		✓		✓					✓				✓	
	CLO2	✓		✓							✓				✓	
	CLO3	✓	✓	✓							✓		✓		✓	
	CLO4	✓	✓	✓	✓	✓			✓		✓				✓	✓
Course Title - Tactical Urbanism	CLO1	✓													✓	✓
	CLO2	✓													✓	✓
	CLO3	✓	✓	✓		✓		✓	✓		✓		✓		✓	✓
Course Title - City and Technology	CLO1	✓			✓						✓			✓	✓	✓
	CLO2	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓	✓

Semester-VII	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title -1: Housing Studio	CLO1	✓	✓	✓			✓							✓		
	CLO2					✓		✓			✓	✓				
	CLO3		✓		✓			✓			✓				✓	
	CLO4				✓	✓	✓					✓				✓
	CLO5			✓		✓		✓		✓				✓		✓
Course Title – 2: BUILDING SERVICES & ENGG-III	CLO1	✓		✓		✓		✓		✓		✓			✓	
	CLO2															
	CLO3			✓		✓				✓		✓				✓
	CLO4	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
Course Title -3: LANDSCAPE ARCHITECTURE	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓		✓			✓		✓		✓	✓			✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
Course Title -4: URBAN & RURAL PLANNING	CLO1	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
	CLO2	✓	✓	✓			✓							✓		
	CLO3					✓		✓			✓	✓				
Course-5: Construction and Project Management	CLO1		✓		✓			✓			✓				✓	
	CLO2				✓	✓	✓					✓				✓
	CLO3			✓		✓		✓		✓				✓		✓

t – I																
Course-6: Sustainable Cities & Communitie s	CLO1	✓		✓		✓		✓		✓		✓			✓	
	CLO2															✓
	CLO3			✓		✓				✓		✓				✓
	CLO4	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
Course-7: Theory of Urban Design	CLO1		✓	✓		✓	✓			✓			✓		✓	
	CLO2		✓		✓			✓		✓		✓	✓			✓
	CLO3		✓	✓		✓		✓	✓		✓		✓	✓		✓
	CLO4	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓		✓
Course-8: Architectur al Research Paradigms	CLO1	✓		✓		✓		✓		✓		✓			✓	
	CLO2															
	CLO3			✓		✓				✓		✓				✓

Semester- VIII	Course Learning outcome s	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO1 0	PLO1 1	PLO1 2	PLO1 3	PLO1 4	PLO1 5
Architectural Professional Training	CLO1	✓	✓					✓			✓			✓	✓	
	CLO2		✓	✓					✓	✓	✓			✓	✓	
	CLO3	✓	✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	
	CLO4	✓	✓				✓			✓	✓			✓	✓	
	CLO5		✓				✓		✓	✓	✓	✓	✓	✓	✓	

Semester-IX	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Course Title 1 : Urban Design Studio (UG)	CLO1	✓		✓		✓		✓	✓		✓		✓	✓	✓	✓
	CLO2	✓		✓		✓		✓			✓		✓	✓	✓	✓
	CLO3	✓		✓		✓		✓	✓		✓		✓	✓	✓	✓
	CLO4	✓		✓		✓		✓	✓		✓		✓	✓	✓	✓
Course Title 2: Advanced Building Technologies – II	CLO1	✓		✓		✓			✓					✓	✓	✓
	CLO2	✓		✓		✓			✓					✓	✓	✓
	CLO3	✓		✓		✓			✓					✓	✓	✓
	CLO4	✓		✓		✓			✓					✓	✓	✓
Course Title 3: Building Information Modelling-II	CLO1	✓							✓					✓	✓	✓
	CLO2	✓							✓					✓	✓	✓
	CLO3	✓							✓					✓	✓	✓
	CLO4	✓							✓					✓	✓	✓
Course Title 4: Theory of Urban Design	CLO1	✓		✓		✓		✓	✓		✓				✓	✓
	CLO2	✓		✓		✓		✓	✓		✓				✓	✓
	CLO3	✓		✓		✓		✓	✓		✓				✓	✓
	CLO4	✓		✓		✓		✓	✓		✓				✓	✓
Course Title 5: Advanced	CLO1	✓		✓		✓			✓					✓	✓	✓
	CLO2	✓		✓		✓			✓					✓	✓	✓

Construction Technologies	CLO3	✓		✓		✓			✓					✓	✓	✓
	CLO4	✓		✓		✓			✓					✓	✓	✓
Course Title 6: Project Planning	CLO1	✓				✓			✓	✓				✓	✓	✓
	CLO2	✓				✓			✓	✓				✓	✓	✓
	CLO3	✓				✓			✓	✓				✓	✓	✓

Semester-X	Course Learning outcomes	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12	GA13	GA14	GA15
		PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Architectural Professional Practice-II (ARCH535)	CLO1	✓		✓			✓		✓		✓			✓	✓	
	CLO2		✓	✓	✓		✓			✓			✓		✓	
	CLO3	✓	✓			✓		✓	✓			✓			✓	
	CLO4	✓	✓		✓		✓		✓	✓			✓		✓	
Digital Architecture (ARCH515)	CLO1	✓		✓		✓		✓		✓		✓		✓		✓
	CLO2		✓	✓		✓	✓	✓		✓	✓		✓		✓	
	CLO3		✓	✓		✓	✓			✓	✓		✓		✓	
Thesis Project in Architecture (ARCH518)	CLO1	✓	✓				✓	✓	✓			✓		✓	✓	
	CLO2		✓	✓	✓		✓	✓			✓				✓	✓
	CLO3	✓	✓	✓		✓		✓		✓		✓	✓		✓	
	CLO4	✓		✓	✓	✓		✓		✓		✓		✓	✓	
	CLO5	✓	✓		✓	✓	✓		✓	✓		✓	✓		✓	✓

Short Film Making (ARCH532)	CLO1		✓		✓		✓	✓		✓		✓	✓	✓		✓
	CLO2	✓			✓			✓		✓	✓		✓	✓		✓
	CLO3	✓	✓		✓	✓		✓	✓		✓		✓	✓	✓	
Hospital Infrastructure Management (ARCH511)	CLO1	✓	✓			✓	✓	✓		✓		✓	✓	✓		
	CLO2	✓	✓	✓		✓	✓		✓			✓		✓	✓	✓
	CLO3		✓	✓	✓	✓		✓	✓		✓	✓	✓	✓		
Hotel Infrastructure Management (ARCH523)	CLO1	✓	✓		✓	✓	✓	✓		✓	✓		✓	✓	✓	
	CLO2	✓		✓	✓	✓		✓			✓		✓	✓	✓	✓
	CLO3		✓	✓	✓		✓	✓		✓		✓	✓	✓	✓	✓

B.PLAN

Semester-I	Course Learning Outcomes	GA1 /PLO1	GA2 /PLO2	GA3 /PLO3	GA4 /PLO4	GA5 /PLO5	GA6 /PLO6	GA7 /PLO7	GA8 /PLO8	GA9 /PLO9	GA10 /PLO10	GA11 /PLO11	GA12 /PLO12	GA13 /PLO13	GA14 /PLO14	GA15 /PLO15
Semester Course Title																
Fundamentals of Urban and Regional Planning (PLAN148)	CLO1	✓		✓		✓			✓	✓				✓	✓	✓
	CLO2	✓		✓		✓		✓	✓	✓	✓	✓		✓	✓	✓
	CLO3	✓		✓		✓		✓	✓	✓	✓			✓	✓	✓
Basic Design (PLAN145)	CLO1	✓		✓	✓		✓	✓			✓	✓	✓	✓		
	CLO2	✓		✓		✓		✓	✓		✓	✓		✓	✓	✓
	CLO3	✓		✓	✓		✓	✓			✓	✓	✓	✓		

Computer Application in Planning- I	CLO1	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO2	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO3	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 4	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 5	✓	✓	✓	✓	✓			✓					✓	✓	
Planning Studio- I (PLAN146)	CLO 1	✓	✓	✓		✓		✓	✓	✓		✓		✓	✓	
	CLO 2	✓	✓	✓		✓		✓	✓		✓			✓	✓	✓
	CLO 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Semester-II																
Semester Course Title	Course Learning Outcomes	GA1 /PLO1	GA2 /PLO2	GA3 /PLO3	GA3 /PLO4	GA3 /PLO5	GA3 /PLO6	GA3 /PLO7	GA3 /PLO8	GA3 /PLO9	GA3 /PLO10	GA3 /PLO11	GA3 /PLO12	GA3 /PLO13	GA3 /PLO14	GA15 /PLO15
Quantitative Techniques in Planning (PLAN153)	CLO 1	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 2	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 3	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning Theories and Techniques-I (PLAN149)	CLO 1	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓
	CLO 2	✓	✓	✓		✓		✓	✓		✓	✓			✓	✓
	CLO 3	✓	✓	✓		✓		✓			✓	✓			✓	✓
Planning Studio – II (PLAN154)	CLO 1	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 2	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 3	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓

	CLO 4	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO 5	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Construction Technology and Materials (PLAN152)	CLO 1	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓	✓
	CLO 2	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓	✓
	CLO 3	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓	✓
Computer Applications in Planning -II	CLO 1	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 2	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 3	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 4	✓	✓	✓	✓	✓			✓					✓	✓	
	CLO 5	✓	✓	✓	✓	✓			✓					✓	✓	
Surveying and Photogrammetry Credit	CLO 1	✓	✓	✓		✓			✓					✓	✓	✓
	CLO 2	✓	✓	✓		✓			✓					✓	✓	✓
	CLO 3	✓	✓	✓		✓			✓					✓	✓	✓

Semester-III																
	Course Learning Outcomes	GA1 /PLO1	GA2 /PLO2	GA3 /PLO3	GA3 /PLO4	GA3 /PLO5	GA3 /PLO6	GA3 /PLO7	GA3 /PLO8	GA3 /PLO9	GA3 /PLO10	GA3 /PLO11	GA3 /PLO12	GA3 /PLO13	GA3 /PLO14	GA15 /PLO15
Planning Theories and Techniques-II (PLAN247)	CLO 1	✓	✓	✓		✓	✓		✓		✓		✓		✓	✓
	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO 3	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓			✓		✓		✓	✓

PLAN248 Socio-economic aspects of Urbanization	CLO1	✓	✓	✓		✓	✓		✓		✓		✓		✓	✓
	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓	✓			✓		✓	✓	✓
	CLO4	✓	✓	✓	✓	✓		✓			✓		✓		✓	✓
PLAN246 Planning Studio – III	CLO1	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓	✓
	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO4	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO5	✓	✓	✓		✓		✓		✓	✓		✓		✓	✓
PLAN211 Settlement Geography	CLO1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓
	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓	✓		✓		✓		✓	✓		✓	✓	✓
	CLO4	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓
PLAN245 Traffic and Transport Planning-I	CLO1	✓	✓	✓		✓	✓	✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	
	CLO3	✓	✓	✓		✓	✓	✓	✓		✓		✓		✓	
	CLO4		✓	✓	✓		✓	✓	✓	✓		✓		✓		✓
	CLO5	✓	✓	✓		✓	✓	✓	✓		✓	✓			✓	

Semester-IV	Course Learning Outcomes	GA1 /PLO1	GA2 /PLO2	GA3 /PLO3	GA3 /PLO4	GA3 /PLO5	GA3 /PLO6	GA3 /PLO7	GA3 /PLO8	GA3 /PLO9	GA3 /PLO10	GA3 /PLO11	GA3 /PLO12	GA3 /PLO13	GA3 /PLO14	GA15 /PLO15
Semester Course Title																
Utilities and	CLO1	✓	✓	✓		✓	✓		✓		✓		✓		✓	✓

Services Planning PLAN224	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓			✓		✓		✓	✓
Planning Studio - IV PLAN249	CLO1	✓	✓			✓	✓		✓		✓		✓		✓	✓
	CLO2	✓	✓	✓		✓			✓			✓		✓	✓	✓
	CLO3	✓	✓			✓		✓	✓			✓		✓	✓	✓
	CLO4	✓						✓			✓		✓		✓	✓
Basics of Ecology, Geology and Hydrology PLAN250	CLO1	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓	✓
	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓		✓		✓		✓	✓		✓		✓	✓
Traffic and Transport Planning-II PLAN251	CLO1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓
	CLO2	✓	✓	✓			✓		✓		✓	✓		✓	✓	✓
	CLO3	✓	✓	✓	✓		✓		✓		✓	✓		✓	✓	✓
	CLO4	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓
	CLO5	✓	✓	✓	✓		✓		✓		✓	✓		✓	✓	✓
Environmental Impact Assessment in Planning PLAN253	CLO1	✓	✓	✓		✓		✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	
	CLO3	✓	✓	✓		✓	✓	✓	✓		✓	✓			✓	
GIS for Planning - I PLAN252	CLO1	✓	✓	✓		✓	✓	✓	✓		✓		✓		✓	
	CLO2	✓	✓	✓		✓	✓	✓	✓		✓	✓			✓	
	CLO3	✓	✓			✓		✓	✓						✓	

Semester-V	Course Learning	GA1/ PLO1	GA2/ PLO2	GA3/ PLO3	GA4/ PLO4	GA5/ PLO5	GA6/ PLO6	GA7/ PLO7	GA8/ PLO8	GA9/ PLO9	GA10/ PLO10	GA11/ PLO11	GA12/ PLO12	GA13/ PLO13	GA14/ PLO14	GA15/ PLO15
------------	-----------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	----------------	----------------	----------------	----------------	----------------	----------------

	Outcome															
Semester Course Title																
Introduction to Urban Design	CLO1	✓		✓		✓			✓				✓	✓		
	CLO2	✓		✓	✓				✓	✓		✓				
	CLO3	✓			✓		✓				✓					✓
	CLO4				✓				✓						✓	
	CLO5	✓	✓				✓		✓							✓
Housing and Community Planning	CLO1	✓	✓	✓			✓								✓	
	CLO2				✓				✓	✓		✓	✓			
	CLO3	✓		✓			✓			✓	✓					
	CLO4			✓	✓					✓				✓		
Urban Renewal and Conservation	CLO1	✓								✓			✓			✓
	CLO2		✓	✓					✓			✓				
	CLO3			✓				✓	✓				✓			
Sustainable Urban Development	CLO1	✓							✓	✓						
	CLO2			✓				✓			✓	✓	✓			
	CLO3	✓			✓						✓	✓				✓
	CLO4		✓		✓	✓					✓					✓

	CLO5		✓		✓	✓					✓					✓
Planning for Special Economic Zone	CLO1	✓		✓				✓				✓				
	CLO2	✓			✓					✓		✓				
	CLO3	✓						✓		✓		✓				
GIS for Planning- II	CLO1	✓			✓	✓					✓					
	CLO2	✓			✓	✓					✓					
	CLO3				✓	✓					✓					
Planning Studio-V	CLO1	✓		✓					✓							✓
	CLO2		✓					✓	✓		✓			✓		✓
	CLO3								✓	✓					✓	✓
	CLO4									✓		✓			✓	✓
	CLO5		✓				✓			✓				✓	✓	✓

Semester-VI	Course Learning Outcomes	GA1/ PLO1	GA2/ PLO2	GA3/ PLO3	GA4/ PLO4	GA5/ PLO5	GA6/ PLO6	GA7/ PLO7	GA8/ PLO8	GA9/ PLO9	GA10/ PLO10	GA11/ PLO11	GA12/ PLO12	GA13/ PLO13	GA14/ PLO14	GA15/ PLO15
Semester Course Title																
Research Methodology in Planning	CLO1	✓		✓			✓									✓
	CLO2	✓	✓						✓							✓
	CLO3		✓	✓			✓				✓					✓

Planning Studio - VI	CLO1	✓		✓				✓		✓					✓	
	CLO2	✓					✓	✓	✓							
	CLO3		✓	✓			✓				✓				✓	✓
	CLO4		✓	✓			✓			✓	✓				✓	
	CLO5			✓						✓	✓			✓		
Planning of Informal Sector	CLO1	✓						✓	✓			✓			✓	✓
	CLO2	✓		✓			✓			✓				✓		
	CLO3				✓					✓	✓					✓
Planning for Special Areas	CLO1			✓	✓				✓			✓	✓			
	CLO2	✓				✓		✓				✓				✓
	CLO3	✓		✓					✓				✓	✓		
Urban and Rural Management	CLO1			✓				✓		✓	✓				✓	✓
	CLO2	✓								✓	✓				✓	
	CLO3				✓										✓	✓
Real Estate Planning and Management	CLO1	✓							✓							
	CLO2		✓			✓						✓				
	CLO3								✓					✓		
Urban Finance and Resource Mobilization	CLO1	✓				✓	✓				✓				✓	
	CLO2	✓		✓		✓			✓				✓			

	CLO3	✓								✓					✓
Application of ICT in Urban Planning	CLO1	✓				✓		✓			✓			✓	
	CLO2					✓				✓				✓	
	CLO3			✓		✓			✓		✓			✓	✓

Semester- VII	Course Learning outcomes	GA1 / PLO1	GA2 / PLO2	GA3 / PLO3	GA4 / PLO4	GA5 / PLO5	GA6 / PLO6	GA7 / PLO7	GA8 / PLO8	GA9 / PLO9	GA10 / PLO10	GA11 / PLO11	GA12 / PLO12	GA13 / PLO13	GA14 / PLO14	GA15 / PLO15
Semester Course Title																
Planning Studio- VII	CLO1	✓	✓		✓	✓			✓		✓					
	CLO2		✓		✓	✓			✓		✓					✓
	CLO3	✓	✓	✓												
	CLO4		✓		✓	✓			✓	✓						
Metropolitan Planning, Development and Management	CLO1	✓	✓						✓							
	CLO2		✓	✓	✓	✓										
	CLO3		✓	✓	✓	✓			✓	✓						
	CLO4		✓	✓		✓			✓	✓						
	CLO5		✓	✓	✓	✓		✓	✓	✓						

Disaster Risk Mitigation and Management	CLO1	✓	✓						✓							
	CLO2		✓		✓	✓			✓							✓
	CLO3		✓		✓				✓	✓	✓					✓
	CLO4				✓				✓	✓	✓					✓
Estimation and valuation of Planning Projects	CLO1	✓	✓			✓										
	CLO2	✓	✓		✓	✓			✓							
	CLO3		✓		✓	✓			✓							
Landscape Planning	CLO1	✓	✓		✓				✓							
	CLO2		✓		✓	✓			✓							
	CLO3				✓	✓			✓	✓						
Planning Legislation and Professional Practice	CLO1	✓	✓							✓						
	CLO2			✓									✓	✓	✓	
	CLO3			✓									✓	✓	✓	
Pre-Thesis Planning Project	CLO1				✓	✓			✓			✓				✓
	CLO2			✓	✓	✓			✓							✓

	CLO3			✓	✓	✓			✓			✓				✓
	CLO4			✓	✓	✓			✓							✓

Semester- VIII	Course Learning outcomes	GA1 / PLO1	GA2 / PLO2	GA3 / PLO3	GA4 / PLO4	GA5 / PLO5	GA6 / PLO6	GA7 / PLO7	GA8 / PLO8	GA9 / PLO9	GA10 / PLO10	GA11 / PLO11	GA12 / PLO12	GA13 / PLO13	GA14 / PLO14	GA15 / PLO15
Semester Course Title																
Planning Thesis Project (APIDPTP100)	CLO1	✓	✓	✓	✓		✓		✓					✓	✓	✓
	CLO2	✓				✓		✓	✓	✓	✓				✓	✓
	CLO3		✓		✓	✓			✓	✓						✓

M.ARCH

Semester-I	Course Learning Outcomes	GA1 / PLO1	GA2 / PLO2	GA3 / PLO3	GA4 / PLO4	GA5 / PLO5	GA6 / PLO6	GA7 / PLO7	GA8 / PLO8	GA9 / PLO9	GA10 / PLO10	GA11 / PLO11	GA12 / PLO12	GA13 / PLO13	GA14 / PLO14	GA15 / PLO15
Semester Course Title																
Course Title - 1 : Advanced	CLO1	✓	✓						✓					✓		

Construction Materials and Technologies Credit Units 3	CLO2			✓	✓		✓							✓		
	CLO3			✓	✓	✓								✓		
Course Title - 2 : Architectural Seminar Credit Units 2	CLO1		✓	✓	✓							✓	✓		✓	✓
	CLO2					✓										
	CLO3									✓						
Course Title - 3 : Artificial Intelligence and Built Environment Credit Units: 03	CLO1									✓						
	CLO2					✓										
	CLO3									✓						
Course Title - 4 : Building Energy Analysis Credit Units: 03	CLO1									✓						
	CLO2					✓										
	CLO3									✓						
Course Title - 5 : Contemporary Theories in Architecture and Design Credit Units: 03	CLO1									✓						
	CLO2					✓										
	CLO3		✓	✓	✓	✓						✓	✓		✓	✓
	CLO4											✓	✓	✓	✓	✓
	CLO5									✓						
Course Title - 6 : Design Studio I	CLO1									✓						
	CLO2					✓			✓							

Credit Units: 07	CLO3									✓				✓	✓	
Course Title - 7: Mega structures: Systems and Technologies Credit Units: 03	CLO1		✓								✓					
	CLO2			✓		✓										
	CLO3					✓	✓	✓	✓	✓						
	CLO4									✓		✓	✓	✓	✓	✓
Course Title - 8 : Project Management Credit Units: 03	CLO1										✓					
	CLO2		✓			✓		✓								
	CLO3									✓						
Course Title - 9 : Space Syntax in Architecture and Design Credit Units: 03	CLO1		✓	✓								✓				
	CLO2		✓			✓		✓	✓		✓					
	CLO3				✓					✓						

Semester-II	Course Learning	GA1 /	GA2 /	GA3 /	GA4 /	GA5 /	GA6/	GA7/	GA8/	GA/9	GA/10	GA/11	GA12	GA13	GA14	GA15 /
	Outcome s	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO1 0	PLO1 1	PLO1 2	PLO1 3	PLO1 4	PLO1 5
Semester Course Title																
Course Title -1 : Application of GIS Credit Units 3	CLO1	✓	✓													
	CLO2			✓	✓		✓									
	CLO3									✓	✓					
Course Title -2 : Architectural Journalism Credit Units 3	CLO1	✓	✓									✓	✓	✓		✓
	CLO2	✓				✓										
	CLO3			✓	✓	✓										
	CLO4									✓	✓					
Course Title -3 : Environmental Legislation Credit Units: 03	CLO1										✓					
	CLO2					✓										
	CLO3									✓						
Course Title -4 : ICT and City Design Credit Units: 03	CLO1										✓					
	CLO2					✓										
	CLO3									✓						

Course Title -5 : Research Methodology in Architecture Credit Units: 03	CLO1										✓					
	CLO2					✓										
	CLO3		✓	✓	✓	✓						✓	✓		✓	✓
Course Title -6 : Design Studio II Credit Units: 08	CLO1										✓					
	CLO2					✓			✓							
	CLO3									✓				✓	✓	
Course Title -7: Urban Morphology Credit Units: 03	CLO1		✓								✓					
	CLO2			✓		✓										
	CLO3					✓	✓	✓	✓	✓						
	CLO4									✓		✓	✓	✓	✓	✓
Course Title -8 : Urban Regeneration and Renewal Credit Units: 03	CLO1										✓					
	CLO2		✓			✓		✓								
	CLO3									✓						
Course Title -9 : Urban Resilience and Disaster Preparedness Credit Units: 03	CLO1		✓	✓								✓				
	CLO2		✓			✓		✓	✓		✓					
	CLO3				✓											
	CLO4				✓					✓						

Semester-III	Course Learning Outcomes	GA1 / PLO 1	GA2 / PLO 2	GA3 / PLO 3	GA4 / PLO 4	GA5 / PLO 5	GA6 / PLO 6	GA7 / PLO 7	GA8 / PLO 8	GA9 / PLO 9	GA10 / PLO 10	GA11 / PLO 11	GA12 / PLO 12	GA13 / PLO 13	GA14 / PLO 14	GA15 / PLO 15
Semester Course Title																
Building Economics and Project Finance COURSE CODE - ARCH 635 Semester Course Title	CLO1	✓		✓		✓	✓		✓	✓						
	CLO2	✓		✓		✓	✓		✓							
	CLO3					✓			✓		✓	✓			✓	✓
COURSE NAME - Building Information Modelling (BIM) COURSE CODE - ARCH757	CLO1	✓	✓		✓			✓			✓	✓		✓	✓	
	CLO2	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	
	CLO3		✓		✓			✓	✓	✓				✓	✓	✓
	CLO4	✓			✓			✓				✓		✓		✓
	CLO5	✓	✓		✓				✓	✓				✓	✓	✓
COURSE NAME - Management of Built Heritage COURSE CODE - ARCH 755	CLO1	✓	✓		✓				✓		✓		✓		✓	✓
	CLO2	✓		✓			✓		✓	✓			✓	✓	✓	
	CLO3	✓	✓	✓	✓					✓		✓	✓		✓	✓

COURSE NAME - Project Cost & Contract Management COURSE CODE - ARCH756	CLO1	✓	✓	✓		✓		✓	✓	✓		✓		✓		
	CLO2	✓	✓		✓	✓	✓	✓	✓			✓	✓			
	CLO3	✓		✓		✓		✓			✓			✓	✓	
COURSE NAME - Sustainable Built Environment COURSE CODE - ARCH640	CLO1	✓	✓			✓		✓	✓		✓	✓		✓		✓
	CLO2	✓	✓	✓	✓	✓		✓			✓			✓	✓	✓
	CLO3	✓	✓	✓		✓			✓	✓		✓	✓		✓	✓

Masters in Urban Design

Semester-I	Course Learning outcomes	Course Competency	G A 1	G A 2	G A 2	G A 3	G A 4	G A 5	G A 6	G A 6	G A 7	G A 8	G A 9	G A 9	G A 10	G A 10	G A 11	G A 11	G A 12	G A 12	G A 13	G A 13	G A 14	G A 15
Semester Course Title			P L O 1	P L O 2	P L O 3	P L O 4	P L O 5	P L O 6	P L O 7	P L O 8	P L O 9	P L O 10	P L O 11	P L O 12	P L O 13	P L O 14	P L O 15	P L O 16	P L O 17	P L O 18	P L O 19	P L O 20	P L O 21	
Course Title -1: Urban Design Studio – I	CLO1	Acquire the skills of survey, documentation, and analysis of human networks and conduct typological studies.	✓		✓							✓	✓											
	CLO2	Demonstrate the ability to engage in a complex area of a metropolis and to analyse the existing fabric and represent this analysis in a clear graphic language at a range of scales.	✓	✓		✓	✓					✓	✓					✓			✓	✓		
	CLO3	Demonstrate skills of modelling of urban form, building mass, typology, sun-shading, topography, hydrology, public/private relations.		✓					✓												✓			
	CLO4	Demonstrate the ability to appreciate and analyse real site conditions in an urban area, assessing needs and programming for design intervention.	✓	✓	✓	✓		✓			✓	✓	✓			✓		✓		✓	✓	✓		
Course Title -2: Urban History and Development Theories	CLO1	Develop understanding of various parameters of urban design	✓		✓							✓			✓				✓					
	CLO2	Understand various components of city building through study of various models	✓		✓							✓			✓				✓					

and Processes	CLO3	Demonstrate the ability to evaluate impact of various movement for city fabric	✓		✓					✓		✓			✓			✓			✓
	CLO4	Demonstrate the ability to analyze, evaluate & propose sustainable models for development	✓		✓					✓		✓			✓				✓		✓
Course Title – 3: Site Planning and Sustainable Design	CLO1	Acquire skills to conduct site surveys	✓		✓							✓	✓								✓
	CLO2	Consider ecological aspects of urban development for sustainable site planning	✓	✓		✓	✓					✓	✓					✓		✓	✓
	CLO3	Analyze ecological and geomorphological characteristics of a site.		✓				✓											✓		✓
	CLO4	Use site analysis information to propose appropriate site planning.	✓	✓	✓	✓		✓			✓	✓	✓			✓		✓	✓	✓	✓
Course Title – 4: Urban Form and Systems	CLO1	Demonstrate understanding the diverse theoretical discourses on Urban Form	✓		✓	✓					✓							✓			✓
	CLO2	Develop an intellectual capacity to understand existing urban forms and their related systems.	✓		✓	✓					✓							✓			✓
	CLO3	Demonstrate the ability to critically analyze the Urban fabric	✓		✓	✓		✓			✓							✓		✓	✓
	CLO4	Acquire skill of evaluating and inferring from case studies to inform their design positions.	✓		✓	✓		✓			✓							✓		✓	✓
Course Title – 5: UD Graphics and Mapping Techniques	CLO1	Demonstrate critical spatial and analytical thinking		✓	✓		✓		✓		✓	✓							✓		
	CLO2	Demonstrate ability to identify suitable data visualizations and representations of multidimensional data.		✓	✓		✓		✓		✓	✓							✓		
	CLO3	Demonstrate skills for appropriate methods of representation and communication of results.		✓	✓		✓		✓		✓	✓							✓		
	CLO4	Demonstrate skills for conducting thematic mapping of aggregated and disaggregated datasets		✓	✓		✓		✓		✓	✓							✓		

	CLO5	Demonstrate competency in extracting and evaluating research evidence from spatial information as a basis for practice implementation		✓	✓		✓		✓		✓	✓							✓			
Course Title – 6: Communities Culture and Cities	CLO1	Recall and understand an anthropological approach to the analysis of local, national, and global urban issues.	✓	✓										✓	✓		✓	✓			✓	
	CLO2	Identify the dynamics of relationship at different level with respect to social, political, and economic sphere.	✓	✓	✓	✓								✓	✓		✓	✓			✓	
	CLO3	Examine the way urban spaces shape identities and communities by examining urbanization and changing city landscapes.	✓	✓	✓	✓								✓	✓		✓	✓			✓	
	CLO4	Demonstrate ability to analyze and assess ways in which the built environment both shapes and is shaped by sociocultural, political, & economic processes.	✓	✓	✓	✓								✓	✓		✓	✓			✓	✓
	CLO5	Demonstrate ability to trace the development of theoretical concepts pertaining to urbanism.	✓	✓	✓	✓								✓	✓		✓	✓			✓	
Course Title – 7: Tactical Urbanism	CLO1	Demonstrate familiarity with tactical urbanism and its benefits	✓	✓	✓					✓					✓		✓		✓			
	CLO2	Demonstrate understanding of how tactical urbanism improves the project development and delivery process	✓	✓	✓					✓					✓		✓		✓		✓	
	CLO3	Analyze how cities can advance policies and programs to enable city-citizen collaboration	✓	✓	✓					✓					✓		✓		✓			✓
	CLO4	Demonstrate skills for evaluating how the tactical approach may benefit your community	✓	✓	✓					✓					✓		✓		✓		✓	✓

Semester -II	Course Learning Outcome s	Course Competency	G A 1	G A 2	G A 2	G A 3	G A 4	G A 5	G A 6	G A 6	G A 7	G A 8	G A 9	G A 9	G A 10	G A 11	G A 11	G A 12	G A 12	G A 13	G A 13	G A 14	G A 15
Semester Course Title			P L O 1	P L O 2	P L O 3	P L O 4	P L O 5	P L O 6	P L O 7	P L O 8	P L O 9	P L O 10	P L O 11	P L O 11	P L O 12	P L O 13	P L O 14	P L O 15	P L O 16	P L O 17	P L O 18	P L O 19	P L O 20
Course Title -1: Urban Design Studio – II	CLO 1	Demonstrate the skills of survey, documentation, and analysis of complex urban areas.	✓	✓	✓					✓			✓		✓								
	CLO 2	Develop in-depth urban spatial thinking.	✓	✓	✓	✓				✓			✓		✓	✓						✓	
	CLO 3	Demonstrate ability to appreciate, understand and analyses real site conditions in an urban area, assessing needs and programming for design intervention.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	
	CLO 4	Reflect critical and creative design thinking in propositions to social housing.	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Course Title -2: Urban Design Methodology and Planning Techniques	CLO 1	Develop critical overview of planning processes and its impact on the development of Indian cities.	✓		✓	✓						✓											
	CLO 2	Apply participatory methods responsibly in specific contexts and derive learnings from the process in developmental programs in the urban sector in his/her professional role as an urban practitioner.	✓		✓	✓						✓											
	CLO 3	Experience how to apply these methods to different urban projects in an academic setting.	✓		✓			✓			✓	✓											
	CLO 4	Demonstrate skills to work in interdisciplinary and multistakeholder contexts.	✓				✓	✓			✓		✓	✓						✓	✓		
Course Title – 3: Integrated Urban Conservation	CLO 1	Demonstrate the ability to address the issues revolving around urban heritage and urban conservation.	✓	✓	✓	✓				✓							✓			✓	✓	✓	
	CLO 2	Critically appraise Urban renewal and conservation for revival and redevelopment of	✓	✓	✓	✓		✓				✓			✓		✓			✓	✓	✓	

tion		brownfield sites and old city cores.																							
	CLO 3	Develop an integrated approach towards urban resilience as a whole.				✓		✓				✓	✓			✓	✓	✓							✓
	CLO 4	Conduct heritage impact and environmental impact assessment.						✓				✓	✓			✓	✓	✓	✓	✓					✓
Course Title – 4: Urban Mobility	CLO 1	Demonstrate acquirement of information on urban mobility and transportation theories, principles, and methodologies.	✓	✓				✓		✓	✓						✓								
	CLO 2	Apply network-planning principles to the development of a multi-modal transport plan.	✓	✓	✓	✓		✓		✓	✓						✓								✓
	CLO 3	Demonstrate ability to evaluate and critically analyse existing public transport operational patterns in Indian and international contexts.	✓	✓	✓	✓		✓	✓	✓	✓						✓			✓					
	CLO 4	Define the necessary components of sustainable transport and be able to apply these to specific cases.	✓								✓	✓					✓			✓					✓
Course Title – 5: Research Methods	CLO 1	Understand and apply essential principles of both qualitative and quantitative methods and identify the context for their appropriate use.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓					
	CLO 2	Demonstrate skills of data collection and analysis and identify appropriate data collection and analysis tools and methods.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓					
	CLO 3	Demonstrate ability to structure research – establish need of study, define the scope, formulate hypothesis or research question, structure objectives and methodology.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓					
	CLO 4	Demonstrate skills of research writing.	✓	✓	✓	✓		✓	✓		✓	✓			✓		✓			✓					
Course Title – 6: Accessibility & Inclusive Cities	CLO 1	Reflect on human diversity and recognize differences in user needs; Identify unmet digital needs and the design barriers that cause them.	✓	✓				✓				✓			✓	✓							✓	✓	
	CLO 2	Demonstrate use of inclusive design to modify design processes for including hitherto excluded users.	✓	✓				✓				✓	✓			✓	✓			✓			✓	✓	
	CLO 3	Combine design knowledge and skills with the inclusive design approach to identify and articulate	✓	✓		✓		✓				✓	✓			✓		✓		✓			✓	✓	

		how digital design barriers could be solved creatively.																					
	CLO 4	Demonstrate the ability to collaboratively create a design to meet identified user needs.	✓	✓		✓		✓			✓	✓	✓		✓		✓			✓		✓	✓
Course Title – 7: Smart Urbanism and Urban Renewal Programs	CLO 1	Critically analyse the emerging urban theories, trends and their implications.	✓			✓		✓				✓		✓	✓			✓					✓
	CLO 2	Address the contemporary concerns in the construct of cities.	✓			✓		✓				✓		✓	✓			✓					✓
	CLO 3	Demonstrate ability work in future urban scenarios based on prevailing urban trends.	✓			✓		✓					✓		✓	✓			✓				✓
Course Title – 8: Urban Segregation	CLO 1	Develop an understanding of distribution of urban spaces based on social factors of communities.	✓		✓	✓		✓				✓			✓	✓		✓	✓		✓	✓	
	CLO 2	Reflect deeper understanding of main drivers of urban inequality and socio-economic segregation.	✓		✓	✓		✓				✓			✓	✓		✓	✓			✓	
	CLO 3	Demonstrate critical viewpoint for city planning form the perspective of urban social structures.	✓		✓	✓		✓				✓			✓	✓		✓	✓			✓	
	CLO 4	Demonstrate the use tools to analyze fragmentation of urban form based on social factors.	✓		✓	✓		✓					✓			✓	✓		✓	✓			✓

Semester -III	Course Learning outcomes	Course Competency	G A 1	G A 2	G A 2	G A 3	G A 4	G A 5	G A 6	G A 6	G A 7	G A 8	G A 9	G A 9	G A 10	G A 10	G A 11	G A 11	G A 12	G A 12	G A 13	G A 13	G A 14	G A 14
Semester Course Title			P L O 1	P L O 2	P L O 3	P L O 4	P L O 5	P L O 6	P L O 7	P L O 8	P L O 9	P L O 10	P L O 11	P L O 12	P L O 13	P L O 14	P L O 15	P L O 16	P L O 17	P L O 18	P L O 19	P L O 20	P L O 21	
Course Title -1:	CLO1	Demonstrate enhanced the skills of survey, documentation, and analysis of urban areas.	✓	✓	✓					✓			✓			✓								

Urban Design Studio – III	CLO2	Develop systemic understanding of city through spatial analysis of multiple factors and network needs.	✓	✓	✓	✓				✓			✓		✓	✓					✓	
	CLO3	Demonstrate ability to conceive and develop program details for urban design projects of green-field sites in real urban conditions.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	
	CLO4	Develop the understanding of client dynamics as well as tangible deliverables.	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Course Title -2: Indian Urbanism: Reimagining Cities	CLO1	Demonstrate understanding of diverse traditional literary discourses on cities.	✓		✓	✓		✓				✓			✓	✓		✓	✓		✓	
	CLO2	Exposure to a wide range of imaginaries and representations of the city	✓		✓	✓		✓				✓			✓	✓		✓	✓		✓	
	CLO3	Develop critical appraisal for urban patterns and city formations	✓		✓	✓		✓				✓			✓	✓		✓	✓		✓	
	CLO4	Develop deeper understanding of city context.	✓		✓	✓		✓				✓			✓	✓		✓	✓		✓	
Course Title – 3: Risk Assessment, Vulnerability and Feasibility Studies	CLO1	Prepare feasibility report timelines with resources required and foretell the repercussion of current project decisions on the future of the project.	✓	✓		✓	✓	✓			✓	✓	✓				✓		✓			✓
	CLO2	Prepare detail Project Reports to understand the Perform Risk, Market, Technical, Financial and Economic analysis and appraisals	✓	✓		✓	✓	✓			✓	✓	✓				✓		✓			✓
	CLO3	Decide on suitability of contracts to monitor and evaluate for different types of projects	✓	✓		✓		✓				✓							✓			
Course Title – 4: Urban Infrastructure Planning & Manage	CLO1	Learn basic of infrastructure planning and management with emphasis on urban utilities and services.	✓	✓				✓		✓	✓					✓						
	CLO2	Identify the problems and issues related to infrastructure provision in a settlement and appraise planning guidelines to tackle these problems, and extent of infrastructure required for the future planning of	✓	✓	✓	✓		✓	✓	✓	✓					✓			✓			✓

ment		settlements.																					
	CLO3	Demonstrate understanding of services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	✓	✓	✓	✓		✓	✓	✓	✓						✓			✓			✓
	CLO4	Comprehend Innovative Techniques required for provision of Water Supply, Wastewater Treatment, Storm Water Management, Sanitation and Solid Waste Management, etc.	✓	✓	✓	✓		✓		✓	✓						✓						✓
	CLO5	Design and make recommendations for meeting the future needs infrastructure for a human settlement	✓	✓	✓	✓		✓		✓	✓						✓						✓
Course Title – 5: Urban Governance and Public Policy	CLO1	Demonstrate skills to address the importance of legislation and institutions in urban management and governance	✓	✓		✓		✓				✓		✓	✓		✓		✓	✓	✓		✓
	CLO2	Comprehend how the principles and models of urban management and governance shall be applied to the practical situations facing urban policy makers.	✓	✓		✓		✓				✓		✓	✓		✓		✓	✓	✓		
	CLO3	Assess the role of public administration, local politics and citizen participation.	✓	✓		✓		✓				✓		✓	✓		✓			✓	✓		
Course Title – 6: Seminar: Research Presentation	CLO1	Develop the capacity for independent, analytical and critical thought and reflection.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓			
	CLO2	Demonstrate the ability structure a study and presentation clearly and concisely.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓			
	CLO3	Demonstrate skills of research presentation.		✓	✓	✓		✓	✓		✓	✓			✓		✓			✓			
Course Title – 7: Urban Land Management and Forecasti	CLO1	Develop an understanding of current real estate scenario in markets, off housing market, laws and policies to real estate markets.	✓	✓		✓					✓	✓		✓			✓			✓	✓	✓	
	CLO2	Demonstrate understanding of trends in real estate.	✓	✓		✓		✓			✓	✓		✓			✓			✓	✓	✓	
	CLO3	Learn Laws related to real estate development and housing markets.	✓	✓		✓		✓			✓	✓		✓			✓			✓	✓		✓

ng																									
Course Title – 8: Urban Development Policy Research	CLO1	Understand and distinguish different approaches of policy making.	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓		
	CLO2	Critically analyse the influence of different factors on policy and vice- versa.	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓		
	CLO3	Evaluate national and international urban development policies.	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓		
Course Title – 9: Urban Energy Modelling	CLO1	Demonstrate skills in understanding the various dimensions of climate change and how to address them in the regional planning process by undergoing this course	✓		✓		✓		✓			✓							✓						
	CLO2	Learn tools and technique to analyze energy consumption pattern and understand the scope of energy conservation in urban area	✓		✓		✓		✓			✓							✓						
	CLO3	Learn actual context of energy in urban area through case studies and existing guidelines and standards for energy planning.	✓		✓		✓		✓			✓							✓				✓		
	CLO4	Demonstrate application of the knowledge in urban energy planning of existing and proposed cities	✓		✓		✓		✓			✓							✓				✓		

Semester-IV	Course Learning outcomes	Course Competency	G A 1	G A 2	G A 2	G A 3	G A 4	G A 5	G A 6	G A 6	G A 7	G A 8	G A 9	G A 9	G A 10	G A 10	G A 11	G A 11	G A 12	G A 12	G A 13	G A 13	G A 14	G A 14
Semester Course Title			P L O 1	P L O 2	P L O 3	P L O 4	P L O 5	P L O 6	P L O 7	P L O 8	P L O 9	P L O 10	P L O 11	P L O 12	P L O 13	P L O 14	P L O 15	P L O 16	P L O 17	P L O 18	P L O 19	P L O 20	P L O 21	P L O 22
Course	CLO1	Demonstrate cumulative learning of theoretical	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Title -1: Urban Design Thesis		pursuits and design techniques																						
	CLO2	Develop capacity to make contribution to the existing body of knowledge in urban design theory and practice.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO3	Demonstrate critical appraisal of own proposal for addressing the chosen urban issue and an understanding of design as a form of research enquiry.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alternate Research Thesis	CLO1	Apply cumulative learning of theoretical pursuits and research techniques at an advanced level, generating research project addressing complex urban issues.	✓	✓	✓		✓	✓		✓	✓			✓		✓			✓					
	CLO2	Carry out self-directed exploration of a specific urban issue: Research on topic defined by student.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CLO3	Produce an ordered, critical exposition of knowledge gained through the student's own efforts, demonstrating a sound understanding of selected topic.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Course Title -2: Application of Research Methods and Tools	CLO1	Develop the capacity for independent, analytical and critical thought and reflection.	✓	✓	✓		✓	✓		✓	✓			✓		✓			✓	✓		✓		
	CLO2	Demonstrate ability to develop the capacity for independent, analytical and critical thought and reflection.	✓	✓	✓		✓	✓		✓	✓			✓		✓			✓	✓		✓		
	CLO3	Acquire skills of advanced academic writing skills.	✓	✓	✓		✓	✓		✓	✓			✓		✓			✓	✓		✓		
Course Title – 3: Urban Economic Planning	CLO1	Demonstrate creative and theoretically derived perspectives to evaluate and guide policy thinking in support of productive, sustainable and inclusive urban economic development.	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓	
	CLO2	Critically examine theoretical foundations of urbanization and economic development, drawing on past experiences in managing city economies	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓	
	CLO3	Analyse urban economic activity and the application of economic criteria for urban	✓	✓	✓	✓		✓				✓		✓	✓		✓		✓	✓	✓		✓	

Urban Waste Management		analyze and assess the health and environmental impact of waste management																						
	CLO2	Propose measures to reduce, recycle and reuse the waste generated	✓	✓	✓	✓		✓				✓	✓						✓				✓	
	CLO3	Propose landfill management and restoration models	✓	✓	✓	✓		✓				✓	✓						✓				✓	
	CLO4	Reflect understanding of the latest digital technologies available in Solid Urban Waste Management	✓	✓	✓	✓		✓				✓							✓				✓	

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Semester-I	Course Learning Outcomes	Course Competency	GA1 :	GA2 :	GA3 :	GA4 :	GA5 :	GA6 :	GA7 :	GA8 :	GA9 :	GA10 :	GA11 :	GA12 :	GA13 :	GA14 :	GA15 :
			PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Semester Course Title																	

Course Title - Urban Planning Studio I Course Code:	CLO1:	1.Students will be able to describe and outline the concepts and principles of sustainable site and neighborhood level planning.	✓		✓						✓				✓	✓
	CLO2:	2.Students will demonstrate the process of reading and analyzing an area/site from a planner's perspective.	✓	✓		✓	✓		✓	✓	✓		✓		✓	✓
	CLO3:	3. Student will develop data collection skills for conducting field surveys for the purposes of plan preparation.	✓	✓	✓	✓	✓			✓				✓	✓	

CLO4:	4.Students will build and enhance their graphics, and sketching techniques which are appropriate for plan preparation, including an introduction to the use of computer applications for data visualization and presentation.	✓	✓		✓	✓		✓	✓					✓	✓	
CLO5:	5.Students will develop sensitivity to group dynamics, teamwork, and community planning exercise.		✓	✓		✓	✓	✓		✓		✓	✓	✓		

Course Title - Planning Concepts and Techniques Course Code:	CLO1:	1. Students will be able to recall, write and present abstract planning concepts clearly and concisely.	✓	✓	✓		✓		✓						✓	✓	
	CLO2:	2. Students will be able to demonstrate appreciation and knowledge of histories and theories of urban planning.	✓	✓	✓							✓		✓		✓	
	CLO3:	3. Students will be able to read, create and present spatial and non-spatial information using base maps and land use maps.	✓			✓	✓		✓						✓		
	CLO4:	4. Students will be able to demonstrate their understanding about different methods for		✓	✓		✓	✓		✓					✓		

		data collection frequently used in urban planning.															
	CLO5:	5. Students will be able to understand and explain different data analysis techniques, demographic projections, and land suitability analysis for understanding the existing situation in a settlement.	✓	✓	✓		✓			✓					✓	✓	

Course Title -Demography and Socio- Economic Planning Course Code:	CLO1:	1. Students will be able to understand and explain various sociological processes which relate to urban and regional planning.	✓		✓			✓						✓		✓	✓
	CLO2:	2. Students will develop knowledge of key economic concepts and their application for macro-level and micro-level planning.	✓	✓	✓						✓	✓		✓	✓	✓	

CLO3:	3. Students will be able to appraise the working of real estate markets.	✓		✓		✓	✓	✓						✓		
CLO4:	4. Students will be able to apply techniques for quantitative analysis in socio-economic planning of settlements.	✓	✓	✓		✓		✓		✓			✓		✓	
CLO5:	5. Students will discover various aspects of rehabilitation and resettlement policies and planning.	✓		✓			✓				✓		✓			

Course Title - Housing Policy and Community Planning Course Code:	CLO1:	1. Students will be able to define and interpret the nature of housing problem in India.	✓	✓	✓							✓		✓		✓	
	CLO2:	2. Students will be able to examine the housing policy and programmes in India.	✓	✓	✓		✓			✓				✓	✓	✓	✓

	CLO3:	3. Students will understand and apply different design standards, mechanisms, and development alternatives of housing for existing and new communities.	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓
	CLO4:	4. Students will be able to appraise different financial and legal frameworks for providing housing.	✓		✓		✓		✓	✓	✓		✓		✓	✓	✓
	CLO5:	5. Students will be able to compute and estimate housing shortage, obsolesce factor and congestion factor.	✓	✓		✓	✓		✓	✓					✓	✓	

Course Title -Urban Ecology and Geomorphology Course Code:	CLO1:	1. Students will be able to recall and understand basic ecological concepts and terminologies which are relevant in planning.	✓	✓	✓							✓				✓	✓
	CLO2:	2. Students will be able to appraise the environment parameters for consideration while planning.	✓				✓	✓	✓	✓			✓			✓	✓

	CLO3:	3. Students will develop their knowledge about recent trends and concept in environmental sustainability.	✓	✓	✓		✓					✓			✓		✓
	CLO4:	4. Students will be able to analyze and appraise the geomorphological parameters for consideration while planning.	✓	✓			✓			✓					✓	✓	✓

	CLO5:	5. Students will be able to apply remote sensing and G.I.S to assimilate and present data for further analysis.	✓	✓		✓		✓		✓		✓			✓	✓	✓
Course Title - Computer Applications in Urban Planning Course Code:	CLO1:	1. The student will be able to recall and understand utility of software like MS Office, AutoCAD, Sketchup pertaining to documentation and presentation in urban planning.	✓		✓	✓	✓								✓	✓	

CLO2:	2. The student will be able to classify the usage of different software and techniques for specific objectives in spatial planning.	✓	✓		✓			✓						✓	✓	
CLO3:	3. The student will be able to demonstrate progress in using basic software through simple exercises in data representation.	✓	✓		✓	✓		✓	✓					✓	✓	
CLO4:	4. Student will be able to sub-divide tasks to be carried out using appropriate method for efficient and timely production of usable and presentable data and designs.	✓	✓		✓		✓			✓				✓		

	CLO5:	5. Student will be able to create presentation and technical drawings, reports, and/or seminar.		✓		✓	✓		✓	✓					✓	✓	
Course Title -Remote Sensing and GIS in Planning Course Code:	CLO1:	1. Students will understand and recall application of urban information systems in planning and relevant government initiatives.	✓	✓		✓	✓								✓	✓	
	CLO2:	2. Students will be able to develop understanding of GIS, RS and GPS applications	✓	✓	✓	✓	✓	✓			✓				✓	✓	

CLO3:	3. Students will be able to apply concepts of data types, accuracy of GPS observation, post processing of data and preparation of layers.	✓	✓		✓				✓					✓	✓	
CLO4:	4. Students will be able to examine and recommend techniques to produce maps and generate analysis of urban data in planning.	✓			✓		✓		✓					✓	✓	
CLO5:	5. Students will develop skills in spatial analysis, database design, spatial data integration, data rectification and projection, data management, modeling, and data	✓	✓		✓				✓					✓	✓	

		presentation (commonly referred to as mapping).															
Course Title -Culture, Communities and Cities Course Code:	CLO1:	1. Students will be able to recall and understand an anthropological approach to the analysis of local, national, and global urban issues.	✓		✓		✓					✓		✓		✓	
	CLO2:	2. Student will be able to identify the dynamics of relationship at different level with respect to social, political, and economic sphere.	✓				✓		✓			✓		✓	✓	✓	

	CLO3:	3. Students will be able to examine the way urban spaces shape identities and communities by examining urbanization and changing city landscapes.		✓	✓		✓	✓		✓		✓		✓	✓		
	CLO4:	4. Students will be able to analyze and assess ways in which the built environment both shapes and is shaped by sociocultural, political, & economic processes.	✓		✓						✓	✓		✓	✓	✓	

	CLO5:	5. Students will be able to trace the development of theoretical concepts pertaining to urbanism.	✓		✓							✓		✓		✓	✓
Course Title -Urban Poverty and Informal Settlements Course Code:	CLO1:	1. Students will be able to understand and relate to the various dimensions of urban poverty.	✓	✓	✓							✓	✓	✓		✓	
	CLO2:	2. Students will be able to address issues of urban poverty in the planning process.	✓				✓				✓		✓	✓	✓	✓	

CLO3:	3. Students will be able to assess the condition of informal housing and settlements from different perspectives.	✓	✓	✓					✓		✓		✓		✓	
CLO4:	4. Students will be able to appraise about different programmes and policies at international and national level.	✓				✓		✓				✓	✓	✓	✓	✓
CLO5:	5. Students will be able to identify indicators of urban poverty, their data sources and analysis methods.			✓		✓			✓			✓		✓	✓	

Course Title -Urban Landscape Development Course Code:	CLO1:	1. Students will be able to understand and outline chronology of landscape design and planning.	✓	✓	✓		✓		✓		✓	✓	✓		✓		✓
	CLO2:	2. Students will be able to appraise regulations, legal aspects, policies and programmes for sustainable landscape and site planning.	✓		✓		✓		✓		✓				✓	✓	✓
	CLO3:	3. Students will be able to assess and apply techniques in landscape planning.	✓	✓			✓	✓	✓		✓		✓		✓		✓
	CLO4:	4. Students will develop knowledge of computer skills to assimilate and present data for analysis.	✓	✓		✓				✓	✓				✓	✓	

	CLO5:	5. Students will be able to elaborate the concepts developed in landscape urbanism.	✓	✓			✓	✓	✓						✓	✓	✓
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Semester-II	Course Learning Outcomes	Course Competency	GA1 :	GA2 :	GA3 :	GA4 :	GA5 :	GA6 :	GA7 :	GA8 :	GA9 :	GA10:	GA11:	GA12:	GA13:	GA14:	GA15:
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Semester Course Title																	

Course Title - Urban Planning Studio II Course Code:	CLO1:	1. The student will be able to analyse the existing policies and planning literature on urban development plans and would be able to identify the stakeholders and responsible authorities	✓	✓			✓	✓		✓	✓	✓		✓		✓		✓	✓		✓	
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CLO2:	2. The student will be able to demonstrate the organization of data with respect to primary data and secondary data and will be able to analyze the synthesis of data and information collected on various aspects and create the checklist for conducting surveys and field survey formats for conducting primary surveys.	✓	✓	✓	✓	✓	✓			✓					✓	✓	
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		3. The student will be able to understand and reframe the policies, plan and design different future scenarios, priorities of development, to produce spatial policies and to make planning proposals along with land use plan for an urban area.		✓	✓		✓	✓	✓		✓		✓	✓	✓		
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Course Title - Participatory and Inclusive Planning Course Code:	CLO1:	1. To develop a critical understanding of public participation with regard to policy contexts, practical questions and issues of exclusion	✓		✓		✓	✓			✓	✓		✓	✓		
	CLO2:	2. To gain familiarity with a broad range of participatory methods and understanding of suitable applications	✓	✓			✓		✓	✓	✓	✓	✓	✓		✓	

	CLO3:	3. To develop knowledge and skills to design, organize and implement a robust and inclusive participation processes		✓			✓	✓	✓		✓		✓	✓	✓	✓	
	CLO4:	4. To understand qualitative data analysis in order to make valid conclusions about community preferences from a community engagement process.	✓	✓		✓	✓		✓	✓					✓		

	CLO5:	5. To clarify objectives for increasing and deepening cultural and social diversity in its many dimensions within community engagement efforts.	✓	✓				✓	✓		✓		✓	✓		✓	
Course Title - Infrastructure Planning and Management Course	CLO1:	1. The student will be able to learn basic physical planning with emphasis on urban utilities and services.	✓		✓		✓			✓		✓					✓

Code:	CLO2: 2. The student will be able to identify the problems and issues related to infrastructure provision in a settlement and appraise planning guidelines to tackle these problems, and extent of infrastructure required for the future planning of settlements.	✓	✓			✓				✓	✓			✓	✓	✓	
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	CLO3:	3. The student will be able to understand services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	✓		✓		✓		✓							✓	✓
	CLO4:	4. The students shall be able to comprehend Innovative Techniques required for provision of Water Supply, Waste Water Treatment, Storm Water Management, Sanitation and Solid Waste	✓	✓		✓	✓		✓							✓	✓

		Management, etc.															
	CLO5:	5. To design and make recommendations for meeting the future needs infrastructure for a human settlement		✓		✓	✓		✓	✓				✓		✓	
Course Title - Urban Transport Systems Course Code:	CLO1:	1. The student will be able to understand the basics of transportation planning, transportation system, road hierarchy and geometry,	✓		✓	✓	✓		✓		✓			✓	✓	✓	

	concepts of road capacity and level of traffic surveys and services provided by the networks.															
CLO2:	2. The student will be able to familiarize about various types of Urban Forms – Structure patterns and its impact on transport system development.	✓	✓	✓	✓			✓				✓		✓	✓	
CLO3:	3. The student will be able to conduct field surveys, examine and analyse data and information collected through various field	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓

	surveys, perform analysis.															
CLO4:	4. The student will able to reframe the knowledge of various land uses and traffic management measures.		✓		✓	✓		✓	✓					✓		✓
CLO5:	5. The student will be able to relate the knowledge of transportation planning and environment for an efficient traffic and transportation structure in a city.	✓			✓	✓		✓	✓	✓			✓	✓	✓	✓

Course Title - Advanced GIS for Planning Course Code:	CLO1:	1. The student will gain basic knowledge about advanced concepts in GIS and Digital Image Processing	✓	✓		✓	✓								✓	✓	
	CLO2:	2. The student will get familiarized with the techniques of GIS and digital image processing for further application in Spatial Planning Applications	✓	✓	✓	✓	✓	✓		✓					✓	✓	
	CLO3:	3. The student will be able to demonstrate knowledge of the use basic GIS and its application as a modeling	✓	✓		✓				✓					✓	✓	

	tool															
CLO4:	4. The student will gain understanding of urban information systems in planning and relevant government initiatives.	✓			✓		✓		✓					✓	✓	
CLO5:	5. The student will be able to produce maps and generate analysis of planning issues with the use of GIS and remote sensing.	✓	✓		✓				✓					✓	✓	

Course Title - Research Methods in Planning Course Code:	CLO1:	1. The student will be able to identify basic processes and techniques for research and developing an argument		✓	✓		✓		✓					✓	✓		
	CLO2:	2. The student will be able to choose a topic of interest having relevance to planning profession, integrate and apply the learnt research process	✓	✓	✓		✓	✓	✓			✓			✓	✓	

CLO3:	3.The student will be able to develop general ideas about the selection of their topics for thesis projects.	✓	✓	✓		✓	✓		✓				✓		✓	
CLO4:	4. To develop capabilities for framing research questions, structure of research, research strategy.	✓		✓	✓	✓	✓							✓	✓	
CLO5:	5. To demonstrate abilities for critical analysis of the existing literature on related research topics.	✓	✓	✓		✓		✓	✓		✓			✓	✓	

Course Title - Urban Conservati on and Regenerati on Course Code:	CLO1:	1. The students will be able to understand the importance of heritage for the city and its role in supporting city development	✓		✓		✓					✓		✓		✓	✓
	CLO2:	2. The student will be able to apply the knowledge of principles of conservation for an urban setting.	✓				✓		✓			✓		✓	✓	✓	✓
	CLO3:	3. The student will be able to demonstrate basic techniques of urban regeneration and conservation.		✓	✓		✓	✓		✓		✓		✓	✓		✓

	CLO4:	4. The student will be able to comprehend the legislations for urban conservation and regeneration	✓		✓						✓	✓		✓	✓	✓	✓
Course Title - Urban and Systems Course Code:	CLO1:	1. Developing an understanding of diverse theoretical discourses on Urban Form	✓	✓	✓							✓	✓	✓		✓	

	CLO2:	2. Develop an intellectual capacity to understand existing urban forms and their related systems.	✓				✓			✓		✓	✓	✓	✓	
	CLO3:	3. Develop ability to critically analyze the Urban fabric	✓	✓	✓				✓		✓		✓		✓	

	CLO4:	4. Developing an important skill of evaluating and inferring from case studies to inform their design positions.	✓				✓		✓				✓	✓	✓	✓	✓
Course Title - Affordable and Cost-Effective Housing Course Code:	CLO1:	1. The student will be able to analyze and structure the broad aspects of affordable housing with respect to financial concept and significance.	✓	✓	✓							✓		✓		✓	

CLO2:	2. The student will be able to relate and determine the housing typologies, standards and regulations for different physical and climatic zones.	✓	✓	✓		✓			✓				✓	✓	✓	✓
CLO3:	3. The student will be able to design appropriate affordable architectural projects.	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓
CLO4:	4. The student will be able to evaluate and examine the role of different housing institutions and stakeholders with respect to the affordable	✓		✓		✓			✓	✓	✓		✓		✓	✓

	housing.																
	CLO5: 5. The student will be able to comprehend the need and requirement of using low cost building materials and construction techniques in affordable housing projects.	✓	✓		✓	✓		✓	✓						✓	✓	

Semester-III	Course Learning	Course Competency	GA1 / PLO	GA2 / PLO	GA3 / PLO	GA4 / PLO	GA5 / PLO	GA6 / PLO	GA7 / PLO	GA8 / PLO	GA9 / PLO	GA10 / PLO	GA11 / PLO	GA12 / PLO	GA13 / PLO	GA14 / PLO	GA15 / PLO
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	outcomes		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Semester Course Title																	
Course Title-1: Urban Planning Studio- III	CLO1	The students shall be to obtained the skills in understanding the various levels of planning, planning institutions, sources of information for regional planning.	✓	✓	✓	✓	✓			✓	✓	✓				✓	
	CLO2	The student will able to identify the stake holders and responsible authorities.	✓	✓	✓		✓			✓		✓				✓	✓

	CLO3	The student will able to demonstrate the organization of data with respect to primary data and secondary data.	✓	✓	✓				✓					✓	✓	
	CLO4	The student will able to analyze the synthesis of data and information collected on various aspects.		✓		✓	✓		✓	✓					✓	
	CLO5	The student will able to create the checklist for conducting surveys and field survey formats for conducting primary surveys.		✓	✓	✓	✓		✓	✓				✓	✓	

	CLO6	The student will be able to evaluate and reframe the policies and proposals as recommended in URDPFI guidelines.	✓			✓	✓		✓	✓	✓				✓	✓	✓
Course Title-2: Impact Assessment for Planning Projects	CLO1	The student will be able to demonstrate knowledge of the environmental impact assessments at various levels.	✓	✓											✓	✓	✓
	CLO2	The student will be able to understand the detailed Site Investigation and Evaluation, Environmental		✓	✓		✓								✓	✓	✓

	Manageme nt.															
CLO3	The students will be able to articulate and analyze the application of EIA & role of PPP through case studies.	✓	✓	✓		✓								✓	✓	✓
CLO4	The student will be able to demonstrate knowledge of the social impact assessments in projects.		✓	✓		✓		✓				✓	✓	✓	✓	
CLO5	The student will obtain the skills to comprehend the requirement of impact		✓	✓		✓		✓		✓				✓	✓	✓

		assessment in a project and also to incorporate them.															
Course Title-3: Real Estate Forecasting and Planning	CLO1	Develop an understanding of current real estate scenario in markets, off housing market, laws and policies to real estate markets.	✓	✓	✓		✓		✓						✓	✓	
	CLO2	Understand trends in real estate.	✓		✓				✓						✓		✓
	CLO3	Learn Laws related to real estate development and housing markets.	✓	✓			✓		✓		✓				✓	✓	
	CLO4	Learn real estate project formulation	✓				✓		✓			✓	✓	✓	✓	✓	

Course Title-4: Urban Governance and Public Policy	CLO1	The student on completion of this course would be able to equip to address the importance of legislation and institutions in urban management and governance	✓	✓					✓	✓					✓	✓	
	CLO2	Comprehend how the principles and models of urban management and governance shall be applied to the practical situations facing urban	✓	✓	✓		✓		✓	✓					✓	✓	

		policy makers.															
	CLO3	To assess the role of public administration, local politics and citizen participation.	✓	✓			✓				✓			✓	✓	✓	
Course Title-5: Risk Assessment , Vulnerability and Feasibility Study	CLO1	Prepare feasibility report timelines with resources required and foretell the repercussion of current project decisions on the future of the project.		✓	✓	✓	✓			✓	✓				✓	✓	

	CLO2	Detail Project Reports to understand the Perform Risk, Market, Technical, Financial and Economic analysis and appraisals		✓	✓		✓			✓					✓	✓	
	CLO3	Decide on suitability of contracts to monitor and evaluate for different types of projects.			✓			✓	✓	✓				✓	✓	✓	
Course Title-6: Analytical Techniques in Planning	CLO1	Design and conduct engineering experiments involving several factors using design of experiments	✓		✓		✓		✓					✓	✓	✓	✓

	approach															
CLO2	Select an appropriate probability distribution to calculate probabilities in specific applications			✓					✓						✓	
CLO3	Explain the concept of estimating the parameters of a population or a probability distribution	✓	✓	✓		✓			✓				✓	✓	✓	
CLO4	Apply regression for building empirical models to engineering and scientific data			✓	✓	✓			✓					✓	✓	✓

Course Title-7: Pre-Thesis Dissertation	CLO1	Students will be able to develop a writing skills, research and report writings.	✓	✓				✓								✓	
	CLO2	Students will be able to understand the various methods for technical presentations.		✓	✓			✓		✓		✓				✓	
	CLO3	Students will be able to develop a research work for the final thesis.		✓	✓					✓	✓		✓	✓	✓	✓	
Course Title-8: Advance Transport Analysis	CLO1	Knowledge in the fundamentals of Traffic and Transportation Engineering and	✓	✓				✓							✓	✓	✓

		Probability and Statistics is the desired prerequisite for the course.															
	CLO2	The course also provides adequate exposure to travel demand forecasting and application of the results of the forecasting.			✓		✓		✓				✓		✓	✓	
	CLO3	Identify the right type of the transportation system needed to cater to the future demand and quantify the same	✓	✓	✓				✓		✓			✓	✓	✓	✓

Course Title-9: Regional and Environmental Planning	CLO1	Students are expected to have obtained the skills in understanding various concepts of environment and disaster and how to use them in the planning process.	✓	✓			✓		✓				✓			✓
	CLO2	It will also provide them with the knowledge of various environmental regulations in the country	✓	✓	✓		✓	✓		✓		✓				✓
	CLO3	Student will understand the concept, problems and issues within the	✓		✓			✓			✓			✓		✓

		regional linkages.															
Course Title-10: Urban Microclimates	CLO1	Students are expected to have obtained the skills in understanding the various dimensions of climate change and how to address them in the regional planning process by undergoing this course	✓	✓	✓		✓		✓			✓			✓	✓	✓
	CLO2	Learn tools and technique to analyze energy consumption pattern and			✓		✓			✓					✓	✓	✓

		understand the scope of energy conservation in urban area															
	CLO3	Learn actual context of energy in urban area through case studies and existing guidelines and standards for energy planning.			✓				✓		✓			✓			
	CLO4	Apply the knowledge in urban energy planning of existing and proposed cities	✓	✓			✓		✓			✓		✓	✓	✓	

Semester -IV	Course Learning	Course Competency	GA 1 / PL O1	GA 2 / PL O2	GA 3 / PL O3	GA 4 / PL O4	GA 5 / PL O5	GA 6 / PL O6	GA 7 / PL O7	GA 8 / PL O8	GA 9 / PL O9	GA1 0 / PLO 10	GA1 1 / PLO 11	GA1 2 / PLO 12	GA1 3 / PLO 13	GA1 4 / PLO 14	GA1 5 / PLO 15
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Semester Course Title	outcomes																
Course Title-1: Planning Thesis	CLO1	Students will be clearly able to explain how a piece of research adds new knowledge to the existing body of knowledge in a field and show its practical significance to the profession of planning.	✓	✓	✓		✓		✓	✓			✓			✓	✓
	CLO2	Students will demonstrate the process of formulating a research programmes independently on a chosen topic in order to contribute new knowledge to the field of study.	✓	✓	✓		✓		✓			✓		✓	✓	✓	
	CLO3	Student will develop data collection skills by	✓		✓		✓		✓		✓				✓	✓	

		conducting field surveys for the purposes of data collection and analysis.															
	CLO4	Students will be able to prepare strategies/proposals in form of a Planning/ Research/ Project thesis and defending their thesis at viva voce examination.	✓		✓		✓		✓		✓			✓	✓	✓	✓
Course Title-2: Planning Policy and Legislations	CLO1	The students will be able to understand various urban planning policies and legislations for various levels of planning.	✓	✓	✓				✓			✓			✓	✓	
	CLO2	The students will be able to analyze the significance of various policies, legislations guidelines etc. in the Indian urban context and their implications.	✓	✓	✓		✓				✓				✓		

	CLO3	The students will be able to apply the various policies and legislations in development projects and practice of planning along with their interrelationship and cross-cutting aspects in total.	✓	✓	✓				✓		✓		✓			✓	✓
Course Title-3: Urban Finance and Development Economics	CLO1	The student will be able to demonstrate knowledge of economics and how it relates to the city as a whole.	✓		✓				✓					✓		✓	
	CLO2	The student will be able to understand and interpret about various urban multiple finance systems to fund urban development projects, taxation and budgeting systems in municipal finance.	✓	✓					✓	✓				✓	✓	✓	

	CLO3	The student will be able to articulate and analyze Municipal Financial, Accounting and operational mechanisms.	✓		✓		✓		✓					✓	✓		
	CLO4	The student will be able to appraise the Urban Finance and Resource Mobilization of Urban Local body.		✓	✓		✓		✓	✓			✓	✓	✓	✓	
Course Title-4: ICT in Urban Planning and Management	CLO1	The students will be able to learn the penetration of ICT in every stage of planning process.	✓		✓	✓		✓	✓		✓			✓	✓	✓	
	CLO2	The students will be able to summarize the advantages and disadvantages of ICT in planning.	✓	✓		✓			✓			✓			✓		
	CLO3	The student will be able to appraise the role of ICT in E-Governance.	✓	✓		✓				✓			✓	✓		✓	
Course Title-5: Climate Resilient Urban	CLO1	Understanding the importance of climate and climate resilience in development.	✓	✓		✓					✓	✓			✓	✓	

Planning	CLO2	Understanding urbanization patterns and its relationship with climate change.	✓	✓			✓		✓		✓	✓			✓	✓	
	CLO3	Developing knowledge on various planning policies dealing with climate mitigation.		✓	✓			✓			✓			✓	✓	✓	
	CLO4	Developing deeper understanding of what are the best practices for urban development keeping climate change into consideration.	✓	✓	✓		✓	✓						✓	✓		
Course Title-6: Urban Disaster Mitigation & Management	CLO1	The student will understand the importance of various stakeholders in the process.	✓	✓	✓			✓				✓		✓		✓	
	CLO2	The student will be able to apply disaster management process in urban design layout.	✓	✓	✓		✓	✓							✓	✓	

	CLO3	The student will be able to prepare a Disaster Management Plan.	✓	✓			✓		✓				✓	✓		✓	✓
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2.6 A Framework for linking Program Learning Outcomes and Course Learning Outcomes using Bloom's taxonomy semester wise:

For each UG/PG or Doctorate-level program identified above, the assessment strategy is required to be developed to link programme learning outcomes and is mapped with indicators of Programme Learning Outcomes through Blooms Taxonomy. These relationships are summarized in the measures-to-key outcomes mapping below (**Note: Put an “x” in a given cell of the table if the assessment instrument in that column measures the key learning outcome in that row.**):

B.ARCH

Semester-1	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1: Architectural Design Studio I	CLO1	The student shall be able to recognize art forms and design all around us	Remembering -Internet/ Case study by the students will help them to remember art form and Architectural elements of design	✓					

(ARCH142)	CLO2	The student shall be able to examine Design principles and design elements.	Remembering -Internet/ Case study by the students will help them to remember art forms and Architectural elements of design	✓					
	CLO3	The students shall be able to interpret all forms of art as the basis of Design	Understanding -The concept developed by the students will enhance the understanding of form and space development		✓				
	CLO4	The students shall be able to illustrate the elements and principles of design	Applying-The design development made by the students through continuous design development will illustrate the elements and principles of design.			✓			
	CLO5	The students shall be able to analyze various constraints/aspects involved in the Design process	Analyse-The design development process will help them analyze the various constraints/aspects involved in the design development process.				✓		
	CLO6	The students shall be able to assess the inter-relationship between nature and built and the design	Evaluate -The continuous assessment, evaluation process will develop the inter-relation between nature and built environment of design					✓	
	CLO7	The students shall be able to integrate the learnings of design elements and principles to create a functional and usable space	Create- The continuous design development, assessment will in turn enhanced the skills of the students to integrate element, principles, nature will amalgamate functionally and usable space in the design developed by them.						✓
Course Title -2: Building Construction-I (ARCH143)	CLO1	Students will be able to identify & define various components of a building along with nomenclature and basic foundation details.	Remembering and understanding-The lecture /site visit, Visual analysis of under-construction structure to understand different parts of the building will help them remember and understand the building components	✓	✓				

	CLO2	Students will be able to describe the constituents, properties and areas of application of various construction materials.	The interaction with contractors for understanding of local terminology used will help the students to understand construction materials	✓	✓	✓			✓
	CLO3	Students will be able to illustrate the various building components made of different materials along with its corresponding construction technology and methodology of construction.	Model and workshops will also help the students to understand the various building materials along with various construction techniques		✓		✓	✓	✓
Course Title -3: Theory of Structures-I (ARCH144)	CLO1	Students will recapitulate the principles and laws of Translational and Rotational Equilibrium of Rigid bodies and will be able to apply the said laws for simple analytical problem solving.	Remembering and understanding-The lecture /lectures and group presentation will recapitulate the principles and law of applicable to Rigid Bodies.	✓	✓				
	CLO2	Students will be able to comprehend fundamental principles of structural behaviour in withstanding gravity and various ways of mitigation of gravitational force.	Conduction of practical exercises in modelling workshops shall clarify the physical behavior of structures, physical interpretation of force and moment and their mitigation and shear force and bending moment.	✓	✓	✓	✓		✓
	CLO3	Students will seamlessly transit from rigid bodies physics to real structural components through evaluation and will be able to apply the concepts in design.	Model and workshops will also help the students to transit from rigid bodies physics to real structural components through evaluation and will be able to apply the concepts in design.	✓	✓	✓	✓	✓	✓
Course Title -4: Architectural Graphics-I (ARCH145)	CLO1	The students will be able to explain and illustrate usage of various manual drafting tools and techniques, used in Architecture profession.	The students with different types of Drafting tools and instruments will understand their areas of application and operation techniques. Different types of Line work	✓	✓	✓	✓		

	CLO2	The student will be able to identify and develop understanding of inter-relationship between 2D and 3D form of simple object, with the help of orthographic and perspective Projections.	The Construction of Geometrical shapes of given dimensions in given scale will help them identify will understand the inter-relationship between 2D and 3D	✓	✓	✓	✓		✓
	CLO3	The students will be able to Build and Create, 3D paper models, of simple built form, using surface development technique.	Through sheet work and visual representation will understand, analyse and create angle projection and surface development	✓	✓	✓	✓	✓	✓
Course Title -5: History of Architecture-I (ARCH147)	CLO1	The students will memorize and understand the terminology used in Architecture, its significance and the major built structures of heritage in India.	The students through lectures and presentations. Will comprehend and compare different styles of Architecture flourishing in different places in a given timeline and analyse, understand and relate architectural characteristics (elements, spatial organization, scale and proportion, structural and construction systems)	✓	✓	✓	✓		
	CLO2	The students will learn to appreciate, apply and analyse the indigenous shapes, forms, materials and construction techniques that are found in the Indian heritage buildings.	The students will understand the roles of physical and non-physical parameters and its impact on the architectural characteristics of given place. Moreover, the course covers pre-historic to Roman period in World Architecture and Indus civilization to Hindu Temple Architecture in Indian Architecture.	✓	✓	✓	✓		✓
	CLO3	The students will be able to evaluate and create their own designs of indigenous quality that are rooted in the Indian context while contemporary in their outlook	Through model and visual ppts and group work the student will create their own designs.		✓	✓	✓	✓	✓
Course Title -6: Architectural Model making (ARCH148)	CLO1	Students will be able to understand the scale and proportions of the design objects	The students will understand and apply different materials in model making – paper, box board, foam board, sun board, thermocol, balsa wood, etc. and use of colours	✓	✓	✓	✓		✓

	CLO2	Students will be able to use of different materials for communication and presentation.	The student will understand and use different types of joints and model making techniques like surface development etc for enhancing their skill.	✓	✓	✓	✓		✓
	CLO3	Students will be able to relate and coordinate between drawings and 3-D model.	The students will be able to relate the drawing and 3D model with the help of blocks and different types of model materials.		✓	✓			✓
	CLO4	Students will develop an aptitude of visualization while designing or drawing	The development of surface development for creation of different 3-D forms will help the students to visualize while designing or drawing.		✓	✓	✓	✓	✓
Course Title -3: Surveying (ARCH149)	CLO1	The student will be able to define Role, Principle & Types of surveying & levelling and will be familiarized with modern techniques of surveying & levelling.	The students through graphical representation of Topographical features of a site viz. Site Boundary, Spot Levels and Contours will be able to define principles, types and levelling.	✓	✓	✓	✓		
	CLO2	To describe three-dimensional understanding of site topography through survey drawings viz. spot levels & contours and interpret mechanism involved in surveying of the site topography.	The students through linear measurement, Different methods, Equipment - will understand site topography.	✓	✓	✓	✓		✓
	CLO3	To illustrate fixing the Spot Levels and Contour Intervals for a given topography based on the extent of slopes & undulations and apply knowledge of GPS & linear measurements.	The students through demonstrate and teach the role and application of modern surveying techniques and technologies. Will illustrate fixing of spot levels and contour intervals.	✓	✓	✓	✓	✓	✓

Semester-II	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1: Architectural Computer Application - I (ARCH 134)	CLO1	1.Demonstrate the ability to solve real world problem using Calculus.	Perform operation with various form using calculus	✓	✓	✓			
	CLO2	The student will be able to identify the usage of newly introduced 2D, 3D and rendering commands in software like AutoCAD and Photoshop.	Usage of newly introduced 2D, 3D and rendering commands in software like Autocad and Photoshop		✓	✓	✓		
	CLO3	The student will be able to demonstrate progress in usage of commands through simple drafting and rendering exercises.	Simple drafting and rendering exercises		✓	✓	✓		
	CLO4	Student will be able to compare suitability of sets of commands leading to same or different drafting and rendering results.	Comparison of suitability of sets of commands leading to same or different drafting and rendering results			✓	✓	✓	✓
	CLO5	Student will be able to assess the importance of CAD, photo-editing, and graphical skills and create renditions of 2D and 3D architectural graphics.	Assessment of the importance of CAD, photo-editing, and graphical skills and creation of renditions of 2D and 3D architectural graphics.				✓	✓	✓

Course Title - Architectural design studio-II (ARCH150)	CLO1	The student shall be able to identify and recall Natural structures as ingredients and inspiration for Architectural Design	Identification of natural structures for architectural design	✓	✓		✓		
	CLO2	The student shall be able to interpret and infer the anthropometrics and ergonomics, scale, and proportion in relation to various human activities	Inference of the anthropometrics and ergonomics, scale and proportion			✓	✓	✓	✓
	CLO3	The student shall be able to calculate and illustrate the space required for performing various activities	Spatial analysis for activities				✓	✓	✓
	CLO4	The student shall be able to apply the acquired knowledge of Anthropometrics / Ergonomics, Design Principles, Proportions, Scale and beauty of Natural Structures in projects	Inference of the anthropometrics and ergonomics, scale and proportion			✓	✓	✓	✓
	CLO5	The student shall be able to recommend the design solutions suitable as per the design brief	Development of design brief			✓	✓	✓	✓
	CLO6	The student shall be able to develop an aesthetically pleasing and functionally viable multicellular space	Design of aesthetically pleasing and functionally viable multicellular space			✓	✓	✓	✓

Course Title - Building Construction-II (ARCH151)	CLO 1	The student will gain knowledge about different types of timber, timber products and their applications in building.	Knowledge about different types of timber, timber products and their applications in building	✓	✓		✓		
	CLO 2	Students will develop understanding on timber Partitions, cupboards & wardrobes with their different parts, joinery & fixing details.	Understanding on timber Partitions, cupboards & wardrobes with their different parts, joinery & fixing details			✓	✓	✓	✓
	CLO 3	The student will be able to analyse various details of timber doors & windows with their fixing details & installation process	Analyse various details of timber doors & windows with their fixing details & installation process				✓	✓	✓
Course Title- Theory of Structures-II (ARCH152)	CLO 1	Students will learn about various types of loads on a structure	Learning about loads on structure	✓	✓		✓		
	CLO 2	Students will be able to comprehend the fundamental principles of load distribution process and the corresponding structural behaviour, in withstanding various types of loads.	Fundamental principles of load distribution process and the corresponding structural behaviour			✓	✓	✓	✓
	CLO 3	Students will appreciate evolution of basic structural systems through ages, culminating into various contemporary structural systems.	Evolution of basic structural systems through ages				✓	✓	✓
Course Title - Architectural Graphics-II	CLO 1	The students will be able to demonstrate and relate, Orthographic projections, with	Understanding of Orthographic projections, with 3D representation of simple objects, in the form of Isometric, Axonometric & perspectives.	✓	✓		✓		

(ARCH153)		3D representation of simple objects, in the form of Isometric, Axonometric and Perspective Drawings.							
	CLO 2	The students will be able to develop and identify importance of relative depth of objects, through sciography	Understanding sciography			✓	✓	✓	✓
	CLO 3	The student will be able to analyze and create simple 3D view from the given Plan/Top view of the building or object.	3D view from the given Plan/Top view of the building or object				✓	✓	✓
Course Title - History of Architecture-II (ARCH154)	CLO 1	The students will be able to comprehend architectural terminologies, characteristics, and their significance	Comprehension of architectural terminologies, characteristics, and their significance	✓	✓		✓		
	CLO 2	The students will be able to understand and relate of the history of Architecture from Classical era to Baroque in European.	Understanding and relating of the history of Architecture from Classical era to Baroque in European			✓	✓	✓	✓
	CLO 3	The students will study and be enabled to critically appraise the influence of physical and non-physical parameters on the style and growth of the aforesaid	Appraisal of the influence of physical and non-physical parameters of the fore mentioned style				✓	✓	✓
CLIMATE RESPONSIVE ARCHITECTURE- (ARCH215)	CLO 1		Study and comprehend building physics in context of different climate zones		✓	✓			

	CLO 2	The students will study and comprehend the solar incidence angle (azimuth & altitude), Wall Azimuth Angle, vertical and horizontal shadow angles and their relation with the built spaces.	Study and comprehend the solar incidence angle (azimuth & altitude), Wall Azimuth Angle, vertical and horizontal shadow angles		✓	✓	✓		
	CLO 3	The students will be able to formulate passive strategies (including building shape, orientation strategies, design of shading devices) for optimum energy efficiency.	Formulation of passive strategies (including building shape, orientation strategies, design of shading devices) for optimum energy efficiency		✓	✓	✓		

Semester III	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1: BUILDING CONSTRUCTION - III	CLO1	The students will comprehend the construction details of structural elements of a building and will be able to explain the techniques through a composite building section (external-internal interface)	Study of the building section, components and construction details through site visit	✓	✓	✓			

	CLO2	The student will be able to describe use of Timber in Roofing & Concept of spanning and its extension in formation of timber roofs.	to understand the different case studies will be done	✓	✓	✓	✓		
	CLO3	Students will acquire and correlate knowledge on different finishing materials, their constituents, properties and applications.	presentation on construction materials and market survey		✓	✓	✓		
	CLO4	Students will be able to integrate the passive vertical transportation systems in Building design.	through case studies and site visits	✓	✓	✓	✓		
Course Title - 2: Theory of Structures-III	CLO1	The student shall be able to describe and demonstrate understanding of the engineering principles of Trabeated structural system so that it forms the basis for study of structural design of buildings.	practical exercises in modelling workshops shall clarify the physical behaviour of structures		✓		✓	✓	
	CLO2	The students shall be able to comprehend and apply engineering principles of structural systems in withstanding gravity and lateral forces.	physical interpretation of force and moment and their mitigation		✓	✓	✓	✓	
	CLO3	The students shall be able to analyse and correlate the behaviour of structure and principles of load distribution in slabs, beams and columns.	practical exercises in modelling workshops shall clarify the physical behaviour and load distribution of structures	✓	✓		✓	✓	

Course Title -3: Architectural Computer Application - II	CLO1	The student will be able to identify the usage of 2D and 3D commands in REVIT Architecture and Sketchup, and photo-editing, rendering and composition commands in Photoshop and InDesign.	Practical for enhancement of Design co-ordination, and rendering skills	✓	✓		✓	✓	✓
	CLO2	The student will be able to classify CAD and rendering commands for specific drafting, 3D modelling and rendering techniques.	Practical for enhancement of drawing and rendering skills	✓	✓	✓	✓		✓
	CLO3	The student will be able to demonstrate progress in usage of commands in drafting, 3D modelling and rendering through small-scale, two-storey architectural project incorporating a staircase, and wet-services in upper floors.	Develop a scheme for any space applying all the multidisciplinary aspects of designing.	✓		✓	✓	✓	✓
	CLO4	Student will be able to select suitable sets of commands leading to same or different 2d drawing representations, 3d views and rendition results.	Practical for enhancement of drawing and rendering skills	✓		✓	✓	✓	✓
	CLO5	Student will be able to assess the advantages and importance of REVIT over AutoCAD, and Sketchup as an efficient tool for conceptual and quick 3d modelling.	Practical for enhancement of Design co-ordination, drawing and rendering skills and Projects	✓		✓	✓	✓	✓

Course Title -4: Architectural Design Studio III	CLO1	The students will be able to identify the 'Design Process' i.e., methodical, and orderly development of a Design.	Literature/Case Study shall support to develop Design process		✓	✓	✓	✓	✓
	CLO2	The students will develop the ability to relate space, form and functions in spatial relationship.	Development of design through efficient space planning, form and function			✓	✓	✓	✓
	CLO3	The students will infer Visualization skills and methodologies.	Development of design through software to visualize the form and space		✓	✓	✓	✓	✓
	CLO4	The students will be able to develop or translate design concepts into Architecture designs.	Development of design through efficient space planning, form and function		✓	✓	✓	✓	✓
Course-5: INTERIOR DESIGN (ARCHITECTU RE)	CLO1	Students shall be able to explore elements and principles of Interior Design through case studies and space planning	Prototype studies may be done in groups		✓	✓	✓	✓	
	CLO2	Ergonomics and aesthetic appreciation will help the students to understand, apply and analyse the interior spaces	Prototype studies may be done in groups to understand and analyse the interior spaces	✓		✓		✓	
	CLO3	The student will be able to assess the importance and strategies of various development features and aspects which in turn will foster their ability.	Prototype studies may be done in groups to understand and analyze the interior spaces	✓	✓	✓	✓		✓

	CLO4	The students will inculcate skills to conceive and design	Prototype studies may be done in groups to understand and analyse the interior spaces	✓	✓	✓	✓		✓
	CLO5	The students will hence develop their creative skills through various projects handled.	Development of design strategies for interiors through efficient space planning, form and function for various projects	✓	✓	✓	✓		✓
Course-6: INTELLIGENT BUILDINGS	CLO1	The students will recognize and analyse various intelligent elements, details and design techniques that define the smart building	studies may be done in groups to understand various intelligent elements, details and design techniques that define the smart building		✓			✓	
	CLO2	The students will be able to integrate the Intelligent Building Systems, as required, in building design	studies may be done in groups to understand various intelligent elements, details and design techniques that define the smart building		✓	✓		✓	
	CLO3	The student will be able to analyse and evaluate the energy performance of buildings manually and by using simulation software to create simulated models	analysis and evaluation can be done using simulation software	✓	✓		✓	✓	
Course-7: FAÇADE DESIGN	CLO1	The student will be able to define the concept, controlling system, climatic factors for design of intelligent facades	Literature/Case Study shall support to understand the concepts of intelligent facades	✓			✓	✓	
	CLO2	The student will recognize the basic principles, typology & characteristics of the façade along with evolution process of the façade in different era of history	Literature/Case Study shall support to understand the basic principles, typology & characteristics of the façade	✓	✓	✓			

	CLO3	The student will analyse & apply various façade elements, details and design techniques in facades	Literature/Case Study shall support to understand various façade elements, details and design techniques	✓		✓		✓	✓
	CLO4	The student will develop skills in various tools and conceptualizations for assessing & designing the façade.	conceptualizations for assessing & designing the façade using various tools	✓		✓		✓	
Course-8: Architectural Photography	CLO1	The students will develop knowledge on basic principles of photography, including analogue and digital photography, and the working of different photography equipment such as different kinds of cameras.	Literature Study shall support understanding the principles of photography and photography equipment	✓			✓	✓	
	CLO2	The student will comprehend the concepts of lighting conditions, texture, pattern, shade and shadow through lighting, and natural and artificial light.	Photographic assignments shall support to understand the concepts of lighting conditions, texture, pattern, shade and shadow	✓	✓	✓	✓		✓
	CLO3	The student will develop knowledge and demonstrate their acquired skill about camera positioning, perspectives, concept of vanishing points, image framing and composition, enabling them to be more aware of their surrounding objects, buildings, and landscapes.	Photographic assignments shall support to understand the acquired skill about camera positioning, perspectives, concept of vanishing points, image framing and composition	✓		✓		✓	✓
Course-9: SITE PLANNING AND ARCHITECTURE	CLO1	The student will be able to recognize and interpret the standards, information sources, climatology, topography, and various affecting factors for site planning	Literature / Case Study shall support to understand the various affecting factors for site planning	✓	✓	✓	✓	✓	

	CLO2	The student will discover and relate the characteristics of open spaces patterns in town and cities along with the impact of infrastructure and costing on the site planning.	Literature / Case Study shall support to understand the open spaces and impact of infrastructure on site planning.	✓	✓	✓			✓
	CLO3	The student will design and plan a site considering the site planning principles	Studio project to comprehend the site planning principles.	✓	✓	✓		✓	✓
Course-10 ENVIRONMENTAL SCIENCE IN ARCHITECTURE	CLO1	The students will be able to identify different types of Ecosystems and Biodiversity, the cause and effect of their imbalance and degradation and hence, their conservation measures	Literature / Case Study shall support to understand the various ecosystems, their degradation and conservation measures.	✓			✓	✓	✓
	CLO2	The students will acquire basic knowledge about Global Warming, its effects and mitigation efforts	Literature / Case Study shall support to understand the Global Warming, its effects and mitigation efforts	✓	✓	✓			
	CLO3	The students will acquire basic knowledge about Green Building and its various rating systems	Visit & interaction with professional from GRIHA and LEED.	✓		✓		✓	✓
	CLO4	The students will be able to analyse and comprehend the effect of built environment on ecology and its assessment studies and learn to apply them in taking simple Architectural decisions.	Interaction and group discussion with architects from industry on environmental issues & their impact on design.	✓		✓		✓	✓

Semester-IV	Course Learning Outcome	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Architectural Design Studio-IV(UG)	CLO1	The students will be able to identify the Design Process and gain knowledge on preparation of Design Criteria, Design Parameters	Identification of case study formulating the area program based on the data collected in the case study.	✓	✓				
	CLO2	The students will be able to infer the design of a multi-cellular, multi-functional public building/space including a large congregational space	Conceptualize and medium size design project and prepare architecture drawings which are functionally sound.	✓	✓	✓	✓	✓	✓
	CLO3	The students will illustrate the language of drawing for technical communication and correct Architectural representation	Technically sound drafting of Plan, Section, Elevation etc.	✓	✓	✓	✓	✓	
	CLO4	The students will be able to collaborate the learnings through the design of a small building	Demonstration of translation of design concept to a functional sound drawing that are also technically sound.	✓	✓	✓	✓	✓	✓
Building Construction-IV(UG)	CLO1	The students will be able to identify the constituents, preparation, and logistics, pouring, compacting, and curing of concrete and relate it with the construction process.	Demonstrate ability to elaborate details of RCC construction	✓	✓				
	CLO2	The students will be able to demonstrate RCC framed construction & its various components and to co-relate with RCC staircases and expansion joints.	Demonstrate understanding of RCC construction detail with proper sketches, label and dimension	✓	✓	✓			

	CLO3	The students will be able to review their work in integration to the latest construction industry trends through market surveys and site visits.	Complete set of building construction drawing having details on material and method of application.	✓	✓	✓	✓		
Theory of Structures-IV(UG)	CLO1	The students shall be able to describe knowledge on plain cement concrete & reinforced cement concrete and design of simple structural elements like slab and beam.	Solve mathematical structural design for a small building (do structural calculation)	✓	✓	✓			
	CLO2	The students shall be able to explain and describe about PCC and RCC and their application areas in building construction.	Solve mathematical structural design for a small building (do structural calculation)	✓	✓	✓			
	CLO3	The students shall be able to design simple structural components like slabs and beams.	Solve mathematical structural design for a small building (do structural calculation)	✓	✓	✓	✓		
Architectural Computer Application-III(UG)	CLO1	The student will be able to identify inter-exchangeable file formats and advanced commands and techniques in REVIT Architecture Projects and basic need and functioning of parametric software like Rhino and Grasshopper.	Demonstrate understanding of basic knowledge of parametric software	✓	✓	✓			
	CLO2	The student will be able to exhibit an understanding of complex/ advanced Revit commands and classify the need of creation of new Revit families.	Demonstrate in depth knowledge of REVIT software	✓	✓	✓			
	CLO3	The student will be able to demonstrate progress in Construction Documentation and advanced 3D modelling in REVIT Architecture either through small-scale, two-storey architectural project or a large institutional scale project.	Creation of Architecture presentation drawing as well as construction drawings using REVIT software.	✓	✓	✓			
	CLO4	Student will be able to point out the need of creation of new Revit families, and	Demonstrate knowledge to create families in the REVIT.	✓	✓	✓			

		modification possibilities in components like mass-forms, roofs, staircases etc.									
	CLO5	Student will be able to develop construction documentation of architectural projects through application of advanced techniques in Revit and comprehend similar possibilities in other parametric software.	Creation of Architecture presentation drawing as well as construction drawings using REVIT software.	✓	✓	✓					
Building Bye - Laws and Codes Practices (UG)	CLO1	Students shall be able of building by-laws and development controls through various lectures.	Understanding of municipality restriction of building design and construction like GC, FAR, Height ECS etc.	✓	✓						
	CLO2	URDPFI guidelines, submission drawings and completion drawings will teach them various development controls	Preparation of architectural drawing suitable for submitting to the authority for approval and understanding of various forms and certificates which needs to be submitted for approval.	✓	✓						
	CLO3	They will be able to implement design and constructions accordingly.	Preparation of architectural drawing suitable for submitting to the authority for approval	✓	✓	✓	✓				
	CLO4	The students will be creative and inculcate skills to conceive and design	Preparation of architectural drawing suitable for submitting to the authority for approval	✓	✓	✓	✓				
Product Design (UG)	CLO1	The students will learn to associate and interpret about various human activities associated with Ergonomics.	The students will learn to associate and interpret about various human activities associated with Ergonomics.	✓	✓						
	CLO2	The students will develop and relate knowledge gained in designing of innovative products based on Ergonomics and aesthetic principles of Design	The students will develop and relate knowledge gained in designing of innovative products based on Ergonomics and aesthetic principles of Design	✓	✓	✓					
	CLO3	The student will compile and develop holistic understanding of product design, including visual design, experience design, and business acumen	The student will compile and develop holistic understanding of product design, including visual design, experience design, and business acumen	✓	✓	✓	✓				
	CLO4	The student will create wireframes, sketches, and other digital tools to test and improve	The student will create wireframes, sketches, and other digital tools to test and improve	✓	✓	✓	✓				

		product experiences.	product experiences.						
	CLO5	The student will create journey maps to connect understanding of product.	The student will create journey maps to connect understanding of product.	✓	✓	✓	✓		
	CLO6	The student will create prototypes to improve product experience.	The student will create prototypes to improve product experience.	✓	✓	✓	✓	✓	✓
Human Settlement and Planning (UG)	CLO1	The student will be able to define the elements of Human settlements, Anatomy and classification of human settlements, Structure and form of Human settlements.	Demonstrate knowledge and understanding of classification and elements of Human Settlements	✓	✓				
	CLO2	The student will be able to relate and determine the various planning concepts and different political expression of human settlements.	Demonstrate knowledge of various policies and guidelines pertaining to Human settlement.	✓	✓				
	CLO3	The student will be able to analyse current urban scenarios in context with urban renewal and regional planning.	Demonstrate knowledge of urban scenarios in context with urban renewal and regional planning.	✓	✓	✓	✓		
	CLO4	The student will be able to evaluate and examine the role of current urban scenarios in context with urban renewal and regional planning.	Demonstrate knowledge of urban scenarios in context with urban renewal and regional planning.	✓	✓	✓	✓	✓	
Architectural Seminar - I(UG)	CLO1	The student will be able to identify different research processes and strategies	Understanding of Qualitative and quantitative research tools used in research	✓	✓	✓			
	CLO2	The student will be able to choose a seminar topic of relevance and research the same using appropriate process and strategies of research	Identification of research gap based on the background study on a particular topic.	✓	✓	✓	✓		
	CLO3	The student will be able to prepare literature review for the chosen topic and organize the same into a report/ presentation	Research paper or review article on the Literature review	✓	✓	✓	✓	✓	

	CLO4	The student will be able to develop appropriate survey tools for collecting information through verified sources, domain experts and field practitioners	Development of research design appropriate to the study area	✓	✓	✓	✓	✓	
	CLO5	The student will be able to appraise issues of importance in Built Environment and produce a report/ term paper through demonstrated research aptitude and presentation skills	Complied data report on the research topic	✓	✓	✓	✓	✓	
Semester-V	Course Learning Outcome	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
ARCH307- Architectural Design Studio-V	CLO 1	Students shall recapitulate the knowledge of functional and spatial relationships for building	Live Case study, documentation and analysis, Literature study	✓	✓				
	CLO 2	Students shall apply the knowledge on functional and spatial relationships within the site conforming to by-laws, building codes and technical requirements.	Documentation, sketching, Conceptualisation		✓	✓	✓		

	CLO 3	Students shall be able to demonstrate comprehension of the Site Planning Principles to evolve the design responding to the Site conditions and Context.	Design strategies, Conceptual drawing, Design strategies, Implementation		✓	✓	✓	✓	
	CLO 4	Students shall be able to apply the knowledge of climatology, long-span structural systems and acoustics to develop the design.	Scale drawing, Analysing, Process ,Evaluation of strategies, 3d visualisation			✓	✓	✓	✓
	CLO 5	The students shall be able to prepare technically correct Architectural Drawings viz. Plans, Elevations, Sections and details	Detail drawing, detail 3d visualisation, Compilation of the process into panels or sheet.				✓	✓	✓
ARCH308 Building Construction - V	CLO 1	Student will be equipped with the advancement in the building construction methods and their applications	Research, Discussion, Lecture of new technology	✓	✓				
	CLO 2	Student will be able to evaluate, implement given technique of construction as per need and understanding.	Understand, Evaluate, implement in assignment Sketches, drafted sheet, technical drawing drafting		✓		✓	✓	✓
	CLO 3	Student will be able to comprehend the need of emerging construction technologies in today's time.	Analyse, Conceptualise, evaluate through case studies and assignment of technical and working drawing			✓		✓	✓
	CLO 4	Student will be able to integrate knowledge acquired in this course and Building Material Science in Architecture design studio of the	Implementation in design studio, discussion, assignment submission as per allied subjects				✓	✓	✓

		current and subsequent semesters.							
Arch327 Theory of structure V	CLO-1	Students will be able to explain the basic principles of Soil Mechanics	Study, theoretical understanding		✓		✓	✓	
	CLO-2	Students will be able to analyse and design structural components like columns, shear walls, staircases and Foundations/footings	Calculation, evaluation			✓	✓	✓	
	CLO-3	Students will be able to recognize and extrapolate the design implications of the structural elements in building design and construction process.	Analysing, evaluating, and creating		✓			✓	✓
Theory of Design – I	CLO 1	The students shall learn appreciation through the technique of critique and analysis. s.	Presentation, Lecture, Sketching, documentation				✓	✓	✓
	CLO 2	The students shall upgrade their knowledge on concepts of space, place, and expressions through benchmarks in architectural timeline.	Sketching, comparative analysis, mapping	✓	✓		✓		
	CLO 3	The students shall identify various underlying, overt, covert concepts, which are responsible in creating our built world.	Sketching, model making, Chronology documentation		✓	✓	✓	✓	
	CLO4	Student shall develop understanding of how trends develop, and evolution of a style takes place with prevalent socio-cultural context and technology of the time.	Presentation, Sketching, Model making,	✓	✓		✓	✓	

ARCH317 Building Services and Engineering - I	CLO 1	Students will be able to outline and summarize knowledge gained in Public Health Engineering (PHE) Services viz. Water Supply, Distribution and Disposal System.	Presentation, Research, Market study	✓	✓		✓		
	CLO 2	Students will be able to identify and plan, quantitatively, requirement in a building design with respect to water supply, drainage and waste disposal systems based on NBC/BIS.	Assignment, site visit, lecture, presentation		✓		✓		
	CLO 3	Student will be able to Judge and justify design proposals with respect to Public Health Engineering (PHE) Services viz. Water Supply, Distribution and Disposal System	Lecture, Presentation, Research and Site Visit				✓	✓	
ARCH328 Estimation, Costing and Specifications	CLO-1	Students shall be able to classify different types of Estimate and Specifications, and their specific purposes with respect to design.	Lecture, Research on material and its specification, Presentation			✓	✓	✓	
	CLO 2	Students shall be able to build Estimate of a project from drawings and specifications.	Market survey for rates and specification, research about its application.		✓	✓	✓	✓	
	CLO-3	Students shall be able to Evaluate and Develop, Bill of Quantities (BOQ) and its abstract of estimate for a small-scale project	Assignment I of small project		✓	✓	✓	✓	✓
Inclusive Design processes	CLO-1	Students will be able to differentiate between Inclusive, Universal and Accessible design.	Research, Case analysis of topic, case study, literature study	✓	✓	✓			

	CLO-2	Student will be able to empathize with the physically disabled and differently abled and be sensitive to their special and specific needs.	Identifying their needs, requirements		✓	✓	✓	✓	
	CLO -3	Students will be able to critiques the Design ideas and articulate their own understanding of “Inclusion”.	Research, data collection, case study, implementation in project				✓	✓	✓
Society Culture & Built Environment	CLO-1	Students will apply the knowledge of social and cultural processes on planning the built environment.	Reading, research, case analysis, literature study	✓	✓	✓			
	CLO-2	Students will be able to understand the inter linkage between society and culture	Reading, research, case analysis, literature study		✓	✓	✓	✓	
	CLO-3	Students will be able to understand the impact of society and culture on built environment	Report and presentation on selected topic			✓	✓	✓	✓
Semester-VI	Course Learning Outcome	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title - Architectural Design Studio-VI	CLO1	The students shall be able to apply the knowledge of Architectural & Site Planning principles, Structures, Building Services, Climatology, building by-laws etc. in the building design.	Literature/Case Study shall support to develop Design process		✓	✓	✓	✓	✓

	CLO2	The students shall learn and interpret the spatial requirement of engineering services (areas for building services cores) along with their regulatory aspects and apply in the design studio.	Development of design through efficient space planning, form and function			✓	✓	✓	✓
	CLO3	Students shall be able to transfer and relate the knowledge of Building Services and Structure in the design project. They will be able to calculate the requirement of various engineering services including Plumbing, Electrical, HVAC and Elevators (Nos. and Pax).	Development of design with integration of all services and structures as per calculated requirements		✓	✓	✓	✓	✓
	CLO4	The students shall be able to evolve a strong 'problem solving' approach under the complexity of various design aspects.	Manging various aspects of building to make a functional option		✓	✓	✓	✓	✓
	CLO5	The students shall be able to prepare technically correct Architectural Drawings viz. Plans, Elevations, Sections and details	Development of design drawings		✓	✓	✓	✓	✓
Course Title - BUILDING CONSTRUCTION - VI	CLO1	Students will be able to identify list of drawings that are required for execution. Also, will identify usage of new construction technology over conventional one.	Understanding of construction processess		✓	✓	✓	✓	
	CLO2	Students will be able to deduce and determine different details of construction and finishes.	Understanding of appropriate detail for a given type of construction		✓	✓	✓	✓	✓

	CLO3	Student will question and organize working as per the need and demand of the building	Understanding of construction processes		✓	✓	✓	✓	✓
	CLO4	Students will be able to create working drawings and models for the construction of buildings.	Development of appropriate construction drawing			✓	✓	✓	✓
Course Title - Theory of Structures-VI	CLO1	Students will able to list down the different type of structure that can be used in a building.	Understanding of types of structures	✓	✓		✓		
	CLO2	Students will explain and identify design of structural components like footing, column and beam with structural steel members (original and built-up sections).	Understanding of types of structural systems	✓	✓	✓	✓		
	CLO3	The student will be able to develop and propose structure elements, techniques and material from the knowledge acquired.	Application of appropriate structural systems to case scenarios		✓	✓	✓	✓	✓
Course Title - Building Services and Engineering - IV	CLO1	Students will be able to recapitulate the theory of ignitability, combustion and fire transmission properties of building materials and components.	Understanding fire properties of building materials and components	✓	✓				
	CLO2	The students will apply the Fire Prevention & Fighting Systems as per codal requirements (Detectors & Fire Alarm System and Fire Fighting i.e., External & Internal Hydrant and Sprinkler Systems)	Application of appropriate Firefighting systems on case specific situations		✓	✓	✓		

	CLO3	The students will be able to analyse the basic requirements for Acoustical treatment for a small-scale project.	Understanding of acoustical properties of a space and its materials		✓	✓	✓	✓	
	CLO4	The students will be able to articulate artificial lighting systems in building design.	Understanding lighting requirements of a space		✓	✓	✓	✓	
Course Title - Building Economics and Project Financial Planning	CLO1	Student will apply the knowledge of calculating expenses and estimates of construction projects	Understanding the need and usage of specifications and Estimates	✓	✓				
	CLO2	Student will be able to develop skills to apply different criteria for the selection of a building project	Development of Estimate			✓	✓	✓	✓
	CLO3	Student will be able to understand various aspects of project financing.	Understanding project financing		✓	✓	✓	✓	
Course Title - Theory of Design – II	CLO1	The students shall learn appreciation through the technique of critique and analysis.	Developing skills pertaining to critical analysis of building	✓	✓	✓	✓		
	CLO2	The students shall upgrade their knowledge on concepts of space, place, and expressions through benchmarks in architectural timeline post 20th century	Developing knowledge of architectural vocabularies and styles	✓	✓	✓	✓		

	CLO3	The students shall identify various underlying, overt, covert concepts, and philosophies of contemporary times which are responsible in creating our built world.	Developing understanding of contemporary theories	✓	✓	✓	✓		
	CLO4	Student shall develop understanding of how trends develop, and evolution of a style takes place with prevalent socio-cultural context and technology of the time.	Developing understanding of contemporary architectural developments	✓	✓	✓	✓	✓	
Course Title - Tactical Urbanism	CLO1	Students will be familiar with tactical urbanism and its benefits	Developing understanding for the strategy	✓	✓				
	CLO2	Students will understand how tactical urbanism improves the urban areas	Developing understanding for the advantages of the strategy		✓	✓	✓		
	CLO3	Students will be able to evaluate how the tactical approach may benefit your community	Evaluating the strategy		✓	✓	✓	✓	✓
Course Title - City and Technology	CLO1	The student will become conversant with ICT and technologies relevant for urban built environments.	Developing understanding for large scale technological systems	✓	✓	✓			
	CLO2	The student will be able to select and apply appropriate ICT technologies as per varied project requirements	Application of large-scale technological systemisation		✓	✓	✓	✓	✓

Semester-VII	Course Learning Outcome	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1: Housing Studio	CLO1	Students will be able to comprehend and integrate knowledge of Site Planning, Climatology, Building Services and Landscaping in the Housing Project.	Site visit for data recording to initiate the site analysis			✓	✓	✓	✓
	CLO2	Students will be able to interpret smart homes concept in relation to IBMS in housing project.	Development of design through efficient space planning, cost effective technologies, energy conservation and rating criteria		✓	✓	✓	✓	
	CLO3	Students will be able to integrate spatial requirements for engineering services along with regulatory aspects in the context of housing design			✓	✓	✓	✓	
	CLO4	Students will gain empathy and design sensitively to include human behavioural aspects and socio-cultural demands of the site location.	housing cluster planning, neighbourhood planning, physical and social infrastructure facilities.	✓		✓		✓	
	CLO5	Students will be able to demonstrate the reasonable intellectual competence in designing the project as a built	Housing Design efficiency. Exterior planning with circulation and Landscape Design. Design Development through climatological, structural, services and utilities inputs culminating into	✓	✓	✓	✓		✓

		environment rather than concentrating on buildings only.	working drawings.						
Course Title – 2: BUILDING SERVICES & ENGG-III	CLO1	Students will be able to recapitulate the theory of ignitability, combustion and fire transmission properties of building materials and components.	General study of fire behaviour, Growth Decay Curve, Ignitability, Combustibility of substances, causes of surface spread of flame, fire propagation, toxicity		✓			✓	
	CLO2	The students will understand Fire Prevention & Fighting Systems (Detectors & Fire Alarm System and Fire Fighting i.e. External & Internal Hydrant and Sprinkler Systems) and Security & Access Control Systems with respect to building design and exterior spaces.	Basic concepts about fire prevention and firefighting. Statutory Aspects of Fire Fighting, Fire-safety standards for different types of buildings, Fire Tender access and circulation around structures, requirements of refuge area, Fire Staircase		✓	✓		✓	
	CLO3	The students will be able to apply the codal regulations of fire prevention & fighting systems	Fire Prevention and fighting installations: Fire-water Tank, External and Internal Hydrant Systems, heat/smoke detectors and Fire Alarm System	✓	✓		✓	✓	
	CLO4	The students will be able to analyse Architectural/Spatial requirements of Fire Prevention & Fighting Systems and Security & Access Control Systems in building design	To analyse Architectural/Spatial requirements of Fire Prevention & Fighting Systems and Security & Access Control Systems in building design	✓		✓		✓	
Course Title -3: LANDSCAPE ARCHITECTURE	CLO1	Students will be able to recapitulate the principles of site planning and understand the fundamentals of the landscape.	Using Design principles and basic fundamentals of site planning and of the landscape.	✓			✓	✓	

	CLO2	Students will be able to translate the knowledge and analyse multi-dimensional aspects of landscape design in a project.	Translate the knowledge of landscaping and analyse multi-dimensional aspects of landscape design in a project.	✓	✓	✓			
	CLO3	Students will be able to develop a landscape scheme for any space applying all the multidisciplinary aspects of designing.	Develop a landscape scheme for any space applying all the multidisciplinary aspects of designing.	✓		✓		✓	✓
Course Title -4: URBAN & RURAL PLANNING	CLO1	The students will study various theories of Urban and Rural Planning and be able to comprehend the concepts and principles of urban and rural planning.	Comprehend the concepts and principles of urban and rural planning based on urban and rural planning	✓		✓		✓	
	CLO2	The students will be able to classify the strategic approaches to be adopted for various cases of Urban and Rural Development.	Outlining the Process, various categories of surveys such as physical, socio-economic, traffic, etc., planning data, its presentation & analysis.			✓	✓	✓	✓
	CLO3	The students will develop acquaintances with the various Acts and Roles of various Urban Development agencies	case study of any Regional and Town Planning and Development Act, Land Acquisition Act, 1984 and 74th Constitutional (Amendment) Act,		✓	✓	✓	✓	
Course-5: Construction and Project Management – I	CLO1	Students shall learn the basic principles applied in Construction Project Management	Project based on Project feasibility techniques like Payback period, Internal Rate of Return, Benefit Cost Ratio		✓	✓	✓	✓	
	CLO2	Students shall also be able to demonstrate the principles and appropriate application of Construction Project Management techniques for complex building projects	Application of Construction Project Management techniques for complex building projects	✓		✓		✓	

	CLO3	Students shall learn different scheduling techniques using latest software and apply them to prepare schedules	Using latest software and apply them to prepare schedules	✓	✓	✓	✓		✓
Course-6: Sustainable Cities & Communities	CLO1	The students will be able to identify the concepts of sustainability with respect to built environment	Identify the concepts of sustainability with respect to built environment		✓			✓	
	CLO2	The students will be able to infer major contemporary environmental issues such as Global Warming	Inclusive city and community development for sustainability. Architecture and communities for economic, cultural, and social sustainability.		✓	✓		✓	
	CLO3	The students will illustrate knowledge on resilience of Cities and Communities against environmental issues	Illustrate knowledge on resilience of Cities and Communities against environmental issues	✓	✓		✓	✓	
	CLO4	The students will be able to collaborate the learnings to create sustainable cities and communities and comprehend the role of Architects	Collaborate the learnings to create sustainable cities and communities and comprehend the role of Architects	✓		✓		✓	
Course-7: Theory of Urban Design	CLO1	The students will be able to define & summarize the principles of Urban Design through the study of Urban Design theories and be familiar with Urban Design nomenclature.	The relationship between Architecture, Urban Design and City Planning, Urban Vocabulary.	✓			✓	✓	
	CLO2	The students will be able to Demonstrate various types of urban interventions such as Urban Renewal, Urban Conservation, Urban rejuvenation etc.	Demonstration of various types of urban interventions such as Urban Renewal, Urban Conservation, Urban rejuvenation etc.	✓	✓	✓			

	CLO3	The students will be able to infer the documentation done in subsequent studio courses.	Converting qualitative components into physical elements in context, Selection of material palette – importance of colour, form, shape, size, techniques of visual quality analysis, art appreciation of an urban realm	✓		✓		✓	✓
	CLO4	The students will be able to assess the impact of urban design on cities and construct a dialogue in response to the urban challenges.	Assess the impact of urban design on cities and construct a dialogue in response to the urban challenges.	✓		✓		✓	
Course-8: Architectural Research Paradigms	CLO1	The student will be able to learn and understand the concept of research Paradigms and Research Methodology in Architecture.	Understanding the process of conducting and formalizing research. Introduction to Case Study method of inquiry.		✓			✓	
	CLO2	The students will be able to illustrate the research processes and model in architecture.	Students to review existing studies and conduct scoping review to identify topic, review projects and case studies		✓	✓		✓	
	CLO3	The student will be able to write the methodology of research which will be meaningful research in the field of Architecture	Write the methodology of research which will be meaningful research in the field of Architecture	✓	✓		✓	✓	

Semester-VIII	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating

Architectural Professional Training	CLO1	Students will be able to see the application of concepts and theories learnt in classes in practice	Working on live project/s will demonstrate the application of theory and practical courses such as Design, Building Construction, Building Services etc. studied till 7th semester.	✓	✓				
	CLO2	Students will be able to understand the functioning of an architectural firm and its operational matters	Coordination meeting with various stakeholders – Client, Execution team, Structure consultant, MEPF consultant, HVAC consultant, Landscape architect, Green consultant etc. will develop an understanding of the operational matters in any architecture firm.	✓	✓				
	CLO3	Students will be able to relate with industry workmanship and design practices.	Site visits and studio works will develop and comprehend the relationship between site execution and drawing coordination through exposure to various aspects of supervision in design and construction processes.	✓	✓	✓			
	CLO4	Students will be able to understand project management, project communication and project delivery methods in real time	Demonstration of Construction management course will be seen through drawing coordination with various stakeholders at every stage of project within the given timelines and resources. Students will see the application of project and design management for a live project.	✓	✓	✓	✓		
	CLO5	Students will be able to develop skills to work in organized team structures and understand the dynamics of the same.	Working on multiple projects of varied scales involving several stakeholders will provide the desired exposure and develop the skill of translating the reviews in design development processes.	✓	✓	✓	✓	✓	
	CLO6	Students will be able to comprehend the ethical obligations of the profession	Practical translation of aspects of professional ethics and social responsibilities of an architect will be realized by the students.	✓	✓	✓	✓		

Semester-IX	Course Learning	Course Competency	Indicators	Assessment Based on Bloom's Taxonomy					
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	Outcomes			Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title 1: Urban Design Studio (UG)	CLO1	The students will examine human centric approach towards identifying multi-dimensional issues at a bigger scale than an average architectural site and develop sensitivity towards designing for public interest involving long- term goals.	The exercise shall be aligned to identify the complexities, urban issues, problems to be addressed to impact the precinct on a macro scale and a vision for integrating the study area into the larger context of the city which help to determine design drivers, frame vision & mission statement	✓	✓	✓	✓	✓	
	CLO2	The student shall be able to engage in a complex area of a metropolis and to analyse the existing fabric and represent this analysis in a clear graphic language at a range of scales.	Documentation of a precinct as a human network, through ownership, use cycles, association value, density, urban grain & Texture etc & critically analyse a urban precincts & its representation through clear graphic language at a range of scales & Spatial analysis through models- 3D analysis & different layers of urban design.	✓	✓	✓	✓		
	CLO3	The student shall be able to model urban form, building bulk, typology, sun-shading, topography, hydrology, public/private relations.	Design of units and blocks, with materials and their expression. Integration of services, structural clarity, facade, core. Area/volume studies to determine mix/segregation of types, overall layout with clear indication of pedestrian/vehicular movement, parking and public spaces in response to the context.	✓	✓	✓	✓	✓	✓

	CLO4	The students shall be able to appreciate and analyse real site conditions in an urban area, assessing needs and programming for design intervention.	Documentation of precinct to understand the engagement in a complex urban area and the process of analysis the existing fabric and represent this analysis in a clear graphic language. 3D analysis. Identify opportunities and constraints associated with large-scale urban intervention.	✓	✓	✓	✓	✓	
Course Title 2: Advanced Building Technologies – II	CLO1	Students will be able to understand the structural requirements for specific building typologies and select appropriate technology	Discussion on Steel as a construction material through study of typical steel structures, discussions on Long Span Structures with case examples.	✓	✓	✓			
	CLO2	Students will gain knowledge on assembly and performance of steel structures.	Case Studies to analyse Steel connections, Case studies of steel connections, concepts of plate girders, steel beams and columns.	✓	✓	✓	✓		
	CLO3	Students will gain insight on the Codal specifications and requirements of steel structures	Analyse of the IS Codes & other Standards to figure out specifications & requirements for Steel Structures.	✓	✓	✓	✓		
	CLO4	Students will be able to understand drawing representation and prepare related documentation of steel structures	Site Visits to analyse Practice of steel work, analysis of working drawings, Specialised tools and equipment. Site related documentation of steel work	✓	✓	✓	✓		
Course Title 3: Building Information Modelling-II	CLO1	The students shall learn to work on Autodesk Revit Architecture with proficiency.	Workshop to understand advanced tools in Revit. Assemblies, families, annotation, site topography, massing, etc. Information and model management through various tools and settings.	✓	✓	✓			
	CLO2	The students shall develop skills to work on an architectural project comprehensively using an advanced application/platform.	Hands on experience on LOD (Level of details) in Revit. Shared project parameters, global parameters, project location, Design options and Phases in computing design change/design review. Understanding BIM supply change as a comprehensive mechanism.	✓	✓	✓			

	CLO3	The students shall demonstrate progress in usage of commands in the given applications/software.	Time problems to map student progress in terms of software proficiency	✓	✓	✓			
	CLO4	Student shall develop understanding of architectural project collaboration and coordination.	Working on a Real project to understand 3D coordination and to analyse integration of MEP with architectural model. Process of clash detection, warning resolution, model interference check, use of Navisworks, etc. BIM 360 design coordination, simulation of elaborate project stakeholder team and collaboration among them.	✓	✓	✓	✓		
Course Title 4: Theory of Urban Design	CLO1	The students will be able to define & summarize the principles of Urban Design through the study of Urban Design theories and be familiar with Urban Design nomenclature.	Lectures to understand Principles of Urban Design, Lectures followed by Tutorials to understand different Urban Design theories & Nomenclature.	✓	✓				
	CLO2	The students will be able to Demonstrate various types of urban interventions such as Urban Renewal, Urban Conservation, Urban rejuvenation etc.	Case exploration of urban renewal, urban conservation, urban rejuvenation, urban revival etc and understanding the difference between their respective parameters.	✓	✓	✓	✓		
	CLO3	The students will be able to infer the documentation done in subsequent studio courses.	Case exploration of urban renewal, urban conservation, urban rejuvenation, urban revival etc and understanding the difference between their respective parameters.	✓	✓	✓	✓		

	CLO4	The students will be able to assess the impact of urban design on cities and construct a dialogue in response to the urban challenges.	Exploring the Futuristic approaches towards sustainable urban design, inclusive cities and walkable cities. Case Studies to analyse new concepts of planning such as TOD, SEZ, SRZ, Smart City, Integrated township, Zero cities etc..	✓	✓	✓	✓	✓	
Course Title 5: Advanced Construction Technologies	CLO1	Comprehend and propose the appropriate internal spaces in synch with prefabricated/modular furniture.	Lectures on Methodology of implementation of Modular Co-ordination. Defining coordinating spaces for building elements and components	✓	✓				
	CLO2	The student will judge and evaluate the various construction technologies learned and select the best possible solution whenever designing for the projects	Analysing different Construction techniques through case examples like frames, suspended roofs, membrane structures, cable structures, long span structures, tensile structures, diaphragm shell structures in architecture.	✓	✓	✓	✓	✓	
	CLO3	Demonstration of the capacity to produce the forms and internal space of building in coordination with the modular construction technologies	Analysing the Rules for maintaining the component size while manufacturing. Rules for selecting the component size and providing the required grid size in building. Standardization in design of building components	✓	✓	✓	✓		
	CLO4	Students will learn about Mass production, transportation, storage, and handling of materials. Characteristics, performance, and application of mechanized construction equipment.	Discussions on Precast technology (IPS, PPVC), Prefabrication systems, Precast Panel Systems, LGSF system etc in prefabrication. Manufacturing of modules and their transport to the site, Its management & application	✓	✓	✓			
Course Title 6: Project Planning	CLO1	Students will be able to understand the concept of Project Management.	Lecture on Concepts of Project Management followed by Case studies on managing large and complex buildings projects, Life cycle stages of a project. Understanding role of a Project Manager	✓	✓				
	CLO2	Students will be able to learn working of Project scheduling	Discussion followed by Tutorials on Probabilistic and deterministic scheduling. Activities and their	✓	✓				

		and management.	durations, Activity duration estimating techniques, Time estimation techniques						
	CLO3	Students will be able to understand resource levelling and its techniques.	Site Visits to Resource based scheduling techniques, Types of resources and their assessments, Activity resource estimation, Resource levelling concepts and techniques	✓	✓	✓			

Semester-X	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Architectural Professional Practice-II (ARCH535)	CLO1	The student will be able to define the office organization and management aspects.	Understand the skills to setup and independent office and his/her own private practice	✓	✓		✓		
	CLO2	The student will be able to relate and determine the easement rights, easement processes and precautions to protect easement rights.	Students will be able to understand various rights of property and apply them in the profession			✓		✓	✓
	CLO3	The student will be able to analyse valuation of immovable properties and factors affecting valuation, Techniques of valuation of land and building properties.	Students will be able to practice as a Valuer for different types of properties by developing these skills		✓	✓	✓		

	CLO4	The student will be able to evaluate and examine the role of Arbitration & Conciliation.	Students can practice as arbitrators for dispute resolution in the construction field		✓			✓	
Digital Architecture (ARCH515)	CLO1	To understand the mediums of expression like Drawing, Painting etc. and the process of their creation/ conversion and interaction with the array of 3D modelling software and digital fabrication tools currently available to us.	Develop the ability handle software used in producing drawings paintings and develop 3D models for better understanding		✓			✓	✓
	CLO2	To educate the students about generative design systems and parametric modelling through advanced software.	Understanding of complex building design and creating such designs for such buildings		✓	✓		✓	
	CLO3	To develop skill set to represent ideas in the best possible way through a digital medium.	Understanding the digital medium to create the ideas and implement them using digital platform	✓	✓		✓		✓
Thesis Project in Architecture (ARCH518)	CLO1	Students will be able to demonstrate their capability to independently handle a reasonably large complex and regionally important and/or a thematic project.	Students will develop the ability to deal with complex Architectural projects	✓	✓	✓		✓	✓
	CLO2	Students will be able to critically analyse existing building complex with its surroundings on qualitative as well as quantitative aspects and identify technology drivers relevant to the subject of their thesis.	Students will be able critical analyse different building projects and deduce inferences to use them for their projects		✓	✓	✓		✓

	CLO3	Students will be able to formulate an independent professional approach to an Architectural Design Projects from conceptual design stage till final proposal with functional efficiency, aesthetic maturity, technological calculations/simulation services and structure suitably resolved.	Students will develop the ability to create designs for building projects and their drawings to explain the entire scheme	✓	✓		✓	✓	✓
	CLO4	Effectively communicate the thesis design with clarity and appropriate articulation and explain the concept with confidence and lucidity by validating sustainable Components used in site and building level	Student will be able to produce such drawings useful for presentation and understanding of everyone		✓		✓	✓	✓
	CLO5	Students will be able to demonstrate the intent of thesis project logically, graphically and architecturally and will develop the capability to defend the design under heavy scrutiny by expert jury panels with a complete set of drawings, documents and models.	Students will be able to produce set of drawings to explain their planning to the panellists and skills to defend the planning	✓	✓		✓	✓	✓
Short Film Making (ARCH532)	CLO1	To educate the students on the importance and primary aspects of documentary film making i.e., frame, composition and design.	Students will learn documentary making and can adopt this enter into this profession	✓		✓		✓	✓
	CLO2	To educate the students on the technical aspects such as types of cameras, lenses, depth of field etc.	Students will learn the handling of camera for making a documentary film		✓	✓		✓	✓

	CLO3	To impart knowledge about the process of film making (Pre-production, Production and Post-production) such as location, script writing and storyboard, shooting and editing and finally creating a documentary related to Architecture.	students will learn the technical aspects of production of small film or documentary in architecture and also learn script writing for the film	✓	✓		✓		✓
Hospital Infrastructure Management (ARCH511)	CLO1	Students will be able to comprehend the planning principles of Hospitals and integration of the functions and spatial requirements.	Students will learn planning principles and skills to design a hospital. Students will also learn the spatial arrangements based on the functions of different parts of hospital		✓		✓	✓	
	CLO2	Students will be able to comprehend various services Planning in Hospitals and Hospital specific Engineering Services, Utilities and norms and apply the acquired knowledge in hospital designs.	Students will learn the Building services involved in the planning of hospitals	✓		✓	✓	✓	
	CLO3	Students will learn waste Management System of a hospital and will be able to apply it in hospital planning and design	Students will also learn the solid, liquid and medical waste management of hospitals		✓	✓	✓		✓
Hotel Infrastructure Management (ARCH523)	CLO1	Students will be able to comprehend the planning principles of hotels and integration of the services and spatial requirements including back of the house and its various components	Student will learn the principles required for for planning of a hotel. They will also learn the spatial arrangement of hotels' different parts			✓	✓	✓	

	CLO2	Students will be able to comprehend various planning of hotel specific Engineering services, Utilities and norms and apply the required knowledge in hotel design	Student will be able to apply the planning principles involved in the services of hotels	✓	✓		✓	✓	
	CLO3	Students will be able to understand and learn the spatial requirements for various infrastructure services of a hotel	Student will understand the space requirement for infrastructural services for hotel design and planning		✓		✓	✓	✓

B.PLAN

Semester-I	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Fundamentals of Urban and Regional Planning (PLAN148)	CLO1	The student will able to define the fundamental principles and theories of Urban and Regional Planning, describe the preparation of different Development Plans and development regulations as per URDPFI guidelines and illustrate about different Planning agencies and Plan implementation	The student would be able to read the Development Plans and Planning policies and guidelines with thorough application of the knowledge.	✓					
	CLO2	The student will be able to infer objectives, opportunities, challenges and limitations of the	The student would be able to read the Development Plans and Planning policies and	✓	✓				

		various principles and theories of Urban and Regional Planning.	guidelines with thorough application knowledge.						
	CLO3	The student will able to articulate and correlate the broad aspects of Urban and Regional Planning with respect to fundamental planning principles and planning framework.	The student would be able to read the Development Plans and Planning policies and guidelines with thorough application knowledge.	✓	✓	✓	✓		
Basic Design (PLAN145)	CLO1	The student will be able to learn (Remember and Understand) the technical basics of Architecture, Design, planning, graphic skills, scale and proportions, technical communication for practical knowledge.	The student would be able to understand, analyse and implements the basic design principles in their project work.	✓	✓				
	CLO2	The student will also learn the proportion and scale of human body to be incorporated (applied) in future planning decisions.	The student would be able to understand, analyse and implements the basic design principles in their project work.	✓	✓	✓	✓		
	CLO3	The student shall be able to access the fundamentals of design and its development, to nurture design thinking and to enable them to apply the same thought process in developing (creating) 3D compositions.	The student would be able to understand, analyse and implements the basic design principles in their project work.	✓	✓	✓	✓	✓	✓
Computer Application in Planning- I	CLO1	The student will be able to identify the utility of softwares like MS Office, AutoCAD, Sketchup pertaining to documentation and presentation.	The student could efficiently use the subject knowledge in their studio work.	✓	✓				
	CLO2	The student will be able to classify the usage of different software for specific objectives like presentation, report-making, and documentation.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓			
	CLO3	The student will be able to demonstrate progress in using basic softwares like MS Office,	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓	✓		

		AutoCAD and Sketchup through simple exercises in data representation.							
	CLO 4	Student will be able to sub-divide tasks to be carried out using appropriate method for efficient and timely production of usable and presentable data and designs.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓	✓	✓	
	CLO 5	Student will be able to develop presented data in the form of drawings, reports, and/or seminar.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓	✓	✓	✓
Planning Studio- I (PLAN146)	CLO 1	The student will be able to describe the technical basics of planning and memorize the importance of Graphical presentation.	The student should have clarity on project scale. There should be given clarity on the process of project documentation. The students should have the basic understanding on how to frame the aim and objectives for any given project.	✓					
	CLO 2	The student will able to outline the concepts of scales and proportions with respect to human and its relevance to various spaces.	The student should have clarity on project scale. There should be given clarity on the process of project documentation. The students should have the basic understanding on how to frame the aim and objectives for any given project.	✓	✓				
	CLO 3	The student will able to relate the objectives of documentation techniques with respect to the architectural drawings and mapping.	The student should have clarity on project scale. There should be given clarity on the process of project documentation. The students should have the basic understanding on how to frame the aim and objectives for any given project.	✓	✓	✓			
	CLO 4	The student will able to analyze and modify the use of 2D and 3D drawings at various scales for different applications.	The student should have clarity on project scale. There should be given clarity on the process of project documentation. The	✓	✓	✓	✓		

			students should have the basic understanding on how to frame the aim and objectives for any given project.						
	CLO 5	The student will able to reframe the objective of professional skill development activities for documentation and digitization of drawings.	The student should have clarity on project scale. There should be given clarity on the process of project documentation. The students should have the basic understanding on how to frame the aim and objectives for any given project.	✓	✓	✓	✓	✓	✓

Semester-II	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Quantitative Techniques in Planning (PLAN153)	CLO 1	The Students will be able to understand statistical methods of data collection and presentation.	The student should be able to efficiently collect the relevant data sets required for any planning project. Also they should be able to come up with suitable data analysis for any given project.	✓					
	CLO 2	The students will be able to use appropriate tool for interpretation and analysis of the data.	The student should be able to efficiently collect the relevant data sets required for any planning project. Also they should be able to come up with suitable data analysis for any given project.	✓	✓				

	CLO 3	The students will be able to relate data for understanding socio-economic relation and population structure.	The student should be able to efficiently collect the relevant data sets required for any planning project. Also they should be able to come up with suitable data analysis for any given project.			✓	✓		
Planning Theories and Techniques-I (PLAN149)	CLO 1	The students will be able to learn (<i>Remember and Understand</i>) about planning tools and methods for analyzing the physical planning, zoning, applicability of various contemporary growth and land use management techniques.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.	✓	✓				
	CLO 2	The students will be able to learn Graphical presentation (<i>application</i>) of statistical and spatial data for presentation.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.	✓	✓	✓	✓		
	CLO 3	The student shall be able to assess and evaluate the different Database required for Planning and Socio-economic, Survey Techniques.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.	✓	✓	✓	✓	✓	✓
Planning Studio – II (PLAN154)	CLO 1	The students will be able to learn (<i>Remember and Understand</i>) about planning tools and methods for analyzing the physical planning, zoning, applicability of various contemporary growth and land use management techniques.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.		✓				
	CLO 2	The students will be able to use appropriate tool for interpretation and analysis of the data.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.		✓				
	CLO 3	The students will be able to relate data for understanding socio-economic relation and population structure.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.		✓	✓	✓		

	CLO 4	The student shall be able to illustrate, analyse and apply the knowledge on the range of urban planning parameters necessary for site analysis, layout and area planning.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.		✓	✓	✓	✓	
	CLO 5	Student will be able to implement and carry out Remote Sensing and Photo Interpretation in their theoretical and studio exercises.	The students should be able to apply the knowledge in the assessment and evaluation of any urban planning project.		✓	✓	✓	✓	
Construction Technology and Materials (PLAN152)	CLO 1	The student will be able to identify and learn the various contemporary building material and principles of construction.	The student would exhibit clear understanding on the contemporary building materials and construction technologies and provision and design of services, essential for site development or any urban planning project	✓	✓				
	CLO 2	The students shall be able to understand and discuss site development, and site ecology and site resource system.	The student would exhibit clear understanding on the contemporary building materials and construction technologies and provision and design of services, essential for site development or any urban planning project	✓	✓	✓	✓		
	CLO 3	The students shall be able to demonstrate their knowledge of Principles of Site Development and Services Network and apply it in Design	The student would exhibit clear understanding on the contemporary building materials and construction technologies and provision and design of services, essential for site development or any urban planning project	✓	✓	✓	✓	✓	
Computer Applications in Planning -II	CLO 1	The student will be able to list different tools in recording, documenting and analyzing spatial data pertaining to Planning Information System and its application in human settlements	The student could efficiently use the subject knowledge in their studio work.	✓					

		planning.							
	CLO 2	The student will be able to exhibit an understanding of the importance of Planning Information Systems in India.	The student could efficiently use the subject knowledge in their studio work.	✓	✓				
	CLO 3	The student will be able to demonstrate progress in using remote sensing, photo interpretation and planning information systems tools.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓			
	CLO 4	Student will be able to select the best data handling and data interpretation tools and techniques suited for specific planning or human settlement study.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓	✓	✓	
	CLO 5	Student will be able to implement and carry out Remote Sensing and Photo Interpretation in their theoretical and studio exercises.	The student could efficiently use the subject knowledge in their studio work.	✓	✓	✓	✓	✓	✓
Surveying and Photogrammetry Credit	CLO 1	The student will be able to demonstrate knowledge of the concepts of Photogrammetry.		✓	✓				
	CLO 2	The student shall be able to apply the Methods and Techniques of Physical Survey and preparation of Base Maps and Planning		✓	✓	✓	✓		
	CLO 3	The student will be able to evaluate the applicability and significance in urban development plan formulations and implementations		✓	✓	✓	✓	✓	

Semester-III	Course Learning	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
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Semester Course Title	Outcomes			Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Planning Theories and Techniques-II (PLAN247)	CLO 1	The student will be able to understand the theories and concepts of planning and urbanization.	The basic idea is related to define the planning theories and concepts which will help students to understand the planning and urbanization	✓	✓				
	CLO 2	The students will be able to learn about land use planning and examine the fundamental land use control methods for zoning.	Examine the Land use control methods for zoning.	✓	✓	✓			
	CLO 3	The student will be able to apply and demonstrate knowledge of various forces in planning and development at city level and regional level.	Develop a case study to analyse the interface at city level and regional level	✓	✓	✓			
	CLO 4	The students will be able to analyze and evaluate the applicability of various planning tools and methods contemporary growth and land use management techniques.	To analyze and evaluate the applicability of various planning tools and methods	✓	✓	✓	✓	✓	✓
Socio-economic aspects of Urbanization (PLAN248)	CLO 1	The student will be able to identify demographic variables and the relevant sources for obtaining demographic information	The understanding of student will be clear and able to identify demographic variables and the relevant sources	✓	✓		✓		✓
	CLO 2	The student will be able to understand Urbanization patterns, settlement systems and trends of urbanization in India	Introduction to the concept of urbanization patterns and its trends in India	✓	✓	✓	✓		✓

	CLO 3	The student will be able to recognize, differentiate and appraise the urbanization policies and strategies in India.	Appraise the urbanization policies and strategies in India	✓	✓	✓	✓		✓
	CLO 4	The student will be able to formulate an overall understanding of settlement systems, demographic characteristics and their inter-relations.	The basic understanding of settlement systems, demographic characteristics and their inter-relations.	✓	✓		✓	✓	✓
Planning Studio – III (PLAN246)	CLO 1	The student will be able to understand the basics about the classification about roads, road geometrics and layout preparation.	Introduction to illustrate the classification about roads, road geometrics and interpret the plan preparation and its relationship with layout preparation	✓	✓	✓	✓		✓
	CLO 2	The student will able to outline the concepts of existing land use, circulation patterns, geometric design, level of services provided by provided by the networks	The basic idea is to outline the concepts of existing land use, circulation patterns, geometric design, level of services to interpret the standards from URDPFI	✓	✓	✓	✓		✓
	CLO 3	The student will able to relate and demonstrate the knowledge of various land uses and traffic management measures	Introduction to appraise different approaches and methodology to demonstrate the various land uses and traffic management measures	✓	✓	✓	✓		✓
	CLO 4	The student will able to design the layout for road intersections and analyze the types of transport surveys.	The basic operations and tools related to analyze the layout for road intersections of city will help students to analyze the types of transport surveys	✓	✓	✓	✓		✓
	CLO 5	The student will able to reframe and modify the Prepare Area Circulation Plan including Geometric Design and Traffic Management Measures.	The basic idea to reframe and modify the Area Circulation Plan including Geometric Design and Traffic Management Measures	✓	✓	✓	✓	✓	✓

Settlement (PLAN211)	Geography	CLO 1	The student shall be able to demonstrate knowledge on urban settlement and Rural settlement, urban sprawl and classification of settlements.	The basic idea is to understand the geological structure of urban settlement and Rural settlement	✓	✓	✓	✓		
		CLO 2	The student shall be able to identify the spatial distribution of settlements and typology related to urban perception, impact of socio – economic status of people on the image of a city	To interpret the concept of biological diversity and spatial distribution of settlements	✓	✓	✓	✓	✓	✓
		CLO 3	The student shall be able to develop knowledge on the relevance of settlement geography and range of planning indicators associated with it.	Introduction to relevance of settlement geography and range of planning indicators	✓	✓	✓	✓		✓
		CLO 4	The student shall be able to analyse the types of Regions- their structure and growth and further application at regional planning level.	The basic idea is to analyse the types of Regions- their structure and growth at regional level	✓	✓	✓	✓	✓	✓
Traffic and Transport Planning-I (PLAN245)		CLO 1	The student will be able to understand the basics of transportation planning, transportation system, road hierarchy and the classification about roads, road geometrics and layout preparation.	The idea is to give basic concept of transportation planning, transportation system, road hierarchy and the classification about roads, road geometrics and layout preparation.	✓	✓	✓	✓		
		CLO 2	The student will able to outline the concepts of road capacity and level of traffic surveys and services provided by the networks.	To understand the concept of road capacity and level of traffic surveys and services provided by the networks.	✓	✓	✓	✓		✓
		CLO 3	The student will able to reframe the knowledge of various land uses and traffic management measures.	Basic understanding of transport policy and management measures	✓	✓	✓	✓		

	CLO 4	The student will able to describe the transport facility design and parking space norms and standards.	Learning of an economic appraisal and techniques of transport facility to design parking space norms and standards.		✓	✓	✓	✓	
	CLO 5	The student will be able to relate the knowledge of traffic and transportation planning for an efficient traffic and transportation structure in a city.	To study the efficient traffic and transportation planning for an efficient traffic and transportation structure in a city..	✓	✓	✓	✓	✓	✓

Semester-IV	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Utilities and Services Planning (PLAN224)	CLO 1	The student will be able to learn basic physical planning with emphasis on urban utilities and services.	The basic idea is related to define the urban utilities and services will help students to understand the physical planning.	✓	✓				
	CLO 2	The student will be able to understand services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	Introduction to physical services with the help of case study to understand the character of city	✓	✓	✓			
	CLO 3	The students shall be able to give exposure to Innovative Techniques for provision of Water Supply, Waste Water Treatment, Storm Water Management, Sanitation and Solid Waste Management, etc.	Develop a case study to analyse the interface of city to develop the services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	✓	✓	✓	✓		✓

Planning Studio - IV (PLAN249)	CLO 1	The student will able to illustrate and interpret the plan preparation and its relationship of higher order plan with lower order plans such as Master Plan with Zonal Plan and Area Plan.	Introduction to illustrate and interpret the plan preparation and its relationship	✓	✓		✓		✓
	CLO 2	The student will able to interpret the planning standard and relationship among different plans.	The basic idea is to interpret the standards from URDPFI	✓	✓	✓	✓		✓
	CLO 3	The student will able to articulate, analyze and appraise different approaches and methodology to develop Zonal Plan/Area plan within the framework of Master Plan. .	Introduction to appraise different approaches and methodology to understand the framework of studio	✓	✓	✓	✓		✓
	CLO 4	The student will able to create Zonal Development Plan for a city.	The basic operations and tools related to analyze the city will help students to develop the understanding of ZDP	✓	✓	✓	✓	✓	✓
Basics of Ecology, Geology and Hydrology (PLAN250)	CLO 1	The student will be able to recognize and summarize geological structure and earth forms and to apply their specific features in spatial development.	The basic idea is to understand the geological structure	✓	✓	✓	✓		✓
	CLO 2	The student will be able to analyze the biological diversity of natural systems and correlation between environmental demand and human population and its carrying capacity.	To interpret the concept of biological diversity of natural system and population demand and projection	✓	✓	✓	✓		✓
	CLO 3	The students will be able to appraise the significance and relevance of Ecology, Ecosystems for Settlement Planning and apply them while planning.	Introduction of Ecosystem for Settlement planning	✓	✓				

Traffic and Transport Planning-II (PLAN251)	CLO 1	The student will be able to familiarize about various types of Urban Forms – Structure patterns and its impact on transport system development.	The basic idea is to analyse the impact of Urban Forms on transport system	✓	✓	✓	✓		
	CLO 2	The student will be able to learn the basics of comprehensive transportation planning, and objective of Transit Oriented Development (TOD).	To understand the concept of TOD	✓	✓	✓	✓	✓	✓
	CLO 3	The student will be able to reframe the knowledge of transport policy and management measures.	Basic understanding of transport policy and management measures	✓	✓	✓	✓		✓
	CLO 4	The student will able to describe the economic appraisal of transport projects and techniques for estimating direct and indirect road user costs.	Learning of an economic appraisal and techniques for estimating direct and indirect road user costs to discuss the transport projects	✓	✓	✓	✓	✓	✓
	CLO 5	The student will be able to relate the knowledge of transportation planning and environment for an efficient traffic and transportation structure in a city.	To study the efficient traffic and transportation structure in a city.	✓	✓	✓	✓	✓	✓
Environmental Impact Assessment in Planning (PLAN253)	CLO 1	The student will be able to demonstrate knowledge of the environmental impact assessments at various levels.	The basic knowledge of the environmental impact assessments	✓	✓				
	CLO 2	The student will be able to understand the detailed Site Investigation and Evaluation, Environmental Management.	To evaluate the detailed Site Investigation with respect to environmental Management		✓	✓	✓	✓	

	CLO 3	The students will be able to articulate and analyse the application of EIA & role of PPP through case studies.	To articulate and analyse the application of EIA & role of PPP through case studies		✓	✓	✓	✓	
GIS for Planning - I (PLAN252)	CLO 1	The student will gain basic knowledge about GIS	Introduction to GIS. Exploring the interface, applications menu, and options in ribbons, flyouts and expanding panels will help the students in upgrading the presentation skills	✓	✓	✓	✓		✓
	CLO 2	The student will get familiarized with the techniques of GIS for further application in Planning Applications	The basic tools and techniques of GIS for further application in Planning will help students to develop efficiency of working GIS in planning	✓	✓	✓	✓		✓
	CLO 3	The student will be able to demonstrate knowledge of the use basic GIS and its application as mapping tool for various data collection and map creation	To demonstrate knowledge of the use basic GIS and its application as mapping tool for data collection and map creation		✓	✓	✓	✓	✓

Semester-V	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Introduction to Urban Design	CLO1	The students will be able to specify basic principles, elements, and practices in urban design.	Study about the principles and practices in the Urban Design and try to develop their understanding through successful case studies.	✓	✓	✓			

	CLO2	The students will be able to compare and relate urban design as an interface between architecture and planning.	Establish the relationship between the Urban design with Architecture and Planning through case studies		✓		✓	✓	
	CLO3	The students will be able to carry out study through lens of urban design and demonstrates it through means of graphical presentation.	Different kind of Graphical presentation like infographics is one of the important aspect of the Urban design and architecture.			✓	✓	✓	
	CLO4	The students will be able to infer physical and non-physical determinants which shapes urban built environment.	Development of interrelation between the physical urban environments and their attributes.		✓	✓	✓		
	CLO5	The students will be able to introspect and examine role of planning at larger scheme in respect to urban design and architecture.	Develop the understanding through case studies that how projects perform on the ground.		✓	✓	✓		
Housing and Community Planning	CLO1	The student will be able to define the parameters of housing, housing need-supply gap and limitations of assessment methods	Study the definition of housing and understand the need of the housing, their supply and demand, and their assessment.		✓		✓		✓
	CLO2	The student will be able to relate and determine the housing typologies, standards and regulations for different physical and climatic zones.	Development of the understanding of different housing typologies, and norms related to housing for different regions of India.		✓		✓		✓
	CLO3	The student will be able to analyse and structure the broad aspects of affordable housing with respect to financial concept and significance.	Perform the study to understand the affordable housing from the perspective of different stakeholders.		✓	✓	✓	✓	
	CLO4	The student will be able to evaluate and examine the role of different housing institutions and stakeholders with respect to the housing policy framework in urban and rural India.	Study about the different policies by the Government and evaluate the legitimacy of the norms.		✓			✓	✓
Urban Renewal and Conservation	CLO1	The students will be able to understand the importance of	Study the heritage importance in the development of the city	✓	✓		✓		

		heritage for the city and its role in supporting city development	for which gov is also focusing in these days.						
	CLO2	The student will be able to apply the knowledge of principles of conservation.	Study of the principles of conservation and evaluate them with the selected heritage and its implication on the city development.			✓	✓	✓	
	CLO3	The student will be able to demonstrate basic techniques of urban renewal and conservation.	Study through the case studies to understand the urban renewal and conservation.	✓	✓				
Sustainable Urban Development	CLO1	The students will be able to identify and articulate urban development issues and approaches aligned with sustainability.	Students will understand the different aspects of sustainability and its importance in the urban development.		✓	✓	✓		
	CLO2	The students will be able interpret the changing perspective of man-environment with respect to pollution, population, resources, economy and natural forces.	Natural conservation is one of the important aspect of the sustainable development which students will study.		✓	✓	✓		
	CLO3	The students will be able to illustrate different methodologies adopted for sustainable urban development.	Study of different methodologies for the sustainable urban development with appropriate examples.			✓		✓	
	CLO4	The students will be able to analysis resources (land, water, etc) for sustainable built environment.	Students will study the importance of the natural resources for the sustainability of the built environment.				✓	✓	
	CLO5	The students will be able to evaluate trends of urbanization, industrialization, resources utilizations, norms and limits of development.	There are some defined norms by the government like SDGs for the evaluation of sustainable development which student will learn.				✓	✓	
Planning for Special Economic Zone	CLO1	The students will be able to locate different SEZs and distinguish them w.r.to its strategic location, size, site planning, population, availability of physical and natural resources etc.	Development their understanding about the SEZs which are one of the important aspect of the development .		✓	✓	✓		

	CLO2	The students will be able to demonstrate the need and importance of a specific SEZ and co-relate it with regional context and potential environment.	Students will be able to know that how SEZs impact the development of any regions.		✓	✓	✓		
	CLO3	The students will be able to review the overall spatial plan of SEZ and to integrate it with role of various government and public institutions for development of SEZ.	Evaluation the norms and policies by the government for SEZs on the ground level.		✓		✓		
GIS for Planning- II	CLO1	The student will gain basic knowledge about advanced concepts in GIS and Digital Image Processing	Study of the concept of GIS and digital image processing and its application.		✓	✓			
	CLO2	The student will get familiarized with the techniques of GIS and digital image processing for further application in Spatial Planning Applications	Students will perform the GIS application on the Urban Planning.			✓	✓	✓	✓
	CLO3	The student will be able to demonstrate knowledge of the use basic GIS and its application as a modelling tool.	Students will perform the modelling in the GIS for different urban scenarios.		✓	✓	✓	✓	✓
Planning Studio-V	CLO1	The student will able to outline the concept, principles and layout of Development Plans with respect to district and state level.	Students will understand the inception of Development plans and how it is approached and started and what kind of data is required to make these plans	✓	✓	✓	✓		
	CLO2	The student will able to interpret the objectives, opportunities, challenges and limitations of Development Plans framing suitable examples.	Define the objectives, opportunities and limitations in the development plan.		✓		✓	✓	
	CLO3	The student will be able to apply and analyse the development control regulations in different areas and regions as per the Master Plan norms.	Evaluation of the norms and policies by the government for the development plans for different regions.				✓		✓

	CLO4	The student will be able to assess the importance and strategies of various development features and aspects in development plans as recommended in URPF guidelines.	Students get to know the development regulations like URDPFI etc.		✓		✓		
	CLO5	The student will be able to devise (create) checklist for conducting surveys and field survey formats for conducting primary surveys.	Development of the survey as per the checklist required for the specified development plans		✓	✓	✓	✓	✓

Semester-VI	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Research Methodology in Planning	CLO1	The student will be able to identify basic processes and techniques for research and developing an argument.	Identification of the techniques used in research		✓	✓	✓	✓	✓
	CLO2	The student will be able to choose a topic of interest having relevance to the planning profession, integrate and apply the learnt research process	Learning of the research process and application on the chosen topic by the students.		✓	✓			
	CLO3	The student will be able to collect background material, identify potential participants, organize colloquium, record minutes, and submit a report which may be further helpful in the thesis in the subsequent semester	Preparation of report after the study analysis of the data chosen of the topic of the students	✓		✓	✓	✓	

Planning Studio - VI	CLO1	The student will be able to understand the concept of the planning & design of a sustainable city.	Understanding the concept and fundamentals of sustainability and its application through the case study.		✓				✓
	CLO2	The student will be able to identify the stakeholders and responsible authorities.	Identification of the stakeholders for the decided development plans.		✓		✓		
	CLO3	The student will be able to demonstrate the organization of data with respect to primary data and secondary data.	Collection of the primary and secondary data for the study to analyze and preparation of the proposal.			✓	✓	✓	
	CLO4	The student will be able to analyze the synthesis of data and information collected on various aspects and create the checklist for conducting surveys and field survey formats for conducting primary surveys.	Analysis of the collected data according to the checklist prepared for the study.		✓	✓	✓		
	CLO5	The student will be able to understand and reframe the policies and proposals as recommended in URPFI guidelines.	Considering the guidelines preparation of the proposal in accordance of the required guidelines for the plans.			✓	✓	✓	✓
Planning of Informal Sector	CLO1	The students will be able to identify the issues concerned with Urban Poverty and discuss various approaches in form of basic services provided to the urban poor.	Understanding of the importance of the informal sector through theory and its application by choosing the case studies.		✓	✓	✓	✓	✓
	CLO2	The students will be able to illustrate the role and growth of the Informal sector, its implications, etc. to prioritize physical planning by studying relevant case studies from India and other developing countries.	Study of the different types of the informal sector in India and abroad to understand the difference and its implication for the development of society.			✓		✓	✓
	CLO3	The students will be able to review the planning of the Informal sector and integrate it	Evaluation of the informal sector through different norms and standards by the				✓	✓	

		with Policy and government-level initiatives.	government.						
Planning for Special Areas	CLO1	The students will be able to identify formal and functional special areas and describe them in various urban development schemes as per different geographical characteristics.	Understanding of the importance of the special areas and their contribution to the development of the urban areas.				✓	✓	
	CLO2	The students will be able to apply the special area characteristics and analyze it w.r.to different financial models.	Development of interrelation between the financial models and special area characteristics.		✓	✓	✓	✓	
	CLO3	The students will be able to review the special area along with infrastructure services and facilities and formulate the overall scheme with the most suited financial model for development.	understanding of infrastructure requirement and services in the special area and its relation with the financial model through case studies.		✓	✓	✓	✓	✓
Urban and Rural Management	CLO1	The student shall be able to develop knowledge on governance strategies, determinants for judging good governance and various rights of citizens as per law.	Identification of the good governance strategies in the development.		✓		✓	✓	
	CLO2	The student shall be able to interpret the Politics and progress of decentralization, successfully.	Analysis of the different policies of government for decentralization of the development.				✓	✓	
	CLO3	The student shall be able to outline the role and application of management techniques in Urban and Rural Planning and development.	Development of the understanding of different management techniques which applies in urban and rural management with the help of case studies.		✓			✓	
Real Estate Planning and Management	CLO1	The students will be able to learn and understand the real estate projects	Real estate development and it is understanding through case studies		✓				

	CLO2	The students will be able to measure the economic and social benefit of the project	Analysis of different projects to understand the social and economic evaluation.				✓	✓	
	CLO3	The student will be able to evaluate the feasibility analysis of potential real estate projects.	Evaluation of the feasibility of real estate projects with the help of some projects.				✓	✓	
Urban Finance and Resource Mobilization	CLO1	The student will be able to understand and interpret about various urban multiple finance systems to fund urban development projects, taxation and budgeting systems in municipal finance.	understanding of the municipal finance and its contribution in the urban development		✓	✓	✓	✓	
	CLO2	The student will be able to articulate and analyse Municipal Financial, Accounting, and operational mechanisms.	Application and analysis of different municipal finance operation and its mechanism.			✓	✓	✓	
	CLO3	The student will be able to appraise the Urban Finance and Resource Mobilization of Urban Local body.	Understanding the successful integration of the urban resource mobilization on ULBs.		✓	✓		✓	
Application of ICT in Urban Planning	CLO1	The students will be able to learn the penetration of ICT in every stage of planning process	Understanding the concept of ICT in the development as well as in the operation and management in planning projects.		✓	✓			
	CLO2	The students will be able to summarize the advantages and disadvantages of ICT planning	With the help of case studies, understanding of the advantages and disadvantages of ICT.		✓		✓	✓	
	CLO3	The student will be able to appraise the role of ICT in E-Governance	Understanding of the role of ICT in the E-Governance through live examples of good E-governance		✓	✓	✓	✓	

Semester-VII	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Planning Studio- VII	CLO1	The student will be able to understand the regional development issues and identify the potential thrust areas for regional development.	Comprehend urban & regional level issues and scope of work		✓	✓	✓		
	CLO2	The students will be able to identify and analyze appropriate alternate strategies and programmes, formulation of sectoral prioritization and financial allocation for regional planning.	Evaluation of significance and preference of regional development works		✓	✓	✓	✓	
	CLO3	The student will be able to apply various survey techniques and field survey formats for conducting primary surveys.	Data Collection through multiple means			✓	✓		
	CLO4	The student will be able to apply and demonstrate knowledge of creating a regional development plan after analysis of data available, field work leading to conducting surveys.	Preparation of regional development plan with operative framework			✓	✓	✓	✓
Metropolitan Planning, Development and Management	CLO1	The student will be able to understand the Process of Metropolitanization and Evolution of Metropolitan Cities and their respective Regions using Case Studies.	Concept of metropolis and primate cities	✓	✓				

	CLO2	The students shall be able to interpret the Techniques of Delineation of Metropolitan Regions and study their Structure, Form and Characteristics with the help of Case Studies.	Administration pattern of metro cities		✓	✓			
	CLO3	The student will be able to articulate the Planning, Institutional and legal framework for Metropolitan Planning and development	Operative framework of public institutions in metro cities		✓	✓			
	CLO4	The student will be able to devise development and management strategies at regional and settlement level.	Urban Management of development plans at local and regional			✓	✓	✓	
	CLO5	The student will be able to appraise about the different approaches adopted in Metropolitan planning, development and management in India.	Case study of Indian metro cities and their critical evaluation			✓	✓		
Disaster Risk Mitigation and Management	CLO1	The student will be able to memorize the various concepts of disaster management at both state and national level.	Study of administrative framework of disaster preparedness	✓	✓				
	CLO2	The student will be able to interpret the Disaster Management Mechanisms prevalent; Disaster Risk Mitigation; and Post Disaster Measures in different physical zones of India.	Evaluation of pre & post disaster management mechanism		✓	✓			
	CLO3	The students will be able to integrate and analyze the land use planning regulations, building bye laws and disaster safe construction practices for different types of disasters.	Exploring relativity of disasters and physical development legislations		✓	✓	✓		

	CLO4	The students will be able to validate the importance of disaster preparedness and post disaster management aspects with respect to resource management for disaster safe habitation.	Optimization of resources for sound administration		✓	✓	✓	✓	
Estimation and valuation of Planning Projects	CLO1	The students will be able to examine estimation and its uses and demonstrate the knowledge during project execution.	Importance of estimation for Project execution		✓	✓	✓		
	CLO2	The students will be able to discover specifications for site development/ services and classify them as per different planning schemes concluding to development cost of the project.	Relevance of Specifications in estimation of project cost			✓	✓		
	CLO3	The students will be able to review planning projects through valuation which helps to integrate planning with financial aspect.	Evaluation and review of project estimation			✓	✓	✓	
Landscape Planning	CLO1	The student will be able to identify and sensitize with the importance of Landscape Planning in context of urban and regional context.	Significance of landscape planning in cities		✓	✓			
	CLO2	The student will be able to demonstrate the knowledge of Principles and Techniques of Landscape Design, Open Spaces, etc.	Principles of Urban design and landscape in city planning			✓			
	CLO3	Students will be able to critically appraise the entire landscape process and their scope and will be more concerned about how to take care about an environment.	Evaluation of Landscape planning intervention in cities and its impact on environment				✓	✓	
Planning Legislation and Professional Practice	CLO1	The students will be able to memorize the various laws of Indian Constitution and Planning	Study of Planning and development control regulations	✓	✓				

		& Development Organizations within the country.							
	CLO2	The students will understand the roles, responsibilities and ethics in the profession of planning.	Roles of planners in professional practice		✓				
	CLO3	The students will apply this knowledge to demonstrate highest level of professional ethics and values to full fill their responsibility towards the client/general public.	Study of professional ethics and responsibilities of planners			✓			
Pre-Thesis Planning Project	CLO1	The student will be able to select the area of research study identifying the need and theoretical and contextual rationale with respect to the research gap.	Research gap identification through literature study		✓	✓			
	CLO2	The student will be able to formulate project objectives and goals in relation to the methodology of research work.	Formulation of research methodology for dissertation		✓	✓			
	CLO3	The student will be able to apply knowledge gained through various planning theories and practical approaches for formulating thesis project.	Application of learnings from literature and case studies for thesis			✓	✓		
	CLO4	The student will be able analyze and evaluate the case studies and propose ideas for the selection of thesis project.	Writing Proposal for a thesis project			✓	✓	✓	✓

Semester-VIII	Course Learning	Course Competency	Indicators	Assessment Based on Bloom Taxonomy
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Semester Course Title	Outcomes			Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Planning Thesis Project (APIDPTP100)	CLO1	The student will be able to conduct independent research.	Application of conducting research individually		✓	✓	✓		
	CLO2	The student will be able to learn to use and apply knowledge gained through various theory and practical courses.	Practical execution of class learnings in individual research		✓	✓	✓	✓	✓
	CLO3	The student will be able to organize ideas and recommendations for the project.	Formulating strategies/ ideas with Inferences and Evaluation			✓	✓	✓	✓

M.ARCH

Semester-I Semester Course Title	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1 : Advanced	CLO1	The student will be able to comprehend, analyse and apply	Students are able to conduct a survey of advanced building		✓	✓	✓		

Construction Materials and Technologies Credit Units 3		advanced construction materials and technologies in design and construction management of projects in an effective manner.	materials and construction technologies.						
	CLO2	Students will be able to learn and design of concrete structures of Multi – storied buildings	Students demonstrate their knowledge in selection of suitable building materials and technologies	✓					
	CLO3	Students will also learn various software to apply in advanced construction technologies	Students are able to demonstrate the use of software for design analysis						✓
Course Title -2 : Architectural Seminar Credit Units 2	CLO1	Student will be able to analyse and shape the ideas in diverse context and situations.	Student demonstrate awareness of successful design examples, futuristic designs, key trends	✓					
	CLO2	Student will be able to formulate hypothesis, do literature review, define the scope of research and establish the need of the study.	Students demonstrate use of research approach, methods and frameworks as accepted internationally		✓	✓			
	CLO3	The student will be able to formulate research and present systematically through writing and other communication mediums keeping in view the audience/readership	Student demonstrate structuring of information, choose mediums of communication and presentation of research				✓	✓	✓
Course Title -3 : Artificial Intelligence and Built Environment Credit Units: 03	CLO1	Student will be able to identify with Artificial Intelligence, Machine Learning and Deep Learning and key concerns with regards to ethical use and data privacy	Student demonstrate awareness of terms, terminologies and ethics	✓	✓				
	CLO2	Student will be able to comprehend the use of artificial intelligence in design, construction and operations of built structures.	Students demonstrate use of collection of spatial data through appropriate choice of tools and techniques					✓	
	CLO3	The student will be able to analyse and apply the knowledge of AI and data science in project	Student demonstrate use of IT in application to real projects such as smart cities, etc			✓	✓		

Course Title -4 : Building Energy Analysis Credit Units: 03	CLO1	Student would understand the concept of building performance analysis in general and focus on its different aspects	Student demonstrate awareness of terms, terminologies and rating systems	✓					
	CLO2	Student will be able to comprehend the tools for Building Performance analysis and rating systems to integrate during the design development stage.	Students demonstrate use of appropriate choice of tools and techniques for building performance analysis		✓				
	CLO3	The student will be able to audit the performance of building systems post commissioning and analyse the data for efficiency in operations and using it for research and development	Student can conduct building performance analysis during design, operation and in research			✓	✓	✓	✓
Course Title -5 : Contemporary Theories in Architecture and Design Credit Units: 03	CLO1	Student will be able to examine different architectural theories which have evolved since the beginning of 19th century	Student demonstrate awareness of different architectural theories	✓					
	CLO2	Student will be able to comprehend prevalent architectural styles, their philosophical attitudes and the theories.	Students is able to discuss and analyse the philosophies		✓				
	CLO3	The student will be able to relate with impact of theories by analysing evolution of various cities	Student is able to understand and analyse the impact of these theories			✓	✓		
	CLO4	Student will be able to develop practice of critical reading of architectural works.	Student is able to critique these theories, discover future trends and show application in current times					✓	
	CLO5	The student will be able to develop his/her own ideology and its application to achieve creative and sustainable design.	Student can use computers and day design processes						✓

Course Title -6 : Design Studio I Credit Units: 07	CLO1	Student would comprehend the various attributes of Super Tall Buildings relatively and holistically to understand the complexities of such structure	Student demonstrate awareness of terms, terminologies and different types of high rise housing	✓	✓				
	CLO2	Student will be able to discover and illustrate the appropriate technologies, materials with respect to structural and vertical spatial configuration for Super Tall buildings.	Students demonstrate through case study the said CLO			✓	✓		
	CLO3	The student will be able to critically appraise the complexities of Super Tall Buildings and will be able to propose an efficient design solution integrating architectural and engineering attributes. t	Student demonstrate through case studies and use of IT issues like sustainability, environment, human demography, market value,					✓	✓
Course Title -7: Mega structures: Systems and Technologies Credit Units: 03	CLO1	Student will be able to identify the generic concept of Mega Structures and its varied applications.	Student demonstrate identification and awareness of types of mega structures through various examples	✓					
	CLO2	Student will be able to observe and interpret prevalent design practices, construction, and service systems for tall Mega Structures.	Students is able to discuss and analyse various materials, services, etc through examples and case-studies		✓				
	CLO3	The student will be able to discover the complexities of designing a Tall Mega Structure projects and relate to its unique requirements	Student is able to demonstrate understanding of above through use of IT and software			✓	✓		
	CLO4	Student will be able to evaluate and apply the knowledge gained in projects, while assessing ways of increasing sustainability of the process and project.	Student is able to demonstrate use of software for assessment					✓	

Course Title -8 : Project Management Credit Units: 03	CLO1	Student would comprehend the total system associated with management of a building project	Student demonstrate awareness of terms, terminologies		✓				
	CLO2	Student will be able to apply the knowledge gained in practice and build upon it	Students demonstrate use of appropriate choice of tools and techniques for project management			✓			
	CLO3	The student will also learn software and will be able to schedule a project on the software and analyse it	Student can conduct building project management analysis during design, operation and in research		✓		✓		
Course Title -9 : Space Syntax in Architecture and Design Credit Units: 03	CLO1	Student would define and classify the relevance of Space in architecture, especially for Urban Design and Public Spaces.	Student demonstrate awareness of terms, terminologies		✓	✓			
	CLO2	Student will be able to discover abilities and become conversant with tools and techniques for analysis of space for further application	Students demonstrate use of appropriate choice of tools and techniques for analysis				✓	✓	
	CLO3	The student will defend the case-based studies comprehending to public spaces.	Student can conduct and present case studies						✓

Semester-II	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
Course Title -1 : Application of GIS	CLO1	The student will gain knowledge about	Students are able to demonstrate knowledge	✓	✓				

Credit Units 3		Geographical Information System	of concepts and terminologies						
	CLO2	Students will get familiarized with the techniques of GIS for further application in architectural research and spatial investigations.	Students demonstrate their knowledge in selection of suitable techniques for research			✓	✓		
	CLO3	Students will develop the ability to choose appropriate strategy /strategies from the wide range of GIS techniques and apply them to answer specific architectural research question.	Students demonstrate map projections					✓	
Course Title -2 : Architectural Journalism Credit Units 3	CLO1	Student will be able to able to memorize the writing techniques and processes	Student demonstrate awareness of writing terminology and processes	✓	✓				
	CLO2	Student will be able to understand the skill sets required in writing and photography	Students demonstrate use of paraphrasing and editing			✓			
	CLO3	Student will be able to apply the techniques in creating written contents for magazines, journals and online platforms	Students are able to apply the CLO in different kinds of writing exercise				✓		
	CLO4	The student will be able to analyse and evaluate philosophies and works of architects with an ability to express critical opinion.	Student demonstrate structuring of information, choose mediums of communication and presentation of research					✓	✓

Course Title -3 : Environmental Legislation Credit Units: 03	CLO1	Student will be able to recognize the environmental challenges and subsequent effect upon the built environment	Student demonstrate awareness of terms, terminologies and ethics	✓	✓				
	CLO2	Student will be able to summarize various environmental regulations, especially their relationship with and implications for the built environment.	Students demonstrate knowledge of environmental regulations					✓	
	CLO3	The student will be able to articulate the projects within the framework of Sustainability for subsequent design and building exercises.	Student demonstrate use of frameworks for sustainability, etc			✓	✓		
Course Title -4 : ICT and City Design Credit Units: 03	CLO1	Student would identify the concept of Information and Communication Technology (ICT) and its applicability in city design and planning	Student demonstrate awareness of terms, and software	✓					
	CLO2	Student will be able to infer international interventions for smart city planning	Students demonstrate use of appropriate choice of examples to draw inferences		✓				
	CLO3	The student will illustrate knowledge on infrastructure development	Student can conduct case studies			✓	✓	✓	✓
Course Title -5 : Research Methodology in Architecture Credit Units: 03	CLO1	Student will understand the relevance and process of undertaking research.	Student demonstrate awareness of different research theories	✓					
	CLO2	Student will be able explore topics of social, cultural and technical concerns related to architecture and work	Students is able to discuss and analyse the philosophies		✓				

		towards resolving the research questions.							
	CLO3	The student will be able to undertake systematic architectural research in a scientific manner.	Student is able to understand and analyse the impact of these theories			✓	✓		
Course Title -6 : Design Studio II Credit Units: 08	CLO1	Student would comprehend the larger context of built form and spaces beyond the interiors of buildings.	Student demonstrate awareness of terms, terminologies and different types	✓	✓				
	CLO2	Student will collect data, study and analyse urban built environments, and make recommendations for their holistic design.	Students demonstrate through case study the said CLO			✓	✓		
	CLO3	The student will be able to propose a comprehensive design solution for a Greenfield or Brownfield project after critically appraising the given urban fabric	Student demonstrate through case studies and use of IT issues like sustainability, environment, human demography, market value					✓	✓
Course Title -7: Urban Morphology Credit Units: 03	CLO1	Student will recognise various components which stich the urban fabric.	Student demonstrate identification and awareness of types of urban fabric	✓					
	CLO2	Student will compare the impact of various components on different urban settings	Students is able to discuss and analyse various components		✓				
	CLO3	The student will apply and Analysing the theories that have built the cities of today	Student is able to demonstrate understanding of above through use of IT and software			✓	✓		

	CLO4	The student will evaluate and combine various approaches to integrate physical, social and cultural dimensions of the cities, necessary for successful and holistic urban management.	Student is able to demonstrate use of software for assessment					✓	
Course Title -8 : Urban Regeneration and Renewal Credit Units: 03	CLO1	Student would appreciate the multiple factors that shape a city	Student demonstrate awareness of terms, terminologies		✓				
	CLO2	Student will be able to realize and assess various approaches and tools available to make interventions in urban areas requiring redevelopment	Students demonstrate use of appropriate choice of tools and techniques			✓			
	CLO3	The student will be able to demonstrate basic techniques of urban regeneration and renewal	Student can conduct analysis during design, operation and in research	✓			✓		
Course Title -9 : Urban Resilience and Disaster Preparedness Credit Units: 03	CLO1	Student will be able to identify the risks faced by human settlements due to natural and man-made factors	Student demonstrate awareness of terms, terminologies	✓	✓				
	CLO2	Student will be able to infer the role of multiple stakeholders and framework in place	Students demonstrate use of appropriate frameworks for analysis			✓	✓		
	CLO3	The student will illustrate knowledge on Urban Resilience						✓	✓
	CLO4	The student will be able to develop solutions for disaster mitigation	Student can conduct and present case studies						✓

Semester-III	Course Learning Outcomes (CLOs)	Course Competency	Indicators	Assessment based on Blooms Taxonomy					
Course Title				Remembering	Understanding	Applying	Analysing	Evaluating	Creating
COURSE NAME - Building Economics and Project Finance COURSE CODE - ARCH 635	CLO1	The student will be able to develop an understanding of key economic factors responsible for successful acceptance of design solutions	Able to resolve complex design problems by understanding of major economic factors.	✓					
	CLO2	The student will be able to identify institutions and processes available for financing of projects	Able to understand various institutional roles in financing the project.		✓	✓			
	CLO3	The student will be able to conduct a performance analysis to judge the efficiency of any project	student should analyse performance of the project				✓	✓	
COURSE NAME - Building Information Modelling (BIM) COURSE CODE - ARCH757	CLO1	The student will be able to identify features of BIM as a project management tool for AEC Professionals.	Should able to comprehend BIM as a project management tool for AEC Professionals	✓					

	CLO2	The student will be able to exhibit an understanding of coordination, presentation, execution and analytical importance of BIM as a common platform.	Hand on experience through working on coordination, presentation, execution and analytical importance of BIM		✓				
	CLO3	The student will be able to explain the extrapolation of features of various 3d modelling software like Revit as strong BIM tools.	Working as expertise on Revit software			✓			
	CLO4	Student will be able to point out the need of BIM as a cutting-edge construction execution and coordination tool.	Expatriation of Revit software with other services in a single construction project				✓	✓	
	CLO5	Student will be able to develop a strategy for a basic BIM management set-up for an institutional or an infrastructure project.	BIM as a strategic tool for Infrastructure projects						
	CLO1	The student will comprehend the range of built heritage available and its contribution in sustainable development	Learning from Built Heritage audit's contribution	✓	✓				
COURSE NAME - Management of Built Heritage COURSE CODE - ARCH 755	CLO2	The student will be able to analyse the challenges faced by built heritage in its sustenance	Student able to analyse the challenges faced by built heritage			✓	✓		

	CLO3	The student will develop skills to provide solutions for effective protection and management of built heritage.	Protection and Management of the built heritage with effective solution					✓	
COURSE NAME - Project Cost & Contract Management COURSE CODE - ARCH756	CLO1	The student will be able to understand the types of cost estimates and documentations in building construction.	Estimation and the costing with example of construction project		✓				
	CLO2	The students will be able to devise the appropriate contract documents for building construction.	Making of contract documentation for bidding			✓	✓		
	CLO3	The student will be able to evaluate the building construction costing.	Students to evaluate the total cost of construction				✓	✓	
COURSE NAME - Sustainable Built Environment COURSE CODE - ARCH640	CLO1	The student will understand the approach to Sustainability in Built Environments and UNSDGs	Students will understand the role of importance of sustainability w.r.t. the built environment		✓				
	CLO2	The students will be able to explore Sustainable Materials and understand the Measures of Sustainability.	Search for updated innovative sustainable material for the best results for the project			✓	✓		
	CLO3	The student will be conversant with prevalent sustainable construction practices and different rating systems for further application.	Analysis the materials as per the rating systems for best outcome of the energy efficiency					✓	

Masters in Urban Design

Semester -I	Course Learn ing outcom es	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Course Title -1: Urban Design Studio – I	CLO1	Acquire the skills of survey, documentation, and analysis of human networks and conduct typological studies.	1.1 Conduct visual survey, urban network of urban precinct. 1.2 Conduct typological studies of urban precinct. 1.3 Document and present urban precinct through different layers	✓		✓			✓
	CLO2	Demonstrate the ability to engage in a complex area of a metropolis and to analyse the existing fabric and represent this analysis in a clear graphic language at a range of scales.	2.1 Critically analyse different layers of urban precinct to identify issues. 2.2 Demonstrate with appropriate graphics. 2.3 Develop vision for the precinct.		✓		✓	✓	✓
	CLO3	Demonstrate skills of modelling of urban form, building mass, typology, sun-shading, topography, hydrology, public/private relations.	3.1 Develop hard & soft models to demonstrate different aspects of the precinct.			✓	✓		
	CLO4	Demonstrate the ability to appreciate and analyse real site conditions in an urban area, assessing needs and programming for design intervention.	4.1 Make decisions based on critical analysis of the built environment 4.2 Find out of the box solutions to real world challenges				✓	✓	✓
Course Title -2: Urban History and	CLO1	Develop understanding of various parameters of urban design	1.1 Identify different parameters good urban design 1.2 Apply parameters in design studio	✓	✓				
	CLO2	Understand various components of city building through study of various models	2.1 Research enquiry of different city models			✓	✓		

Development Theories and Processes	CLO3	Demonstrate the ability to evaluate impact of various movement for city fabric	3.1 Critical analysis of role of urban mobility in city fabric 3.2 Demonstrate sensitivity towards the social concerns and issues faced				✓	✓	
	CLO4	Demonstrate the ability to analyze, evaluate & propose sustainable models for development	4.1 4.2 Address the Global sustainability agenda by incorporating learnings in design proposal						✓
Course Title – 3: Site Planning and Sustainable Design	CLO1	Acquire skills to conduct site surveys	1.1 Conduct survey of topography, vegetation and natural systems.	✓	✓	✓			
	CLO2	Consider ecological aspects of urban development for sustainable site planning	2.1 Analyse critical ecological aspects of site and demonstrate sensitivity in design			✓	✓		✓
	CLO3	Analyze ecological and geomorphological characteristics of a site.	3.1 Analyse critical geomorphological characteristics of site and demonstrate sensitivity in design				✓	✓	
	CLO4	Use site analysis information to propose appropriate site planning.	4.1 Propose design solutions with sensitive considerations of site and plan in response to the context.			✓			✓
Course Title – 4: Urban Form and Systems	CLO1	Demonstrate understanding the diverse theoretical discourses on Urban Form	1.1 Critical appraisal of urban design theories	✓	✓				
	CLO2	Develop an intellectual capacity to understand existing urban forms and their related systems.	2.1 Critical appraisal of urban design theories in the existing urban Indian context			✓	✓		
	CLO3	Demonstrate the ability to critically analyze the Urban fabric	3.1 Critical appraisal of urban design theories in the existing urban Indian context				✓	✓	
	CLO4	Acquire skill of evaluating and inferring from case studies to inform their design positions.	4.1 Reflect understanding in developing urban form of design project						✓
Course Title – 5: UD Graphics and Mapping Techniques	CLO1	Demonstrate critical spatial and analytical thinking	1.1 Spatial analysis through graphical representations	✓					
	CLO2	Demonstrate ability to identify suitable data visualizations and representations of multidimensional data.	2.1 Appropriate graphical vocabulary for data, analysis and design presentation.		✓	✓			✓
	CLO3	Demonstrate skills for appropriate methods of representation and communication of results.	3.1 Appropriate graphical vocabulary for data, analysis and design presentation.	✓		✓	✓	✓	
	CLO4	Demonstrate skills for conducting thematic mapping of aggregated and	4.1 Detailed mapping of urban precinct in GIS			✓			✓

		disaggregated datasets							
	CLO5	Demonstrate competency in extracting and evaluating research evidence from spatial information as a basis for practice implementation	5.1 Appropriate graphical vocabulary and mapping for data, analysis and design presentation.		✓		✓	✓	
Course Title – 6: Communities Culture and Cities	CLO1	Recall and understand an anthropological approach to the analysis of local, national, and global urban issues.	1.1 Reflect understanding of anthropological approach & relationship from building scale to urban scale and urban issues	✓	✓				
	CLO2	Identify the dynamics of relationship at different level with respect to social, political, and economic sphere.	2.1 Critical analysis of inter-relationship of anthropological spheres in urban developments.		✓		✓		
	CLO3	Examine the way urban spaces shape identities and communities by examining urbanization and changing city landscapes.	3.1 Case representation of evolving urban identities through changing city landscapes			✓	✓		
	CLO4	Demonstrate ability to analyze and assess ways in which the built environment both shapes and is shaped by sociocultural, political, & economic processes.	4.1 Critical analysis of inter-relationship of development of built environment and anthropological processes of cities.				✓	✓	
	CLO5	Demonstrate ability to trace the development of theoretical concepts pertaining to urbanism.	5.1 Reflection of analysis in study of urban precinct in design studio						✓
Course Title – 7: Tactical Urbanism	CLO1	Demonstrate familiarity with tactical urbanism and its benefits	1.1 Understanding different tactical approaches adopted in urban interventions	✓	✓				
	CLO2	Demonstrate understanding of how tactical urbanism improves the project development and delivery process	2.1 Understanding different tactical approaches adopted in urban interventions			✓	✓		
	CLO3	Analyze how cities can advance policies and programs to enable city-citizen collaboration	3.1 Identification of policy gaps and possible approaches for inclusion of Tactical approach in urban development				✓		
	CLO4	Demonstrate skills for evaluating how the tactical approach may benefit your community	4.1 Skills for adopting tactical approach in urban interventions					✓	

Semester -II	Course Learni ng outcom es	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Course Title -1: Urban Design Studio – II	CLO1	Demonstrate the skills of survey, documentation, and analysis of complex urban areas.	1.1 Conduct detailed site survey through different layers of urban designs	✓		✓			✓
	CLO2	Develop in-depth urban spatial thinking.	2.1 Site evaluation and design development through critical spatial analysis		✓				
	CLO3	Demonstrate ability to appreciate, understand and analyses real site conditions in an urban area, assessing needs and programming for design intervention.	3.1 Critical analysis of interrelationship of different layers documentation. 3.2 Propose design programme as per analysis and appraisal		✓		✓	✓	
	CLO4	Reflect critical and creative design thinking in propositions to social housing.	4.1 Urban design proposal – structure plan, masterplan, detailed design intervention			✓			✓
Course Title -2: Urban Design Methodo logy and Planning Techniqu es	CLO1	Develop critical overview of planning processes and its impact on the development of Indian cities.	1.1 Critical appraisal of development trends in India	✓	✓				
	CLO2	Apply participatory methods responsibly in specific contexts and derive learnings from the process in developmental programs in the urban sector in his/her professional role as an urban practitioner.	2.1 Conduct public opinion survey, stakeholder interaction of urban design studio project			✓	✓		
	CLO3	Experience how to apply these methods to different urban projects in	3.1 Application of learnings in design studio project			✓	✓		

		an academic setting.							
	CLO4	Demonstrate skills to work in interdisciplinary and multistakeholder contexts.	4.1 Group work and coordination in public opinion surveys and stakeholder interactions.					✓	
Course Title – 3: Integrated Urban Conservation	CLO1	Demonstrate the ability to address the issues revolving around urban heritage and urban conservation.	1.1 Analysis of urban precincts in old city cores through heritage mapping, documentation & survey	✓	✓	✓			
	CLO2	Critically appraise Urban renewal and conservation for revival and redevelopment of brownfield sites and old city cores.	2.1 Identification of key issues 2.2 Detailed study of urban renewal and redevelopment projects		✓		✓	✓	
	CLO3	Develop an integrated approach towards urban resilience as a whole.	3.1 Present approaches for dealing with the issues to achieve urban resilience			✓			✓
	CLO4	Conduct heritage impact and environmental impact assessment.	4.1 Heritage impact and environmental impact of city core site – can be coordinated with design studio				✓	✓	
Course Title – 4: Urban Mobility	CLO1	Demonstrate acquirement of information on urban mobility and transportation theories, principles, and methodologies.	1.1 Thorough analysis of urban mobility study reports and white papers.	✓	✓				
	CLO2	Apply network-planning principles to the development of a multi-modal transport plan.	2.1 Apply learning in the design studio project – in analysis			✓			✓
	CLO3	Demonstrate ability to evaluate and critically analyse existing public transport operational patterns in Indian and international contexts.	3.1 Apply learning in the design studio project – in analysis and design scheme				✓	✓	
	CLO4	Define the necessary components of sustainable transport and be able to apply these to specific cases.	4.1 Identify components and parameters of sustainable urban transport			✓			✓
Course Title – 5: Research Methods	CLO1	Understand and apply essential principles of both qualitative and quantitative methods and identify the context for their appropriate use.	1.1 Research structuring 1.2 Identification of appropriate research tools and methods	✓	✓		✓		
	CLO2	Demonstrate skills of data collection and analysis and identify appropriate data collection and analysis tools and	2.1 Identify appropriate data collection, data interpretation tools	✓	✓			✓	✓

		methods.							
	CLO3	Demonstrate ability to structure research – establish need of study, define the scope, formulate hypothesis or research question, structure objectives and methodology.	3.1 Detailed research structuring of research including methods and tools		✓	✓	✓		
	CLO4	Demonstrate skills of research writing.	4.1 Research paper			✓			✓
Course Title – 6: Accessibility & Inclusive Cities	CLO1	Reflect on human diversity and recognize differences in user needs; Identify unmet digital needs and the design barriers that cause them.	1.1 Critical appraisal of diversities of human needs in urban areas 1.2 Detailed study of digital needs and barriers in urban accessibility	✓	✓				
	CLO2	Demonstrate use of inclusive design to modify design processes for including hitherto excluded users.	2.1 Demonstrate through interventions in design studio project – detailed design strategies		✓	✓			✓
	CLO3	Combine design knowledge and skills with the inclusive design approach to identify and articulate how digital design barriers could be solved creatively.	3.1 Demonstrate probable design solutions for overcoming digital design barriers			✓	✓		✓
	CLO4	Demonstrate the ability to collaboratively create a design to meet identified user needs.	4.1 Demonstrate site analysis (in terms of inclusiveness and accessibility) and design strategies in groups					✓	✓
Course Title – 7: Smart Urbanism and Urban Renewal Programs	CLO1	Critically analyse the emerging urban theories, trends and their implications.	1.1 Critical appraisal of emerging trends and policies	✓	✓		✓	✓	
	CLO2	Address the contemporary concerns in the construct of cities.	2.1 Critical appraisal of emerging trends and policies			✓		✓	✓
	CLO3	Demonstrate ability work in future urban scenarios based on prevailing urban trends.	3.1 Present future impact of current urban missions and policies			✓			✓
Course Title – 8: Urban Segregation	CLO1	Develop an understanding of distribution of urban spaces based on social factors of communities.	1.1 Analyse interrelationship between social segregation and urban segregation	✓	✓				
	CLO2	Reflect deeper understanding of main drivers of urban inequality and socio-	2.1 Analyse drivers of social and urban segregation			✓	✓		

		economic segregation.							
	CLO3	Demonstrate critical viewpoint for city planning form the perspective of urban social structures.	3.1 Analyse city fragmentation of selected city demonstrating use of appropriate study tools				✓	✓	
	CLO4	Demonstrate the use tools to analyze fragmentation of urban form based on social factors.	4.1 city fragmentation of selected city demonstrating use of appropriate study tools						✓

Semester-III	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Course Title -1: Urban Design Studio – III	CLO1	Demonstrate enhanced the skills of survey, documentation, and analysis of urban areas.	1.1 Students will develop easy to read creative maps and illustrations that will help in strengthening the project design base	✓		✓			✓
	CLO2	Develop systemic understanding of city through spatial analysis of multiple factors and network needs.	2.1 Students will develop innovative visualization techniques using analytical skills and showcase the analysis visually		✓				
	CLO3	Demonstrate ability to conceive and develop program details for urban design projects of green-field sites in real urban conditions.	3.1 Students will develop design solutions for identified problems along with future prospects and build capacity to analyze the solutions using tactical solutions.		✓		✓	✓	
	CLO4	Develop the understanding of client	4.1 Students will get involved in the conversation with the senior government officials, bureaucrats and citizens to understand their			✓			✓

		dynamics as well as tangible deliverables.	idea of transformation and needs.						
Course Title -2: Indian Urbanism: Reimagining Cities	CLO1	Demonstrate understanding of diverse traditional literary discourses on cities.	1.1 Students will prepare for presentation on their idea of future cities demand using different forms like story, comic book, illustration etc.	✓	✓				
	CLO2	Exposure to a wide range of imaginaries and representations of the city	2.1 Students will get involved in the discussions to help them understand different aspects of looking urban life			✓	✓		
	CLO3	Develop critical appraisal for urban patterns and city formations	3.1 Students will prepare presentations to share different aspects of city formation etc.				✓	✓	
	CLO4	Develop deeper understanding of city context.	4.1 Students will get involved in the discussions to help them understand different aspects of looking urban life						✓
Course Title – 3: Risk Assessment, Vulnerability and Feasibility Studies	CLO1	Prepare feasibility report timelines with resources required and foretell the repercussion of current project decisions on the future of the project.	1.1 Students will look into the subject deeply and critically to prepare the feasibility reports along with providing best time management possibilities to achieve success in the project.		✓	✓			✓
	CLO2	Prepare detail Project Reports to understand the Perform Risk, Market, Technical, Financial and Economic analysis and appraisals	2.1 Students will prepare the report and create conversations around the need of such project for intervention that will help in making them industry ready.			✓	✓	✓	
	CLO3	Decide on suitability of contracts to monitor and evaluate for different types of projects	3.1 Students will present their understanding on implementation of project involving different activities in process.	✓		✓			
Course Title – 4: Urban Infrastructure Planning & Management	CLO1	Learn basic of infrastructure planning and management with emphasis on urban utilities and services.	1.1 Students will have group discussion in class to develop clear understanding of the subject.	✓					

	CLO2	Identify the problems and issues related to infrastructure provision in a settlement and appraise planning guidelines to tackle these problems, and extent of infrastructure required for the future planning of settlements.	2.1 Students will be exposed to real world urban issues using site visits and gather information from the available study material to share their understanding with each other using presentation skills.		✓				
	CLO3	Demonstrate understanding of services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	3.1 Students will be exposed to real world urban issues using site visits and gather information from the available study material to share their understanding with each other using design solution sharing.			✓			
	CLO4	Comprehend Innovative Techniques required for provision of Water Supply, Wastewater Treatment, Storm Water Management, Sanitation and Solid Waste Management, etc.	4.1 Students will visit different government department to understand the solution techniques used in present scenario and compare with the best practices examples.				✓	✓	
	CLO5	Design and make recommendations for meeting the future needs infrastructure for a human settlement	5.1 Students will demonstrate their design solutions based on their conducted studies through panel discussions.				✓	✓	
Course Title – 5: Urban Governance and Public Policy	CLO1	Demonstrate skills to address the importance of legislation and institutions in urban management and governance	1.1 Students will get exposure of conversations conducted by research organizations, Niti Aayog etc. For better understanding of urban governance and public policy. Students will also collect the key points taken from the different policy handbooks.	✓	✓	✓	✓		

	CLO2	Comprehend how the principles and models of urban management and governance shall be applied to the practical situations facing urban policy makers.	2.1 Students will present their understanding of the subject through innovative methods of presentations.		✓	✓	✓		
	CLO3	Assess the role of public administration, local politics and citizen participation.	3.1 Students will look into different strategies used in 5 recent projects and present the comparative analysis.				✓	✓	
Course Title – 6: Seminar: Research Presentation	CLO1	Develop the capacity for independent, analytical and critical thought and reflection.	1.1 Students will present the summary research articles with analysis.	✓	✓		✓	✓	
	CLO2	Demonstrate the ability structure a study and presentation clearly and concisely.	2.1 Students will prepare and present the detailed structure plan for their research proposals.		✓	✓	✓		
	CLO3	Demonstrate skills of research presentation.	3.1 Students will present their research proposals.				✓		✓
Course Title – 7: Urban Land Management and Forecasting	CLO1	Develop an understanding of current real estate scenario in markets, off housing market, laws and policies to real estate markets.	1.1 Students will undertake site visit as part of the studies of current scenarios.	✓	✓				
	CLO2	Demonstrate understanding of trends in real estate.	2.1 Students will present their understanding based on site visits and literature studies of current scenarios.		✓	✓	✓		
	CLO3	Learn Laws related to real estate development and housing markets.	3.1 Students will study the laws related to real estate developments and housing markets and prepare report.		✓		✓	✓	
Course Title – 8: Urban Development	CLO1	Understand and distinguish different approaches of policy	1.1 Students will go through policy handbooks and showcase the approaches used through presentation in groups.	✓	✓	✓			

Policy Research		making.							
	CLO2	Critically analyse the influence of different factors on policy and vice- versa.	2.1 Students will analyze the presented policies and prepare the analysis pointers as part of submission.			✓	✓	✓	
	CLO3	Evaluate national and international urban development policies.	3.1 Students will prepare comparative analysis of the given subject.			✓	✓	✓	
Course Title – 9: Urban Energy Modelling	CLO1	Demonstrate skills in understanding the various dimensions of climate change and how to address them in the regional planning process by undergoing this course	1.1 Students will present their understanding on the given subject in groups and demonstrate them in their given design exercises.	✓	✓	✓	✓		
	CLO2	Learn tools and technique to analyze energy consumption pattern and understand the scope of energy conservation in urban area	2.1 Students will learn the techniques to analyze the energy consumption pattern through live case studies of automated building campuses and study of best practices followed in the world		✓	✓	✓		
	CLO3	Learn actual context of energy in urban area through case studies and existing guidelines and standards for energy planning.	3.1 Students will conduct case study of urban heat island effects and its mitigation methods followed by presentations of their understanding.		✓	✓			
	CLO4	Demonstrate application of the knowledge in urban energy planning of existing and proposed cities	4.1 Students will demonstrate their learning through strategies like passive design etc. and use of urban design strategies in it.					✓	✓

Semester -IV	Course Learni ng outcom es	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Course Title -1: Urban Design Thesis	CLO1	Demonstrate cumulative learning of theoretical pursuits and design techniques	1.1 Students to strengthen the theoretical base of the thesis and analyze relevant successful design demonstrations through case studies	✓	✓	✓			
	CLO2	Develop capacity to make contribution to the existing body of knowledge in urban design theory and practice.	2.1 Students will develop design solutions for identified problems along with future prospects and capacity to analyze the solutions using tactical solutions.			✓			✓
	CLO3	Demonstrate critical appraisal of own proposal for addressing the chosen urban issue and an understanding of design as a form of research enquiry.	3.1 Students will cover the justification of their design proposals in thesis. This will help them in understanding of chosen urban issue and critical observation of the same.				✓	✓	✓
Alternate Research Thesis	CLO1	Apply cumulative learning of theoretical pursuits and research techniques at an advanced level, generating research project addressing complex urban issues.	1.1 Students to strengthen the theoretical base of the thesis and analyze relevant successful design demonstrations through case studies and research papers.	✓	✓	✓			
	CLO2	Carry out self-directed exploration of a specific urban issue: Research on topic defined by student.	2.1 Students will explore the sustainable development goals and select one goal to begin with the research in urban context.			✓			✓
	CLO3	Produce an ordered, critical exposition of knowledge gained through the student's own efforts, demonstrating a sound understanding of selected topic.	3.1 Students will present their detailed urban design research proposal – report and publication.				✓	✓	✓

Course Title -2: Application of Research Methods and Tools	CLO1	Develop the capacity for independent, analytical and critical thought and reflection.	1.1 Students will present the summary research articles with analysis.	✓	✓		✓	✓	
	CLO2	Demonstrate ability to develop the capacity for independent, analytical and critical thought and reflection.	2.1 Students will prepare and present the detailed structure plan for their research proposals.		✓	✓	✓		
	CLO3	Acquire skills of advanced academic writing skills.	3.1 Report and publication				✓		✓
Course Title – 3: Urban Economic Planning	CLO1	Demonstrate creative and theoretically derived perspectives to evaluate and guide policy thinking in support of productive, sustainable and inclusive urban economic development.	1.1 Students will get exposure of conversations conducted by research organizations, niti aayog etc. For better understanding of urban governance and economic factors affecting the urban areas. Students will also collect the key points taken from the different policy handbooks.	✓	✓				
	CLO2	Critically examine theoretical foundations of urbanization and economic development, drawing on past experiences in managing city economies	2.1 Students will look into the examples of cities from across the world that has taken steps to strengthen their economy. Students will also compare and the selected cities.			✓	✓		
	CLO3	Analyse urban economic activity and the application of economic criteria for urban planning	3.1 Students will present their understanding of the subject through data visualization and info graphics.				✓	✓	
Course Title – 4: ICT and City Planning	CLO1	Learn the penetration of ICT in every stage of planning process	1.1 Students will identify aspects of urban planning having ICT in the intervention.	✓	✓				
	CLO2	Analyse the advantages and disadvantages of ICT in planning.	2.1 Students will present their learning through data vualisation and infographic				✓	✓	
	CLO3	Demonstrate critical appraise the role of ICT in E- Governance.	3.1 Students will demonstrate the interventions through mapping exercise.			✓	✓		✓
Course Title – 5: Urban Management: Development Practice,	CLO1	Carry out financial appraisal of a project through various methods.	1.1 Students will have group discussion in class to develop clear understanding of the subject.	✓		✓	✓	✓	
	CLO2	Calculate COI, SPI, PII and cost overrun.	2.1 Students will be assessed through developed project report.			✓			
	CLO3	Appreciate the importance of project resource management.	3.1 Students will be exposed to practical issues using meetings and guest conversations and gather information from best practices of management. Project report submission.		✓		✓	✓	

Project Management and Implementation									
Course Title – 6: Value Engineering	CLO1	Understand value engineering and management in urban projects.	1.1 Students will meet industry experts and understand the subject and their present challenges. They will present their understanding on the same		✓	✓			✓
	CLO2	Apply value engineering methods in urban projects.	2.1 Students will take forward their learning in their urban design thesis. And explain through presentation and discussions			✓	✓	✓	
	CLO3	Demonstrate ability to evaluate projects in terms of value.	3.1 Project report and design thesis publication	✓		✓			
Course Title – 7: Urban Disaster Mitigation & Management	CLO1	Understand the importance of various stakeholders in the process.	1.1 Students will get involved in the conversation with the senior government officials, bureaucrats and citizens to understand their idea on the subject. They will also conduct a survey on the same.		✓	✓			
	CLO2	Apply disaster management process in urban design layout.	2.1 Students will apply their learning in the design demonstration and present.	✓		✓	✓	✓	✓
	CLO3	Prepare a Disaster Management Plan.	3.1 Students will present and share their plan along with report submission.	✓		✓	✓	✓	
Course Title – 8: Urban Waste Management	CLO1	Analyze the evolution of waste production by origin and type of waste and know how to analyze and assess the health and environmental impact of waste management	1.1 Students will be introduced to the subject and they will do the est practice studies to understand the subject best. They will conduct case studies and present the same.	✓	✓		✓		
	CLO2	Propose measures to reduce, recycle and reuse the waste generated	2.1 Based on the studies conducted and measures taken learnings from the country, students will propose their idea through narrative and presentation on the subject taken.			✓	✓	✓	✓
	CLO3	Propose landfill management and restoration models	3.1 Students will conduct best practices analysis exercise and compare them to understand the best solution on the subject and discuss in class along with report submission.			✓	✓	✓	✓
	CLO4	Reflect understanding of the latest digital technologies available in Solid Urban Waste Management	4.1 Students will submit their final report on studies conducted their comparative analysis and proposed idea on the key issue.	✓	✓				

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Semester-I	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Course Title - Urban Planning Studio I Course Code:	CLO1:	1.Students will be able to describe and outline the concepts and principles of sustainable site and neighborhood level planning.	1.1.Understanding the approach of neighborhood living in traditional and contemporary societies and its elements 1.2. Understanding the dynamics of of the city, in terms its present problems/issues and futuristic vision to analyse the complexities	✓	✓				

CLO2:	2.Students will demonstrate the process of reading and analyzing an area/site from a planner's perspective.	2.1.Understanding Intricacies and interfaces between various variables of the site such as soil conditions, topography, environmental dimensions, location, spatial standards, leading to its application for a site analysis		✓				
CLO3:	3. Student will develop data collection skills for conducting field surveys for the purposes of plan preparation.	3.1. Engaging in empirical observations and other forms of data collection such as physical and household surveys for site analysis 3.2. Applying qualities of the existing physical environment, the social and economic contexts in which it is situated to the site planning along with understanding of their planning norms, standards, and development guidelines.			✓			✓
CLO4:	4.Students will build and enhance their graphics, and sketching techniques which are appropriate for plan preparation, including an introduction to the use of computer applications for data visualization and presentation.	4.1. Performin graphical analysis of the data collected and representation of the area situation through skecthes, diagrams, maps, photographs, plans, sections, elevations, etc.			✓	✓	✓	

	CLO5:	5.Students will develop sensitivity to group dynamics, teamwork, and community planning exercise.	<p>5.1. Working in teams to preparing neighborhood level plan for the study area - dealing primarily with physical issues including land use and urban form, housing, streets, open spaces, transportation.</p> <p>5.2. Addressing socio-economic development and community-level issues through their relation to physical elements and sustainable planning principles.</p>						✓
Course Title - Planning Concepts and Techniques Course Code:	CLO1:	1. Students will be able to recall, write and present abstract planning concepts clearly and concisely.	1.1. Analysis for understanding structure of urban areas and theories of urbanization such as Concentric Zone Theory, etc.Sector Theory, Multiple Nuclei Theory and other contemporary theories	✓				✓	
	CLO2:	2. Students will be able to demonstrate appreciation and knowledge of histories and theories of urban planning.	2.1. Analysing contemporary concepts such as Garden city concept; green belt concept; city as an organism; Emerging Concepts - global city, inclusive city, smart cities, livable cities, safe city, futuristic city, shadow cities, divided cities, etc.		✓				
	CLO3:	3. Students will be able to read, create and present spatial and non-spatial information using base maps and land use maps.	<p>3.1. Analysing Perspective, regional, interim, and comprehensive plans in relation to planning methodology.</p> <p>3.2. Analysing physical nature and characteristics of the urban environment and its components.</p>		✓	✓			✓

	CLO4:	4. Students will be able to demonstrate their understanding about different methods for data collection frequently used in urban planning.	4.1 Performing surveys and analyses with appropriate design methods and practices required for data collection in urban planning.			✓		✓	
	CLO5:	5. Students will be able to understand and explain different data analysis techniques, demographic projections, and land suitability analysis for understanding the existing situation in a settlement.	5.1. Evaluating the structure of urban areas with the help of Input Output analysis, SWOT analysis, Lorenz Curve, Gini Ratio, Theil's index, Land suitability analysis, etc.	✓		✓	✓		
Course Title - Demography and Socio-Economic Planning Course Code:	CLO1:	1. Students will be able to understand and explain various sociological processes which relate to urban and regional planning.	1.1. Understanding the elements and measurement of settlement system, such as Growth, density, and spatial inequalities. Ekistics, Urban-rural migration, Industrialization vs. Urbanization. 1.2. Examining the rural-urban continuum with the help of Theoretical framework of central place theory, Christallers fixed K-hierarchy, Loschs' general system of location of settlements, rank size rule etc.	✓	✓				

CLO2:	2. Students will develop knowledge of key economic concepts and their application for macro-level and micro-level planning.	2.1. Studying Economic growth and development; Human development index. Economies of scale, Concepts of demand, supply, elasticity, and consumer market.			✓			✓
CLO3:	3. Students will be able to appraise the working of real estate markets.	3.1. Exploring the working and flow of economic resources available in real estate market along with Typology of goods and markets. 3.2. Examining the determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty.					✓	
CLO4:	4. Students will be able to apply techniques for quantitative analysis in socio-economic planning of settlements.	4.1. Utilising census studies and population trends, demographic profile of India and states, components of population changes, population surveys. 4.2. Performing population forecasting with methods of population forecasts and projections, population analysis, etc.			✓	✓		
CLO5:	5. Students will discover various aspects of rehabilitation and resettlement policies and planning.	5.1. Assessing the Land acquisition models, Development induced relocation and cases of successful resettlement and rehabilitation policies.					✓	

Course Title - Housing Policy and Community Planning Course Code:	CLO1:	1. Students will be able to define and interpret the nature of housing problem in India.	1.1. Understanding the evolution of housing – pre- and post-independence; poverty and slums, houseless population; Concept of adequate shelter and housing for all 1.2. Understanding housing as social security - community well-being, safety, crime, deprivation, social vulnerability.	✓	✓				
	CLO2:	2. Students will be able to examine the housing policy and programmes in India.	2.1. Assessing the contribution of housing to micro and macro economy. Concept of Social Housing, Evolution of housing policy in India. 2.2. Evaluating the policies and programs for housing finance - affordability and cost of housing, role of financing organizations				✓		
	CLO3:	3. Students will understand and apply different design standards, mechanisms, and development alternatives of housing for existing and new communities.	3.1. Examining Various housing typologies and related Public health issues to provide proper standards for housing. 3.2. Exploring various theories of housing, Housing development process, building techniques, building materials, norms and standards for new communities and neighborhoods along with the role of BMTPC and other organizations.		✓	✓			

	CLO4:	4. Students will be able to appraise different financial and legal frameworks for providing housing.	4.1. Providing a critical review of current housing programmes for affordable, low income, informal housing, rental housing and housing for urban poor and the financial backup for the same.					✓	
	CLO5:	5. Students will be able to compute and estimate housing shortage, obsolesce factor and congestion factor.	5.1. Evaluating and assessing housing need, demand and supply, occupancy rate, crowding, housing shortage, income and affordability, housing market, area. 5.2. Estimating housing demand and identification of housing stress, Housing search and residential mobility and Policy influences on housing market.				✓	✓	✓
Course Title -Urban Ecology and Geomorphology Course Code:	CLO1:	1. Students will be able to recall and understand basic ecological concepts and terminologies which are relevant in planning.	1.1. Understanding fundamentals of ecosystem, ecological conceptsw like Environmental degradation, Environmental evaluation and its parameters 1.2. Understanding Indicators of environmental quality assessment; Principles of environmental approach to planning. Environmental ethics, law, and management. Climate change and settlement planning.	✓	✓				

CLO2:	2. Students will be able to appraise the environment parameters for consideration while planning.	2.1. Assessing the Finiteness of resources, Development, utilization, and conservation of resources with concepts of Integrated resource planning and management approach. 2.2. Appraising the parameters as per resource regions, their problems, and potentials					✓	
CLO3:	3. Students will develop their knowledge about recent trends and concept in environmental sustainability.	3.1. Developing understanding towards design of eco city, eco-communities and eco buildings. Scenarios for sustainable urban development strategies. 3.2. Evaluating emerging concepts such as smart growth, clustered cities, ecological footprints, green development, sustainable cities, and inclusive cities.			✓			✓
CLO4:	4. Students will be able to analyze and appraise the geomorphological parameters for consideration while planning.	4.1. Assessing the concepts of Geology and stratigraphy principles and geology of India. 4.2. Applying geological information in the interpretation of landscapes on maps and in the field. Hydrological cycle, management of drainage basins, watersheds, rainwater harvesting, artificial recharge groundwater management.				✓	✓	

	CLO5:	5. Students will be able to apply remote sensing and G.I.S to assimilate and present data for further analysis.	5.1. Implementing principles of ecological approach to planning: Site planning process and its significance, inventory, documentation, site survey and appraisal by remote sensing materials 5.2. Visualizing landforms, Understanding contours and their characteristics, Understanding drainage pattern, calculation of surface runoff, determination of catchments area and discharge rate with the help of GIS			✓			
Course Title - Computer Applications in Urban Planning Course Code:	CLO1:	1. The student will be able to recall and understand utility of software like MS Office, AutoCAD, Sketchup pertaining to documentation and presentation in urban planning.	1.1. Understanding the need of tools for automated design and drafting such as application of Autocad 2D to 3D, Technical report writing and referencing using MS Word and PowerPoint for presentations	✓	✓				
	CLO2:	2. The student will be able to classify the usage of different software and techniques for specific objectives in spatial planning.	2.1. Understanding the need of tools for 3D modeling to understand urban grain, city models, urban texture, Integration of AutoCAD drawing and Sketchup Model, 2D and 3D conversion, plotting, rendering techniques, scale through minor Project.		✓		✓		
	CLO3:	3. The student will be able to demonstrate progress in using basic software through simple exercises in data representation.	3.1. Applying softwares for data analysis; visualization and representation of data, using charts and graphs generation from data.			✓			

Course Title -Remote Sensing and GIS in Planning Course Code:	CLO4:	4. Student will be able to sub-divide tasks to be carried out using appropriate method for efficient and timely production of usable and presentable data and designs.	4.1. Utilising the Qualitative and quantitative elements of photo- interpretation; Resolutions; 4.2. Performing Digital Image Processing; Salient Features of Popular Remote Sensing Satellites; Advanced applications for documentation e.g. Adobe Photoshop, InDesign etc				✓	✓	
	CLO5:	5. Student will be able to create presentation and technical drawings, reports, and/or seminar.	5.1. Creating Technical reports using MS Word and PowerPoint for presentations; MS Office Excel for preparation of database, coding, and data analysis; visualization and representation of data, using charts and graphs generation from data.						✓
	CLO1:	1. Students will understand and recall application of urban information systems in planning and relevant government initiatives.	1.1. Understanding concepts and Hierarchy of Spatial Data Infrastructure, Usage of Building a SDI and using it in planning and decision making process. 1.2. Understanding the Data streaming and mining in Spatial Data Infrastructure fone on Global and National SDI Initiatives byb the government.	✓	✓				
	CLO2:	2. Students will be able to develop understanding of GIS, RS and GPS applications	2.1. Creating Maps with spatial analysis software such as GIS, RS by linking of attribute data, spatial data aggregation, spatial data generalization						✓
	CLO3:	3. Students will be able to apply concepts of data types, accuracy of GPS observation, post processing of data and preparation of layers.	3.1. Rastering data capture with Application of Geoinformatics in Urban and regional Planning as a Decision-making tool. 3.2. Processing data and analysis of spatial and non-spatial datasets in GIS.			✓			

	CLO4:	4. Students will be able to examine and recommend techniques to produce maps and generate analysis of urban data in planning.	4.1. Application of remote sensing in regional studies, - geology, geomorphology, forest and vegetation, water resource and drainage system, land use and land cover analysis, urban sprawl studies and urban remote sensing issues, Satellite data products and its use				✓	✓	
	CLO5:	5. Students will develop skills in spatial analysis, database design, spatial data integration, data rectification and projection, data management, modeling, and data presentation (commonly referred to as mapping).	5.1. Spatial Mapping and Representing, modelling and impact analysis of the data; Query measurement and transformations; Summary statistics and inferences.						✓
Course Title -Culture, Communities and Cities Course Code:	CLO1:	1. Students will be able to recall and understand an anthropological approach to the analysis of local, national, and global urban issues.	1.1 Understanding the relevance of the anthropological approach; Hunter gatherer/ farmer and formation of organized society 1.2. Understanding the Cosmological and other influences origin & growth of cities, effects of cultural influence on physical form; Human settlements as an expression of civilization at global level.	✓	✓				

CLO2:	2. Student will be able to identify the dynamics of relationship at different level with respect to social, political, and economic sphere.	2.1. Identifying the concepts of space, time, scale of cities; Town planning in ancient India medieval, renaissance, industrial and post-industrial cities. 2.2. Identifying the Experiences in developing countries regarding Settlement structure, growth, and its spatial distribution.		✓				
CLO3:	3. Students will be able to examine the way urban spaces shape identities and communities by examining urbanization and changing city landscapes.	3.1. Examining the term Urbanism : competing models; Urbanism and nature; economics of urbanism; Urbanism and society; the future of urbanism; for changing cities and communities			✓	✓		
CLO4:	4. Students will be able to analyze and assess ways in which the built environment both shapes and is shaped by sociocultural, political, & economic processes.	4.1. Assessing the Impact of industrialization and urbanization and the creation of Metropolis and Megalopolis. 4.2. Analysing the Politics of urban planning, development, and land use with issues of Urban inequality; urban migration and transnational communities; the symbolic economies of urban space; and street life.				✓	✓	

	CLO5:	5. Students will be able to trace the development of theoretical concepts pertaining to urbanism.	5.1. Tracing the concepts such as City as a living & spatial entity, City form as a living space, City as a political statement with examples of New Delhi, Chandigarh, Washington D.C. Brasilia. 5.2. Examining the Contribution of individuals to city planning - Ebenezer Howard, Patrick Geddes, Tony Garnier, Lewis Mumford, Le-Corbusier, and others pertaining to urbanism						✓
Course Title -Urban Poverty and Informal Settlements Course Code:	CLO1:	1. Students will be able to understand and relate to the various dimensions of urban poverty.	1.1. Understanding the definition and concept of poverty, it's likely impact: relative poverty, absolute poverty, over all poverty, etc. with poverty data base in India and the Globalization of Poverty.	✓	✓				
	CLO2:	2. Students will be able to address issues of urban poverty in the planning process.	2.1. Addressing the issues of poverty line, consumption expenditure data: per capita consumer expenditure, distribution of expenditure			✓			
	CLO3:	3. Students will be able to assess the condition of informal housing and settlements from different perspectives.	3.1. Assessing the issues of Slums - dimensions, causative factors, determinants, location characteristics of settlements; Informal sector characteristics and linkages with formal sector. 3.2. Appraising the Planning interventions for inclusive zoning, development and building regulations, slum improvement.				✓	✓	

	CLO4:	4. Students will be able to appraise about different programmes and policies at international and national level.	4.1. Appraising the Programmes and legislation methods, Monitoring and evaluation of anti-poverty programmes; National and international best practices in poverty alleviation; Budget allocation for poor, Skill development and capacity building					✓	
	CLO5:	5. Students will be able to identify indicators of urban poverty, their data sources and analysis methods.	5.1. Assessing the data sources used for estimating poverty in India (household surveys and household consumption surveys, National Sample Survey (NSS), National Accounts Statistics)			✓			✓
Course Title -Urban Landscape Development Course Code:	CLO1:	1. Students will be able to understand and outline chronology of landscape design and planning.	1.1. Understanding the evolution of landscape and garden design in relation to art, architecture and city planning from the earliest period to the present day. 1.2. Understanding Influences and linkages across cultures and traditions.	✓	✓				
	CLO2:	2. Students will be able to appraise regulations, legal aspects, policies and programmes for sustainable landscape and site planning.	2.1. Appraisal of site factors in large scale developments, Site mobilization, Water conservation and watersheds management, Energy efficient site planning and landscape development					✓	
	CLO3:	3. Students will be able to assess and apply techniques in landscape planning.	3.1. Assessing the landscape planning with basic quantitative methods of collecting, analyzing, projecting, and presenting data for landscape planning			✓	✓	✓	
	CLO4:	4. Students will develop knowledge of computer skills to assimilate and present data for analysis.	4.1. Application of G.I.S. and Remote sensing for Regional Landscape Planning						✓

	CLO5:	5. Students will be able to elaborate the concepts developed in landscape urbanism.	5.1. Elaborating the concepts of Ancient Indian traditions, symbolic meanings and sacred value attributed to natural and traditional landscapes 5.2. Comparative analysis of examples of landscape separated in time and space.						✓
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Semester-II	Course Learning Outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Course Title - Urban Planning Studio II Course Code:	CLO1:	1. The student will be able to analyse the existing policies and planning literature on urban development plans and would be able to identify the stakeholders and responsible authorities	1.1 Understanding the Theories and principles of Urban Development Plan; Need for a masterplan; recommended planning system for India; Planning process; 1.2. Understanding various levels of Plans and their contents; Understanding the scope & purpose of various Plans to generate awareness of relevant norms and stakeholders through extensive literature search.	✓	✓				
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CLO2:	2. The student will be able to demonstrate the organization of data with respect to primary data and secondary data and will be able to analyze the synthesis of data and information collected on various aspects and create the checklist for conducting surveys and field survey formats for conducting primary surveys.	<p>2.1. Identification and preparation of secondary source information, data checklist and identification of probable data sources, survey formats to be prepared for various types of surveys- socio economic survey</p> <p>2.2. Landuse/Utilisation surveys, density surveys; Infrastructure surveys; Transportation surveys</p> <p>2.3. Visit to the case study area, collection of primary and secondary data and information on various aspects such as demography, social, economic, housing, transportation, etc.; conduct of primary and secondary surveys</p> <p>2.4. Preparation of Map information checklist; Field visits to be made to the selected study area/town/city.</p>		✓	✓	✓		
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CLO3:	3. The student will be able to understand and reframe the policies, plan and design different future scenarios, priorities of development, to produce spatial policies and to make planning proposals along with land use plan for an urban area.	<p>3.1. Analysing and synthesis of data and information collected on various planning aspects</p> <p>3.2. Mapping of the study area; Base map preparation on GIS platform; Land use Plan; Thematic Plan preparation</p> <p>3.3. Proposals and recommendations for the planned development of the city with Preparation of policies and proposals with different scenarios and identification of priorities and action areas;</p>			✓	✓	✓	✓
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Course Title - Participatory and Inclusive Planning Course Code:	CLO1:	1. To develop a critical understanding of public participation with regard to policy contexts, practical questions and issues of exclusion	1.1. Understanding the Urban development patterns, inequities and need for Inclusive development, Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc. 1.2. Understanding Slums - dimensions, causative factors, determinants, location characteristics of settlements 1.3. Understanding inclusive growth concept, theories and components; essential dimensions of inclusive planning	✓				✓	✓
	CLO2:	2. To gain familiarity with a broad range of participatory methods and understanding of suitable applications	2.1. Understanding the Policies for inclusive city planning; Best practices of inclusive Planning in India and abroad-planning approach, procedures and impacts, inter-disciplinary policy issues	✓				✓	

	CLO3:	3. To develop knowledge and skills to design, organize and implement a robust and inclusive participation processes	3.1. Assessing the Participatory Learning (PLA) tools: Mapping local context and problem identification, Focus Group Discussions, Audit of communities and its facilities, etc. 3.2. Assessment of community needs and planning intervention. Management of inclusive cities- need and approaches			✓			
	CLO4:	4. To understand qualitative data analysis in order to make valid conclusions about community preferences from a community engagement process.	3.1. Understanding the Key principles of applying participatory methods and tools, Participatory attitudes and behavior, Teamwork skills in the context of participation 3.2. Appraising the PLA/PID Tools, Participation as a process, Participatory Monitoring and Evaluation, Beneficiary Assessment, social assessment, stakeholder analysis		✓				

	CLO5:	5. To clarify objectives for increasing and deepening cultural and social diversity in its many dimensions within community engagement efforts.	5.1. Evaluating the concepts of Inclusive city planning- Need, concept and pre-requisites, Affordable housing; resilient and sustainable urban form; social and economic development; key principles- Sustainability and Resilience, Accessibility, Diversity, Open Spaces, Compatibility, Incentives, Adaptability and Identity				✓		
Course Title - Infrastructure Planning and Management Course Code:	CLO1:	1. The student will be able to learn basic physical planning with emphasis on urban utilities and services.	1.1. Understanding the Role of physical planner in planning of utilities and services, objectives of utilities and services planning and its implications for public health and environmental protection. 1.2. Familiarizing to CPHEEO manual and guidance	✓					
	CLO2:	2. The student will be able to identify the problems and issues related to infrastructure provision in a settlement and appraise planning guidelines to tackle these problems, and extent of infrastructure required for the future planning of settlements.	2.1. Understanding the water sanitation systems, methods, need, design procedures, distribution systems to assess the issues and gaps		✓				

	CLO3:	3. The student will be able to understand services of city including storm water drainage, sanitation and sewer system, solid waste disposal and water supply system.	3.1. Assessing the storm water drainage, sanitation and sewer system, solid waste disposal and water supply system with respect to Planning, organizations and their jurisdictions, basic design guide line and layout of water supply distribution system; Legal aspects and government policy for urban and rural water supply. Case study discussion on innovative methods and successful urban water supply system			✓			
	CLO4:	4. The students shall be able to comprehend Innovative Techniques required for provision of Water Supply, Waste Water Treatment, Storm Water Management, Sanitation and Solid Waste Management, etc.	4.1. Appraising the URDPFI guidelines for social infrastructure typologies; Planning norms and space standards for education, health, recreation and socio-cultural facilities 4.2. Evaluating Amenities for urban and rural settlements; Significance of education and health infrastructure in planning; Locating education and health facilities.				✓	✓	

	CLO5:	5. To design and make recommendations for meeting the future needs infrastructure for a human settlement	5.1. Promote recommendation with understanding of the services through primary and secondary case studies in alignment to the practical studio				✓	✓	✓
Course Title - Urban Transport Systems Course Code:	CLO1:	1. The student will be able to understand the basics of transportation planning, transportation system, road hierarchy and geometry, concepts of road capacity and level of traffic surveys and services provided by the networks.	1.1. Remembering the Concept of PCU and level of service, capacity of rural and urban roads, capacity at intersections. Traffic Volume Count, origin destination survey, speed and delay study, parking surveys, road network inventory, etc.	✓					
	CLO2:	2. The student will be able to familiarize about various types of Urban Forms – Structure patterns and its impact on transport system development.	2.1. Understanding the role and importance of transport, urbanization and transport demand, motorization trends; 2.2. Understanding the Types of Urban Form and Structure, Impact of urban form and structure on transport system development, urban structure and mobility levels, concept of accessibility, land use -Transport Cycle, Transit Oriented Development (TOD) etc.		✓				

	CLO3:	3. The student will be able to conduct field surveys, examine and analyse data and information collected through various field surveys, perform analysis.	3.1. Assess the Principles of traffic impact analysis on land development and its attributes 3.2. Calculating the Traffic noise - factors, noise abatement measures and it standards; air pollution -factors affecting air pollution levels, abatement measures, standards; Traffic Safety audit, Traffic safety measures			✓			
	CLO4:	4. The student will able to reframe the knowledge of various land uses and traffic management measures.	4.1. Examining the Land use transport integration, Factors affecting land use-transport integration, Tools for land use-transport integration, land use transport cycle, importance of accessibility 4.2. Integrating land use and transport in the planning process; Institutional integration and legal framework.				✓		✓

	CLO5:	5. The student will be able to relate the knowledge of transportation planning and environment for an efficient traffic and transportation structure in a city.	5.1. Reviewing national, state and local level transport policies and their relevance in spatial and economic planning; pricing and funding of transport systems; energy and environment implications in transport; 5.2. Proposing Transport System Management (TSM) Plans, Transport projects of urban and regional significance					✓	
Course Title - Advanced GIS for Planning Course Code:	CLO1:	1. The student will gain basic knowledge about advanced concepts in GIS and Digital Image Processing	1.1. Understanding concepts and Hierarchy of Spatial Data Infrastructure, Usage of Building a SDI and using it in planning and decision making process. 1.2. Understanding the Data streaming and mining in Spatial Data Infrastructure fone on Global and National SDI Initiatives byb the government.	✓	✓				
	CLO2:	2. The student will get familiarized with the techniques of GIS and digital image processing for further application in Spatial Planning Applications	2.1. Creating Maps with spatial analysis software such as GIS, RS by linking of attribute data, spatial data aggregation, spatial data generalization			✓	✓		

	CLO3:	3. The student will be able to demonstrate knowledge of the use basic GIS and its application as a modeling tool	3.1. Rastering data capture with Application of Geoinformatics in Urban and regional Planning as a Decision-making tool. 3.2. Processing data and analysis of spatial and non-spatial datasets in GIS.					✓	
	CLO4:	4. The student will gain understanding of urban information systems in planning and relevant government initiatives.	4.1. Application of remote sensing in regional studies, - geology, geomorphology, forest and vegetation, water resource and drainage system, land use and land cover analysis, urban sprawl studies and urban remote sensing issues, Satellite data products and its use					✓	
	CLO5:	5. The student will be able to produce maps and generate analysis of planning issues with the use of GIS and remote sensing.	5.1. Spatial Mapping and Representing, modelling and impact analysis of the data; Query measurement and transformations; Summary statistics and inferences.						✓
Course Title - Research Methods in Planning Course Code:	CLO1:	1. The student will be able to identify basic processes and techniques for research and developing an argument	1.1 Understanding the Significance of research and different approaches 1.2. Understanding the Research methods; Role of Descriptive, Applied and Causal Research; Qualitative and Quantitative Research	✓					

	CLO2:	2. The student will be able to choose a topic of interest having relevance to planning profession, integrate and apply the learnt research process	2.1. Understanding the Process of Research and Types of research with application to areas concern to define the Research Problem, Research Objectives and Hypothesis framing, testing of hypotheses		✓				
	CLO3:	3.The student will be able to develop general ideas about the selection of their topics for thesis projects.	3.1. Problem identification, formulation of problem statement, literature review, Developing a Research Design- Formulation of objectives, research methods relevant for individual topic, development of research methodology			✓	✓		✓
	CLO4:	4. To develop capabilities for framing research questions, structure of research, research strategy.	4.1. Evaluating Types of Inquiry in research to develop an Argument 4.2. Utilising the Data collection methods and analysis by Sample determination, data tabulation for performing the quantitative and qualitative data analysis.				✓	✓	

	CLO5:	5. To demonstrate abilities for critical analysis of the existing literature on related research topics.	5.1. Conducting Preliminary literature review for identification of research gaps; Selection of topic, thesis statement					✓	
Course Title - Urban Conservation and Regeneration Course Code:	CLO1:	1. The students will be able to understand the importance of heritage for the city and its role in supporting city development	1.1 Understanding the socio-cultural, economic and environmental significance of conservation; built and natural heritage; scope and basic technique of urban conservation	✓	✓				
	CLO2:	2. The student will be able to apply the knowledge of principles of conservation for an urban setting.	2.1. Identification of Economic and social aspects of conservation, traffic and management issues; Conservation policies -case studies. identification of urban renewal areas; conservation, rehabilitation and redevelopment.			✓	✓		
	CLO3:	3. The student will be able to demonstrate basic techniques of urban regeneration and conservation.	3.1. Participating in the international charters for developing guidelines and standards for conservation of historic monuments, sites and heritage zones 3.2. Creating Inspection, surveys, investigation techniques, methods for inventories and documentation, identification and reporting on heritage zones; programs for adaptive reuse, restoration, rehabilitation and infill or new constructions.				✓	✓	

	CLO4:	4. The student will be able to comprehend the legislations for urban conservation and regeneration	<p>4.1. Comprehending the Urban renewal/regeneration policies of Central, State and Local bodies; Conservation policies, laws and professional norms; National and international experience in implementing urban renewal programs;</p> <p>4.2. Examining the Legal and administrative aspects, archaeological acts/ charters pertaining to conservation, development and conservation; Case studies of proposals for urban conservation of sites/ areas in India and abroad.</p>					✓	
Course Title - Urban Form and Systems Course Code:	CLO1:	1. Developing an understanding of diverse theoretical discourses on Urban Form	1.1. Developing deeper understanding for components/ elements of Urban Morphology– street pattern, built fabric, open spaces, grain, texture, heights, etc.	✓	✓				

	CLO2:	2. Develop an intellectual capacity to understand existing urban forms and their related systems.	<p>2.1. Understanding how the term ‘urban’ evolved over the history of mankind with examples of early settlements to carefully planned city form in the modern era as case studies.</p> <p>2.2. Understanding agents and processes responsible for their transformation over time.</p> <p>2.3. Looking at and analyzing examples of pre-historic settlements, medieval towns, pre-industrial cities and modern cities with their context.</p>			✓	✓		
	CLO3:	3. Develop ability to critically analyze the Urban fabric	<p>3.1. Evaluating how urban physical form responds to the economic, cultural, political, social, aesthetic, and natural forces of an urbanized area resulting into typological variants.</p> <p>3.2. Understanding man-made and natural determinants of Urban form.</p>				✓	✓	

	CLO4:	4. Developing an important skill of evaluating and inferring from case studies to inform their design positions.	<p>4.1. Interpreting the built form around from an historical lens and looking at contemporary Urban theories and modes of critique relating to the design of the urban public realm.</p> <p>4.2. Understanding the emergence of urban forms and the more prevailing urban issues like urban sprawl, slum/squatter settlements, mobility, etc</p>					✓	✓
Course Title - Affordable and Cost-Effective Housing Course Code:	CLO1:	1. The student will be able to analyze and structure the broad aspects of affordable housing with respect to financial concept and significance.	<p>1.1 Assessing the contribution of housing to micro and macro economy. Concept of Social Housing, Evolution of housing policy in India.</p> <p>1.2. Evaluating the policies and programs for housing finance - affordability and cost of housing, role of financing organization,.</p>	✓					

	CLO2:	2. The student will be able to relate and determine the housing typologies, standards and regulations for different physical and climatic zones.	<p>2.1. Examining Various housing typologies and related Public health issues to provide proper standards for housing.</p> <p>2.2. Exploring various theories of housing, Housing development process, building techniques, building materials, norms and standards for new communities and neighborhoods along with the role of BMTPC and other organizations.</p>		✓	✓			
	CLO3:	3. The student will be able to design appropriate affordable architectural projects.	3.1. Assessing the factors determining residential densities; Densities, costs and development control regulations; Housing designs parameters and their relationship to costs; Housing design and climate;				✓		
	CLO4:	4. The student will be able to evaluate and examine the role of different housing institutions and stakeholders with respect to the affordable housing.	4.1. Providing a critical review of current housing programmes for affordable, low income, informal housing, rental housing and housing for urban poor and the financial backup for the same.					✓	

	CLO5:	5. The student will be able to comprehend the need and requirement of using low cost building materials and construction techniques in affordable housing projects.	<p>5.1. Exploring Alternative building materials and construction techniques for Affordable Housing</p> <p>5.2. Use of innovative, low-cost building techniques, Energy approaches and strategies for housing urban poor; Low cost Infrastructural Services: low cost sanitation, domestic waste disposal, water supply</p> <p>5.3. Adoption of innovative and cost effective construction technology such as Modular and Prefabricated Construction; Employment factors; mass customized homes.</p>					✓	
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Semester-III	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Bloom Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Course Title-1: Urban Planning Studio- III	CLO1	The students shall be to obtained the skills in understanding the various levels of planning, planning institutions, sources of information for regional planning.	Comprehend urban & regional level issues and scope of work	✓	✓	✓	✓		
	CLO2	The student will able to identify the stake holders and responsible authorities.	Evaluation of significance and preference of regional development works		✓	✓	✓	✓	
	CLO3	The student will able to demonstrate the organization of data with respect to primary data and secondary data.	Data Collection through multiple means			✓	✓	✓	
	CLO4	The student will able to analyze the synthesis of data and information collected on various aspects.	Ability to analyze the data for proposals and projections			✓	✓	✓	
	CLO5	The student will able to create the checklist for conducting surveys and field survey formats for conducting primary surveys.	Ability to finalize the correct sources and methods for data collection			✓	✓	✓	

	CLO6	The student will be able to evaluate and reframe the policies and proposals as recommended in URDPFI guidelines.	Preparation of regional development plan with operative framework			✓	✓	✓	✓
Course Title-2: Impact Assessment for Planning Projects	CLO1	The student will be able to demonstrate knowledge of the environmental impact assessments at various levels.	Understanding of Basic Impacts of development Project		✓	✓			
	CLO2	The student will be able to understand the detailed Site Investigation and Evaluation, Environmental Management.	Ability to undertake Site Investigation and Evaluation		✓	✓	✓		
	CLO3	The students will be able to articulate and analyze the application of EIA & role of PPP through case studies.	Ability to comprehend the application of EIA and PPP with existing projects		✓	✓	✓	✓	
	CLO4	The student will be able to demonstrate knowledge of the social impact assessments in projects.	Basic understanding of Social impacts, Gender impacts, Health Impacts etc.		✓	✓	✓		
	CLO5	The student will obtain the skills to comprehend the requirement of impact assessment in a project and also to incorporate them.	Ability to choose correct assessment method for site specific requirements			✓	✓	✓	✓

Course Title-3: Real Estate Forecasting and Planning	CLO1	Develop an understanding of current real estate scenario in markets, off housing market, laws and policies to real estate markets.	Study of administrative framework and other stakeholders of real estate market		✓	✓	✓	✓	
	CLO2	Understand trends in real estate.	Ability to grasp the trends of real estate market		✓			✓	
	CLO3	Learn Laws related to real estate development and housing markets.	Learning and exploring the legislations pertaining to real estate		✓	✓			
	CLO4	Learn real estate project formulation	Ability of planning and formulating real estate projects		✓	✓	✓	✓	✓
Course Title-4: Urban Governance and Public Policy	CLO1	The student on completion of this course would be able to equip to address the importance of legislation and institutions in urban management and governance	Understanding the importance of legislation and institutions in urban management and governance		✓	✓	✓		
	CLO2	Comprehend how the principles and models of urban management and governance shall be applied to the practical situations facing urban policy makers.	exploring the relevance and fit of situation based urban management models and governance tools		✓	✓	✓		

	CLO3	To assess the role of public administration, local politics and citizen participation.	Study of administrative framework and other stakeholders of Urban Management and Governance		✓	✓	✓	✓	
Course Title-5: Risk Assessment, Vulnerability and Feasibility studies	CLO1	Prepare feasibility report timelines with resources required and foretell the repercussion of current project decisions on the future of the project.	Ability to prepare the feasibility reports and forecasting the future decisions about the project		✓		✓	✓	
	CLO2	Detail Project Reports to understand the Perform Risk, Market, Technical, Financial and Economic analysis and appraisals	Ability to prepare DPRs and project appraisals			✓	✓	✓	
	CLO3	Decide on suitability of contracts to monitor and evaluate for different types of projects.	Monitoring and evaluation of projects				✓	✓	
Course Title-6: Analytical Techniques in Planning	CLO1	Design and conduct engineering experiments involving several factors using design of experiments approach	Study of methods of experiment		✓	✓	✓	✓	
	CLO2	Select an appropriate probability distribution to calculate probabilities in specific applications	selection of specific applications for required analysis		✓	✓	✓		

	CLO3	Explain the concept of estimating the parameters of a population or a probability distribution	Estimation and projection methods for proposals		✓	✓			
	CLO4	Apply regression for building empirical models to engineering and scientific data	Study of scientific models for empirical studies		✓	✓	✓		
Course Title-7: Pre- Thesis Dissertation	CLO1	Students will be able to develop a writing skills, research and report writings.	Research gap identification and topic formulation		✓	✓			✓
	CLO2	Students will be able to understand the various methods for technical presentations.	Formulation of research methodology for dissertation		✓	✓	✓	✓	
	CLO3	Students will be able to develop a research work for the final thesis.	Ability to undertake the research work for thesis		✓	✓	✓	✓	✓
Course Title-8: Advance Transport Analysis	CLO1	Knowledge in the fundamentals of Traffic and Transportation Engineering and Probability and Statistics is the desired prerequisite for the course.	Understanding the importance of data and statistics for transportation study	✓	✓	✓			
	CLO2	The course also provides adequate exposure to travel demand forecasting and application of the results of the forecasting.	using the transport models and applying the forecasting results		✓	✓	✓	✓	

	CLO3	Identify the right type of the transportation system needed to cater to the future demand and quantify the same	Ability to apply the learnings for selection of transportation system proposals as per future demands		✓	✓	✓		✓
Course Title-9: Regional and Environmental Planning	CLO1	Students are expected to have obtained the skills in understanding various concepts of environment and disaster and how to use them in the planning process.	Evaluation of significance and preference of regional development works		✓		✓	✓	
	CLO2	It will also provide them with the knowledge of various environmental regulations in the country	Study of legislations, administrative framework and other stakeholders at regional level		✓	✓	✓		
	CLO3	Student will understand the concept, problems and issues within the regional linkages.	Comprehend urban & regional level issues and scope of work			✓	✓	✓	
Course Title-10: Urban Microclimates	CLO1	Students are expected to have obtained the skills in understanding the various dimensions of climate change and how to address them in the regional planning process by undergoing this course	understanding the umbrella of climate change and urban resilience		✓	✓	✓		

	CLO2	Learn tools and technique to analyze energy consumption pattern and understand the scope of energy conservation in urban area	Learning the tools and techniques to calculate the energy needs and demands		✓	✓	✓		
	CLO3	Learn actual context of energy in urban area through case studies and existing guidelines and standards for energy planning.	Ability to comprehend the application energy in urban areas through existing projects			✓		✓	
	CLO4	Apply the knowledge in urban energy planning of existing and proposed cities	Application of learnings from literature and case studies for energy planning proposals			✓	✓	✓	✓

Semester-IV	Course Learning outcomes	Course Competency	Indicators	Assessment Based on Blooms Taxonomy					
Semester Course Title				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Course Title-1: Planning Thesis	CLO1	Students will be clearly able to explain how a piece of research adds new knowledge to the existing body of knowledge in a field and show its practical significance to the profession of planning.	Ability of conducting research individually	✓	✓	✓			
	CLO2	Students will demonstrate the process of formulating a research programmes independently on a chosen topic in order to contribute new knowledge to the field of study.	Practical execution of class learnings in individual research		✓	✓	✓	✓	
	CLO3	Student will develop data collection skills by conducting field surveys for the purposes of data collection and analysis.	Ability to conduct data collection and field surveys		✓	✓	✓		
	CLO4	Students will be able to prepare strategies/proposals in form of a Planning/ Research/ Project thesis and defending their thesis at viva voce examination.	Formulating strategies/ ideas with Inferences and Evaluation			✓	✓	✓	✓
Course Title-2: Planning Policy and Legislations	CLO1	The students will be able to understand various urban planning policies and legislations for various levels of planning.	Understanding the importance of policies, legislations and institutions at various levels of planning	✓	✓	✓			
	CLO2	The students will be able to analyze the significance of various policies, legislations guidelines etc. in the Indian urban context and their implications.	Analysis of administrative framework and other stakeholders of Urban and regional planning		✓	✓	✓		

	CLO3	The students will be able to apply the various policies and legislations in development projects and practice of planning along with their interrelationship and cross-cutting aspects in total.	application of various policies and legislations in development projects and planning practice		✓	✓	✓	✓	
Course Title-3: Urban Finance and Development Economics	CLO1	The student will be able to demonstrate knowledge of economics and how it relates to the city as a whole.	basics knowledges of means of financial resources for urban areas	✓	✓	✓			
	CLO2	The student will be able to understand and interpret about various urban multiple finance systems to fund urban development projects, taxation and budgeting systems in municipal finance.	understanding and interpretation of various urban multiple finance systems to fund urban development projects		✓	✓	✓	✓	
	CLO3	The student will be able to articulate and analyze Municipal Financial, Accounting and operational mechanisms.	Ability to articulate, analyse and converge the funds for urban development projects		✓	✓	✓		
	CLO4	The student will be able to appraise the Urban Finance and Resource Mobilization of Urban Local body.	Ability to manage the financial resources at municipal level			✓	✓	✓	
Course Title-4: ICT in Urban Planning and Management	CLO1	The students will be able to learn the penetration of ICT in every stage of planning process.	Understanding the needs of ICT in planning and development projects		✓	✓	✓		
	CLO2	The students will be able to summarize the advantages and disadvantages of ICT in planning.	Ability to select the appropriate ICT tools for specific needs		✓	✓	✓	✓	

	CLO3	The student will be able to appraise the role of ICT in E- Governance.	Application of ICT tools in E- Governance			✓	✓	✓	
Course Title-5: Climate Resilient Urban Planning	CLO1	Understanding the importance of climate and climate resilience in development.	Through literature review policies can be understand.		✓	✓	✓		
	CLO2	Understanding urbanization patterns and its relationship with climate change.	Comparative analysis will help to understand the different scenarios of the region.		✓	✓	✓	✓	
	CLO3	Developing knowledge on various planning policies dealing with climate mitigation.	Through analysing and refering differerent policies documents related to climate change			✓	✓	✓	
	CLO4	Developing deeper understanding of what are the best practices for urban development keeping climate change into consideration.	Through successful cse studies, understanding can be developed		✓	✓	✓	✓	
Course Title-6: Urban Disaster Mitigation & Management	CLO1	The student will understand the importance of various stakeholders in the process.	conducting the case study approach for understanding stakeholders		✓	✓	✓		
	CLO2	The student will be able to apply disaster management process in urban design layout.	Formulating strategies/ ideas with Inferences and Evaluation		✓	✓	✓	✓	
	CLO3	The student will be able to prepare a Disaster Management Plan.	Preparation of DMP for selected areas and its contextual study		✓	✓	✓	✓	✓

3.4 Mapping of Intended Operational Outcomes to Broad-Based Operational Goals

The broad-based operational goals identified in Section I above encompass the intended operational outcomes as articulated in this section, and are general composites or summaries of these outcomes. These relationships are summarized in the outcomes-to-goals mapping below (**Note: Put an “x” in a given cell of the table if the intended operational outcome in that row is associated with the operational goal in that column.**):

B.Arch										
Broad Based Goals	Ensuring Educational Excellence	Ensuring Student Development Including Physical and Emotional Health and well being	Creating Culture of Excellence in Research, Scholarship, Innovation and Creativity for High Impact	Enhancement of Quality of Faculty and Staff for Outstanding Performance	Advancing Internationalization	Enhancing Relations with Industry, Alumni & Society	Enhancing Employability and Promote Entrepreneurial Initiatives	Committing to all Aspects of Social, Economic and Environmental Sustainability	Enhancement of Supporting Resources	Ensuring Excellence in Organizational Leadership and Governance
Intended Operational Outcomes										
Identify the use of effective methodology and pedagogical tools for teaching, learning and development.	X		X	X						X

Describe the relevant and contemporary curriculum to meet construction industry requirements and benchmarked on global standards for intellectual growth of faculty, staff and students.	X		X	X	X	X	X			
Estimate potential possibilities for a sustainable and environmental friendly growth in construction industry			X				X	X		
Determine employment opportunities of all the students and will also support students to start their own architectural firms			X			X	X			

Examine the scholarly and professional activities and fetch digital and technical knowledge in order to enhance competencies and to contribute to the existing body of knowledge	X		X				X	X	X	
Build the capacity of students to perform their duties ethically with highest standards to serve the society		X	X							
Inculcate a habit of continuous lifelong learning and personal development during the work to support their career aspirations in future	X	X	X				X		X	X
Extracurricular activities and Inter- university competitions		X							X	

B.Plan										
Broad-based Goals	Ensuring Educational Excellence	Ensuring Student Development Including Physical and Emotional Health and well being	Creating Culture of Excellence in Research, Scholarship, Innovation and Creativity for High Impact	Enhancement of Quality of Faculty and Staff for Outstanding Performance	Advancing Internationalization	Enhancing Relations with Industry, Alumni & Society	Enhancing Employability and Promote Entrepreneurial Initiatives	Committing to all Aspects of Social, Economic and Environmental Sustainability	Enhancement of Supporting Resources	Ensuring Excellence in Organizational Leadership and Governance
Intended Operational Outcomes										
Create excellence in planning education, learning resources and infrastructure as the requirement of Education 4.0 and Industry 4.0.	X		X	X	X	X	X	X	X	
Demonstrate environment for innovation, teaching skills and knowledge and research of faculty and staff excellence for the	X		X	X			X		X	X

intellectual growth of students.										
Encourage students to demonstrate deep sense of responsibility for environment quality and its sustainability, culture and society	X	X						X		
Build a strong bond among the industry-practicing planners and alumni of the school to support each other for future development of profession.			X		X	X	X		X	
Create conducive learning environment preparing the student with skills for Industry 4.0 for higher learning in	X		X		X	X	X			

national & international universities										
Create employment opportunities and also support students to start their own venture.										
Build the knowledge, skills and value competences within the students to be ready professional for future industry.	X	X	X		X	X	X			
Promote students to perform best of their capacities and to provide national and international exposure for faculty, staff and students for self-development.	X			X	X				X	X

M.ARCH										
Broad-Based Goals	Ensuring Educational Excellence	Ensuring Student Development Including Physical and Emotional Health and well being	Creating Culture of Excellence in Research, Scholarship, Innovation and Creativity for High Impact	Enhancement of Quality of Faculty and Staff for Outstanding Performance	Advancing Internationalization	Enhancing Relations with Industry, Alumni & Society	Enhancing Employability and Promote Entrepreneurial Initiatives	Committing to all Aspects of Social, Economic and Environmental Sustainability	Enhancement of Supporting Resources	Ensuring Excellence in Organizational Leadership and Governance
Intended Operational Outcomes										
Create excellence in architecture education, teaching and research.	X		X	X						
Provide an academically productive background for multi directional development of future architects	X	X	X		X		X			

Demonstrate environment for innovation and research excellence for the intellectual growth of students			X							
Develop the core value, culture and the ethics of the university within the students		X								X
Encourage students for deep sense of responsibility for environment, culture and society.		X						X		
Provide ample opportunities for international exposure to students.					X	X	X			

Provide conducive to learning environment preparing the student for higher learning in national & international universities.			X		X		X		X	
Build a strong bond among the industry-practicing architects and alumni of the school to support each other for future development of profession.						X	X			
Facilitate employment opportunities and also support students to start their own architectural firms.					X	X	X			

Encourage students to perform best of their capacities and to successfully discharge of responsibilities and execution of policies and programs.		X								X
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M.U.D.										
Broad-Based Goals	Ensuring Educational Excellence	Ensuring Student Development Including Physical and Emotional Health and well being	Creating Culture of Excellence in Research, Scholarship, Innovation and Creativity for High Impact	Enhancement of Quality of Faculty and Staff for Outstanding Performance	Advancing Internationalization	Enhancing Relations with Industry, Alumni & Society	Enhancing Employability and Promote Entrepreneurial Initiatives	Committing to all Aspects of Social, Economic and Environmental Sustainability	Enhancement of Supporting Resources	Ensuring Excellence in Organizational Leadership and Governance
Intended Operational Outcomes										
Create excellence in architecture education, teaching and research.	X		X	X						
Provide an academically productive background for multi directional development of future architects	X	X	X		X		X			

Demonstrate environment for innovation and research excellence for the intellectual growth of students			X							
Develop the core value, culture and the ethics of the university within the students		X								X
Encourage students for deep sense of responsibility for environment, culture and society.		X						X		
Provide ample opportunities for international exposure to students.					X	X	X			

Provide conducive to learning environment preparing the student for higher learning in national & international universities.			X		X		X		X	
Build a strong bond among the industry-practicing architects and alumni of the school to support each other for future development of profession.						X	X			
Facilitate employment opportunities and also support students to start their own architectural firms.					X	X	X			

Encourage students to perform best of their capacities and to successfully discharge of responsibilities and execution of policies and programs.		X								X
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M.PLAN										
Broad-Based Goals	Ensuring Educational Excellence	Ensuring Student Development Including Physical and Emotional Health and well being	Creating Culture of Excellence in Research, Scholarship, Innovation and Creativity for High Impact	Enhancement of Quality of Faculty and Staff for Outstanding Performance	Advancing Internationalization	Enhancing Relations with Industry, Alumni & Society	Enhancing Employability and Promote Entrepreneurial Initiatives	Committing to all Aspects of Social, Economic and Environmental Sustainability	Enhancement of Supporting Resources	Ensuring Excellence in Organizational Leadership and Governance
Intended Operational Outcomes										
Create excellence in architecture education, teaching and research.	X		X	X						
Provide an academically productive background for multi directional development of future architects	X	X	X		X		X			

Demonstrate environment for innovation and research excellence for the intellectual growth of students			X							
Develop the core value, culture and the ethics of the university within the students		X								X
Encourage students for deep sense of responsibility for environment, culture and society.		X						X		
Provide ample opportunities for international exposure to students.					X	X	X			

Provide conducive to learning environment preparing the student for higher learning in national & international universities.			X		X		X		X	
Build a strong bond among the industry-practicing architects and alumni of the school to support each other for future development of profession.						X	X			
Facilitate employment opportunities and also support students to start their own architectural firms.					X	X	X			

Encourage students to perform best of their capacities and to successfully discharge of responsibilities and execution of policies and programs.		X								X
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3.5 Mapping of Operational Assessment Measures to Intended Operational Outcomes

The operational assessment measures identified above provide for the assessment of all of the intended operational outcomes. These relationships are summarized in the measures-to-outcomes mapping below (**Note: Put an “x” in a given cell of the table if the assessment instrument in that column measures the intended operational outcome in that row.**):

B.Arch									
Intended Outcomes	Assessment Tools								
	Timely Conduct of Classes	Field Based Activities	Industrial Interaction	Alumni Interaction	Guest lectures	Seminars and Workshops	National and Inter- National Conferences	Tutorials for weak students	Extracurricula r activities and Inter- university competitions
Operational Outcome 1	X	X	X		X	X	X	X	
Operational Outcome 2		X						X	
Operational Outcome 3		X	X		X	X	X		X
Operational Outcome 4	X	X	X	X		X	X		
Operational Outcome 5	X	X		X		X	X		X
Operational Outcome 6			X	X					
Operational Outcome 7	X	X			X				X
Operational Outcome 8	X	X	X		X	X	X		X
Operational Outcome 9	X	X		X		X	X		X

B.Plan										
Assessment Tools		Timely Conduct of Classes	Field Based Activities	Industrial Interaction	Alumni Interaction	Guest lectures	Seminars and Workshops	National and Inter-National Conferences	Tutorials for weak students	Extracurricular activities and Inter-university competitions
Intended Outcomes	Operational Outcomes									
Operational Outcome 1		X	X	X		X	X	X	X	
Operational Outcome 2			X			X			X	
Operational Outcome 3			X	X		X	X	X		X
Operational Outcome 4		X	X	X	X		X	X		
Operational Outcome 5		X	X		X		X	X		X
Operational Outcome 6				X	X					
Operational Outcome 7		X	X			X				X
Operational Outcome 8		X	X	X		X	X	X		X

M.Arch										
Assessment Tools	Intended Operational Outcomes	Timely Conduct of Classes	Field Based Activities	Industrial Interaction	Alumni Interaction	Guest lectures	Seminars and Workshops	National and Inter- National Conferences	Tutorials for weak students	Extracurricular activities and Inter- university competitions
Operational Outcome 1		X	X	X		X	X	X	X	
Operational Outcome 2			X			X			X	
Operational Outcome 3			X	X		X	X	X		X
Operational Outcome 4		X	X	X	X		X	X		
Operational Outcome 5		X	X		X		X	X		X
Operational Outcome 6				X	X					
Operational Outcome 7		X	X			X				X
Operational Outcome 8		X	X	X		X	X	X		X

M.U.D.									
Assessment Tools	Timely Conduct of Classes	Field Based Activities	Industrial Interaction	Alumni Interaction	Guest lectures	Seminars and Workshops	National and Inter-National Conferences	Tutorials for weak students	Extracurricular activities and Inter-university competitions
Intended Operational Outcomes									
Operational Outcome 1	X	X	X		X	X	X	X	
Operational Outcome 2		X			X			X	
Operational Outcome 3		X	X		X	X	X		X
Operational Outcome 4	X	X	X	X		X	X		
Operational Outcome 5	X	X		X		X	X		X
Operational Outcome 6			X	X					
Operational Outcome 7	X	X			X				X
Operational Outcome 8	X	X	X		X	X	X		X

M.PLAN										
Assessment Tools	Intended Operational Outcomes	Timely Conduct of Classes	Field Based Activities	Industrial Interaction	Alumni Interaction	Guest lectures	Seminars and Workshops	National and Inter- National Conferences	Tutorials for weak students	Extracurricular activities and Inter- university competitions
Operational Outcome 1		X	X	X		X	X	X	X	
Operational Outcome 2			X			X			X	
Operational Outcome 3			X	X		X	X	X		X
Operational Outcome 4		X	X	X	X		X	X		
Operational Outcome 5		X	X		X		X	X		X
Operational Outcome 6				X	X					
Operational Outcome 7		X	X			X				X
Operational Outcome 8		X	X	X		X	X	X		X

4. Committees

Faculty/Domain: Architecture, Planning and Interior Design							
Assessment Team							
S.No	Institution Name	Head of the Institution	Institutional Assessment Team	Role	Programme Title	Programme Assessment Team (PROAC of 3-4 Members)	
1	Amity School of Architecture and Planning	Dr. Amit Hajela	Dr. Amit Hajela	Chairperson	B.Arch M.Arch B.Plan	Dr. Amit Hajela	Chairperson
			Ar. Alpna Rohatgi	Member		Ar. Alpna Rohatgi	Member
			Ar. Shagun Agarwal	Member		Ar. Shagun Agarwal	Member