



SHARDA
UNIVERSITY
Beyond Boundaries

Programme Structure

**Sharda School of Design,
Architecture & Planning (SSDAP)**

Bachelor of Architecture

Programme Code: SAP0102

Batch:2023-28

SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: I

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	12168	ART 152	Human Values, Ethics & Constitutional Values	2	0	0	2	PAECC
Jury Subjects								
2	12169	ARJ151	Architectural Design-I	0	0	8	8	PC
3	12170	ARJ152	Architectural Visual Representation and Design-I	0	0	5	5	PC
4	12171	ARJ153	Digital Design Fabrication-I	0	0	3	3	SEC
5	12172	ARJ154	Model Making and Carpentry Workshop	0	0	3	3	PC
6	12228	ARJ 150	Construction Material & Methods -I	0	0	5	5	BS/AE
7	16254	ARP 101	Communicative English-1	1	2	0	2	SEC
Practical Subjects								
Total Credits							28	

Note: *PC: Professional Core Course, BS/AE: Building Science & Applied Engineering, SEC: Skill Enhancement Courses, PE: Professional Electives, OE: Open Elective, PAECC: Professional Ability Enhancement Compulsory Courses*

SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: II

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	12197	ART 153	History, Theory & Criticism-I	2	0	0	2	PC
2	12198	ART 154	Environment, Sustainability and Services I	2	0	0	2	PC
Jury Subjects								
3	12200	ARJ 155	Architectural Design-II	0	0	8	8	PC
4	12201	ARJ 156	Architectural Visual Representation and Design-II	0	0	4	4	PC
5	12202	ARJ 157	Digital Design Fabrication -II	0	0	3	3	SEC
6	12229	ARJ 158	Construction Material & Methods-II	0	0	5	5	BS/AE
7	16342	ARP 102	Communicative English-II	1	2	0	2	SEC
8.	-	-	University Elective	2	0	0	2	OE
Total Credits							28	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: III

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	12230	ART 201	History, Theory & Criticism – II	2	0	0	2	PC
2	12231	ART 202	Environment, Sustainability Services-II	2	0	0	2	BS/AE
3	11974	ART 203	Architectural Structures-I	2	0	0	2	BS/AE
Jury Subjects								
4	12232	ARJ 208	Architectural Design-III	0	0	8	8	PC
5	12233	ARJ 209	Digital Design Fabrication-III	0	0	3	3	SEC
6	12234	ARJ 210	Construction Material & Methods-III	0	0	5	5	BS/AE
Jury Elective Subjects								
7	12249	AEJ 211	Design Trends	0	0	2	2	PE
	12235	AEJ 204	Visual Representation and Composition					
8	12236	AEJ 205	Universal Design	0	0	2	2	
	12237	AEJ 206	Design Investigation					
Practical Subjects								
9		CCU	Community Connect	0	4	0	Non-CGPA	-
10	37265	VAC 300	Value Added Course	-	-	-	Non-CGPA	-
Total Credits							26	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: IV

S. No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	37189	ART 224	History, Theory & Criticism –III	2	0	0	2	PC
2	37190	ART 225	Environment, Sustainability & Services-III	2	0	0	2	BS/AE
3	37191	ART 226	Architectural Structures-II	2	0	0	2	BS/AE
Jury Subjects								
4	37192	ARJ 219	Architectural Design-IV	0	0	8	8	PC
5	37193	ARJ 220	Construction Material & Methods-IV	0	0	5	5	BS/AE
6	37194	ARJ 221	Digital Design Fabrication-IV	0	0	3	3	SEC
7	37195	ARJ 222	Site Planning & Landscape	0	0	4	4	PC
Jury Elective Subjects								
8	12203	AEJ 201	Vernacular: Architecture without Architect	0	0	2	2	PE
	37196	AEJ 212	Art Appreciation					
9	37197	AEJ 213	Architectural Photography	0	0	2	2	
	12205	AEJ 203	Product Design					
Total Credits							30	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: V

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	-	ART	History, Theory & Criticism –IV	2	0	0	2	PC
2	-	ART	Environmental, Sustainability & Services – IV	2	0	0	2	BS/AE
3.	-	ART	Building, Estimation & Costing	2	0	0	2	PC
4	-	ART	Human Settlements	2	0	0	2	PC
Jury Subjects								
4	-	ARJ	Architectural Design-V	0	0	8	8	PC
5	-	ARJ	Construction Material & Methods-V	0	0	5	5	BS/AE
6	-	ARJ	Digital Design Fabrication-V	0	0	3	3	SEC
Jury Elective Subjects								
7	-	AEJ	Landscape Design	0	0	2	2	PE
	-	AEJ	Façade Articulation					
8	-	AEJ	Allied Study I (UI/UX)	0	0	2	2	PE
	-	AEJ	Allied Study II (Visual Communication)					
Practical Subjects								
10	37265	VAC 300	Value Added Course	-	-	-	Non-CGPA	-
Total Credits							28	

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: VI

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1	-	ART	Environment, Sustainability & Services-V	2	0	0	2	BS/AE
2	-	ART	Theory of Architecture	2	0	0	2	PC
3	-	ART	Housing	2	0	0	2	PC
Jury Subjects								
4	-	ARJ	Architectural Design-VI	0	0	8	8	PC
5	-	ARJ	Construction Material & Methods-VI	0	0	4	4	BS/AE
6	-	ARJ	Digital Design Fabrication-VI	0	0	3	3	SEC
7	-	ARJ	Working Drawing-I	0	0	3	3	BS/AE
Jury Elective Subjects								
8	-	AEJ	Sustainable Design	0	0	2	2	PE (RBL-I)
	-	AEJ	Urban Element Design					
9	-	AEJ	Interior Design	0	0	2	2	PE
	-	AEJ	Barrier Free Architecture					
Total Credits							28	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: VII

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1.	-	ART	Urban Design	2	0	0	2	PC
2.	-	ART	Environment, Sustainability & Services-VI	2	0	0	2	BS/AE
Jury Subjects								
3	-	ARJ	Architectural Design-VII	0	0	8	8	PC
4	-	ARJ	Digital Design Fabrication-VII	0	0	3	3	SEC
5	-	ARJ	Working Drawing-II	0	0	4	4	BS/AE
6	-	ARJ	Architectural Design Compilation	0	0	2	2	PC
7	-	ARJ	Construction Material & Methods-VII	0	0	4	4	AS/AE
Elective Jury Subjects								
8	-	AEJ	Disaster Management	0	0	2	2	PE
	-	AEJ	Modular Coordination					
9	-	AEJ	Environment Analysis Techniques	0	0	2	2	PE (RBL-II)
	-	AEJ	Tactical Urbanism					
Practical Subjects								
10	37265	VAC 300	Value Added Course	-	-	-	Non-CGPA	-
11		ARP 505	Critical Thinking and Learning Skills	0	4	0	Non-CGPA	SEC
Total Credits							29	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: VIII

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1.	-	ART	Construction Project Management	2	0	0	2	PC
Jury Subjects								
2	-	ARJ	Architectural Design-VIII	0	0	8	8	PC
3	-	ARJ	Digital Design Fabrication-VIII	0	0	3	3	SEC
4	-	ARJ	Research Methodology	0	0	2	2	PC (RBL-III)
5	-	ARJ	Project Documentation Studio	0	0	4	4	SEC
6	-	ARJ	Construction Material & Methods-VIII	0	0	4	4	BS/AE
Elective Jury Subjects								
7	-	AEJ	Parametric	0	0	2	2	PE
	-	AEJ	Place Making					
8	-	AEJ	Conservation	0	0	2	2	PE
	-	AEJ	Vastu Shashtra					
Total							27	

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Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: IX

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Jury Subjects								
1	-	ARJ	Practical Training/ Internship	-	-	-	15	SEC
Practical Subjects								
2	37265	VAC 300	Value Added Course	-	-	-	Non-CGPA	-
Total Credits							15	

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Sharda School of Design, Architecture & Planning (SSDAP)

Programme: Bachelor of Architecture (SAP0102)

Batch: 2023-28

Semester/Term: X

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Category
Theory Subjects								
1.	-	ART	Professional Practice	2	0	0	2	PC
2	-	ART	Entrepreneurship in Architecture	2	0	0	2	PC
Jury Subjects								
3	-	ARJ	Thesis	0	0	18	18	PC (RBL-IV)
Jury Elective Subjects								
4	-	AEJ	Design Technology Armature	0	0	2	2	PE
5	-	AEJ	Building Service Drawing	0	0	2	2	PE
Practical Subjects								
6		ARP 506	Industrial Preparedness	0	4	0	Non-CGPA	SEC
Total Credits							26	

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SEMESTER – I

ART 152: Human Values, Ethics and Constitutional Values

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: I
1	Course Code	ART 152
2	Course Title	Human Values, Ethics and Constitutional Values
3	Credits	2
4	Contact Hours (L-P-S)	2-0-0
5	Course Status	Compulsory
6	Course Objective	<p>-To help students distinguish between values and skills, and understand the need, basic guidelines, content, and process of value education.</p> <p>-To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession</p> <p>-To facilitate the students to understand harmony at all the levels of human living and live accordingly.</p> <p>-To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life</p> <p>-Develop in students' sensitivity to constitutional obligations.</p>
7	Course Outcomes	<p>CO1: To summarize the significance of value inputs in a classroom, the need, basic guidelines, content, and process of value education,</p> <p>CO2: To explore the meaning of happiness and prosperity in the current scenario in the society</p> <p>CO3: To distinguish between ethical and unethical practices and start working out the strategy to actualize a harmonious environment wherever they work.</p> <p>CO4: To assess the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships, their role in ensuring a harmonious society</p> <p>CO5: To develop in students' sensitivity to constitutional obligations.</p> <p>CO6: To adapt the spirit of secularism and national unity in students.</p>
S8	Course Description	The course appraises students about value education and different aspects related. It also discusses harmony in the family and society. It deals with the harmony on professional ethics with honesty and accountability. Lastly it also deals with the constitutional values.
9	Outline syllabus	CO Mapping
	Unit 1	Need, Basic Guidelines, Content and Process for Value Education

		1a - Continuous Happiness and Prosperity- A look at basic Human Aspirations 1b - Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority 1c- Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.	CO1, CO2
	Unit 2	Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship.	
		2a- Understanding the meaning of Vishwas; Difference between intention and competence 2b- Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship 2c- Understanding the harmony in the society (society being an extension of family)	CO3
	Unit 3	Holistic Understanding of Harmony on Professional Ethics	
		3a- behavior of a person or group in a business environment 3b- professional competence with ethical human conduct. 3c - honest in one's work and serving the people along with <u>trustworthiness</u> , respecting others, honesty, accountability, abiding by the rules and avoiding harming anyone.	CO4
	Unit 4	Constitutional Values	
		4a - LIBERTY of thoughts, expression, belief, faith, and worship 4b - EQUALITY of status and of opportunity and to promote among them all 4c- FRATERNITY, assuring the dignity of the individual and the unity and integrity of the nation.	CO5, CO6
10	Mode of examination	Theory	
11	Weightage Distribution	CA	MTE
		25%	25%
12	Text book/s*	I.R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.	

13	Other References	1.A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak. 2.P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers. 3.A N Tripathy, 2003, Human Values, New Age International Publishers. 4.SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati. 5.E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers , Oxford University Press
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	1	-	-	3	2	3	2	-	-	2
CO2	-	-	1	-	-	3	2	3	2	-	-	2
CO3	-	-	1	-	-	3	2	3	2	-	-	3
CO4	-	-	1	-	-	3	2	3	2	-	-	2
CO5	-	-	-	-	-	3	2	3	2	-	-	2
CO6	-	-	-	-	-	3	2	3	2	-	-	3
Avg	-	-	1	-	-	3	2	3	2	-	-	2

ARJ 151: Architectural Design- I

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: I
1	Course Code	ARJ 151
2	Course Title	Architectural Design -I
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is to</p> <ul style="list-style-type: none"> -To understand and analyze elements, principles, space, and human relationship of the design and composition -To enable students to formally apply and visualize various methods of form generation (hand skills and graphics) -To introduce students to various components of form-based design process and thereby successfully ideate a form into design. -To enable students to understand and analyze relation of space and human by learning various principles of proportions and anthropometry -To develop and implement various communicative presentation skills
7	Course Outcomes	<p>CO1: To demonstrate the appropriate skills of form making and model making</p> <p>CO2: To interpret concepts of composition and basic principles of design, principles of color and texture</p> <p>CO3: To develop an understanding relation of space and human.</p> <p>CO4: To comprehend the skills and knowledge to design space solutions</p> <p>CO5: To communicate effectively through documentation, graphical and verbal presentations.</p> <p>CO6: To create an illustrative architectural portfolio</p>
8	Course Description	The studio is designed to familiarize students with visual grammar, elements of design and methods of visual composition with various mediums and color in 2D & 3D. The studio focuses on space proportions and anthropometrics with its application on form-based design process.
9	Outline syllabus	CO Mapping
	Unit 1	2d & 3d Composition

		1a- Visual elements- point, line, plane, and volume. 1b- Understanding Positive and negatives, solids, and voids 1c- Principles of Proportion, Scale and balance, rhythm, contrast, harmony, symmetry, focus, order, and chaos	CO1, CO2
	Unit 2	Construction/Addition/ Subtraction	
		Model Based Additives Exercise Using: 2a- Planes And Solids 2b- Manipulating Planes And Solids 2c- Color Theory And Application	CO1, CO2
	Unit 3	Form Finding	
		3a- Formal application of methods learnt through the preparatory exercises. 3b- Exploration of firm materials in developing forms 3c- Exploration of soft materials in developing forms	CO1, CO2
	Unit 4	Anthropometrics And Basic Space Standards	
		4a- Human Body and anthropometrics 4b- Human Space relation and basic standards 4c- Space proportions	CO3, CO4
	Unit 5	Design Development & Model Making	
		5a- Model (Preferably LCJ) based exercises to understand space transformation, spatial relations, and anthropometry. 5b- visual composition and drawing development 5c- Understanding architectural elements and final visualization in terms of model.	CO3, CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Gill, R. W. (2011). Rendering with pen and ink. London: Thames and Hudson. 2. Ching, F. D. (2014). Architecture Form, Space, and Order. John Wiley & Sons. 3. Unwin, S. (2008). Analysing architecture. London: Routledge. Unwin, S. (2012). Exercises in architecture: Learning to think as an architect. Abingdon, Oxon: Routledge.	
13	Other References	1. Ernst and Peter Neufert. Architects' Data Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	1	-	3	--	-	-	-	-	--	-
CO2	3	-	1	-	2	-	-	1	3	2	1	1
CO3	3	1	3	1	1	2	2	2	3	1	1	2
CO4	3	1	3	1	1	1	-	2	3	1	1	2
CO5	1	-	-	-	2	-	-	1	-	3	1	2
CO6	2	-	2	-	3	-	-	3	-	3	2	3
Avg	2	1	2	1	2	1	2	2	3	2	1	2

ARJ 152: Architectural Visual Representation and Design - I

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: I
1	Course Code	ARJ 152
2	Course Title	Architectural, Visual Representation & Design – I
3	Credits	5
4	Contact Hours (L-P-S)	0-0-5
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is</p> <ul style="list-style-type: none"> -To introduce and familiarize students with drafting tools and other necessary equipment's -To understand and apply the basics of representation and visualization skills -To identify and illustrate the different real-life objects through architecture representation -To develop and appraise the imagination and subjective expression through form and images
7	Course Outcomes	<p>CO1: Student should be able to comprehend the drafting tools to produce qualitative work</p> <p>CO2: Student should be able to formulate and use observation-based knowledge and methods to implement scale, dimension, composition in manual drafting</p> <p>CO3: Student should be able to relate different process and terminologies in 2d and 3d graphical representations</p> <p>CO4: Student should be able to apply the knowledge of colors, materials, and textures through hand rendering techniques</p> <p>CO5: Student should be able to develop basic skills of drawings and representation,</p> <p>CO6: Students should be able to combine learning of visualization of solids to surface developments and vice versa</p>
8	Course	The process of design requires varied techniques of visualization and representation to aid design development. These may be in two or

	Description	three dimensions using physical media with hand sketching, mechanical drawing and making models or virtual representation using computer software and audio visual media. In architectural practice the precise and communicative representations of designed objects follows certain conventions of representation and also employ graphic techniques to express “soft” aspects of design. This aspect is addressed under the title Architectural Drawing. The course overlaps with the Design Studio course and may be seen as a complementary and symbiotic set of exercises for development of skills.	
9	Outline syllabus	CO Mapping	
	Unit 1	Fundamentals of Architectural Drawing	
		1a- Architectural Lettering 1b- Architectural scales and dimensioning 1c- Architectural representation of materials and architectural elements through architectural graphic symbols.	CO1, CO2
	Unit 2	Orthographic Projections	
		2a- Principles and projection methods of orthographic projection 2b- Development of surfaces 2c- section of solids	CO1, CO3, CO5
	Unit 3	Introduction to Architectural Drawings	
		3a- Plans, elevations, sections 3b- Measure Drawing 3c- Scaling and compositions of sheets	CO1, CO2, CO3
	Unit 4	Isometric and Axonometric Views	
		4a- Solids 4b- Compositions 4c- Buildings	CO1, CO3, CO5
	Unit 5	Rendering and Visualisation	
		5a- Converting the orthographic projections into Three Dimensional Visualizations. 5b- Basic Architectural rendering of orthographic projections drawings to develop understanding of materials, proportions and scale. 5c- Compiling the entire portfolio	CO1, CO4, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Gill, R. W. (2011). <i>Rendering with pen and ink</i> . London: Thames and Hudson	

		<p>2. Ching, F. D. (n.d.). <i>Architectural Graphics Ed. 6</i>. John Wiley & Sons.</p> <p>Bhatt, N.D. and Panchal, V.M. (1996). <i>Engineering Drawing – Plane and Solid Geometry</i>. Charotar Publishing House.</p>
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COPO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	3	3	2	-	-	-	2	3	-	3
CO2	3	1	1	3	1	-	-	-	3	3	-	2
CO3	3	-	3	3	3	-	-	-	2	3	-	2
CO4	3	1	1	3	1	-	-	-	3	3	-	2
CO5	3	-	2	2	3	-	-	-	3	2	-	3
CO6	3	1	1	3	1	-	-	-	3	3	-	2
Avg	31	1	2	3	2	-	-	-	3	3	-	2

ARJ 153: Digital Design Fabrication-I

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: I	
1	Course Code	ARJ 153	
2	Course Title	DDF-I (Digital Design Fabrication-I)	
3	Credits	3	
4	Contact Hours (L-P-S)	0-0-3	
5	Course Status	Compulsory	
6	Course Objective	<p>The main intention of the course is:</p> <ol style="list-style-type: none"> 1. To develop understanding about Microsoft Office and its relevance in presentation & documentation. 2. To familiarize students with digital presentation techniques using various tools and techniques. 3. To make familiar with Photoshop as a tool and its basic functioning in design presentations. 4. To understand and should have ability to create 3D space design using digital 3D tools. 	
7	Course Outcomes	<p>CO1: Understand Presentation techniques using various digital tools. CO2: Apply office tools, basic image renders & understanding of 3D space design. CO3: Construct the concepts of presentation methods and techniques in 2D and 3D through various architectural projects of progressive complexity CO4: Formulate Presentation skills using techniques they learned CO5: Develop Image renders and 3D Views techniques for quicker methods and presentation skills CO6: Students will adapt the Visual rendering and presentation skills.</p>	
8	Course Description	<p>The entire course of Digital Design Fabrication that is taught in the almost 8 semesters is a logically laid out curriculum which aims at one aspect of the knowledge of digital tools in each semester. This course covers the study of presentation skills regarding Architecture. Students learn the commands to create presentations using various digital design software.</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction to MS Office	
		1a -Introduction to MS Office 1b - To develop and understand tools and basic set up for MS Office 1c - Theoretical understanding and working of MS Office	CO1, CO2

	Unit 2	Image rendering Methods and Techniques	
		2a - Introduction to Adobe Photoshop 2b - To comprehend tools and systems for Image renders 2c - Manipulate and alter through various tools and techniques	CO1, CO2
	Unit 3	Digital Painting using Photoshop	
		3a - Learn to apply Brush tool and methods for painting 3b - Demonstrate presentation using Brush tool 3c - Draw and create a complete scene render using digital painting	CO2, CO3
	Unit 4	Introduction to digital 3D tools	
		4a - Basic Interface and functions 4b - 3D Modeling tools and techniques 4c - Material, Texture in 3D Model	CO2, CO3
	Unit 5	Methods and Techniques – 3D – Demonstration	
		5a - To apply more complex tools and methods in 3D Modeling 5b - Demonstrate presentation output, material application and lighting in 3D view. 5c - Draw and create a complete set of architectural drawings for a dwelling unit in 3D space design.	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Adobe Photoshop CC Bible Professional Edition by McClelland Deke 2. Fundamentals of Three-Dimensional Computer Graphics by Watt 3. SketchUp For Dummies, Book by Aidan Chopra 4. The SketchUp Workflow for Architecture: Modeling Buildings, Visualizing Design, and Creating Construction Documents with SketchUp Pro and Layout: by Michael Brightman	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	1	-	3	-	-	-	-	2	-	2
CO2	1	-	1	-	3	-	-	-	-	2	-	2
CO3	1	-	1	-	3	-	-	-	-	3	-	3
CO4	1	-	1	-	3	-	-	-	-	3	-	3
CO5	1	-	1	-	3	-	-	-	-	3	-	3
CO6	1	-	1	-	3	-	-	-	-	3	-	3
Avg	1	-	1	-	3	-	-	-	-	3	-	3

ART 154: Model Making and Carpentry Workshop

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: I	
1	Course Code	ARJ 154	
2	Course Title	Model Making and Carpentry Workshop	
3	Credits	3	
4	Contact Hours (L-P-S)	0-0-3	
5	Course Status	Compulsory	
6	Course Objective	After successful completion of this course, student should be able to: -To represent their ideas in a rudimentary model format using simple materials like paper, thermocol, hardwood, Metals, glass fibre etc. -The students able to operate the carpentry tools to perform wooden jobs which help to understand the nature of wood material. -Impart knowledge of basic production process of Clay, Wood and Metal. -Understanding of the various tools and equipment available for executing these exercises	
7	Course Outcomes	CO1: To assess different model materials. CO2: To demonstrate various cutting and pasting techniques that are applicable for model making in different materials. CO3: To create a basic architectural model. CO4: To develop a detailed architectural model. CO5: To understand various details of site development, landscaping and human figures in the architectural model. CO6: To demonstrate the safe use of the appropriate tools, materials and techniques as required to carry out work on a building projects.	
8	Course Description	This skills workshop is designed to familiarize students to work with basic materials. The Studio shall focus on working with materials starting from its rough, unprepared stage to a simple finished product.	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction of basic materials and tools	
		1a-Variety of paper board, sun board, cork sheet, transparent sheet, coloured paper, balsa sheet, mount board, mat sheet, drafting, pasting and cutting tools etc. 1b-Basic cutting and pasting job related to ivory sheet (cube, cuboid, prism, cylinder, trapezium etc.) 1c-Basic cutting and pasting job related to sun board sheet (cube, cuboid, prism, cylinder, trapezium etc.)	CO1, CO2
	Unit 2	Introduction of Basic model making workshop 1	
		2a- Introduction: Importance of architectural models in	CO3

		the profession, materials used in making different types of architectural models: their types and selection criteria. 2b-Techniques for fabrication of basic design modal (any Kiosk) to understand door/ window making techniques w mount board/ivory sheet. 2c-Preparation of base for modal.	
	Unit 3	Introduction of detailed model making workshop 1I	
		3a- Building blocks at least 02 storey with details like windows, doors, porch, balconies, pergola, terraces, parapet etc. 3b- 1 or 2 BHK interior model with toilet and kitchen detail. 3c -Furniture design with different materials.	CO4
	Unit 4	Preparation of model Base	
		4a-Preparation of wooden base 4b-Components of site layout like parking, roads, pavements, water body, landscaping, trees, slope/contours etc. 4c-Boxing, lighting and naming of modal.	CO4, CO5
	Unit 5	Carpentry Workshop	
		5a-Introduction of carpentry tools and their use with all safety and introduction of carpentry joints. 5b-1st job related to carpentry joint (team work) 5c-2 nd job related to carpentry joint (team work)	CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	Reference-Books <ul style="list-style-type: none"> • Criss B.Mills, Designing with Models. • Wolfgang Knoll and Martin Hechinger, Architectural Models. • Don A. Watson, Construction Materials and Processes, McGraw Hill C 1972. • W.B. Mckay, 'Building Construction', Vol.1,2,3 Longmans, U.K.1981. • Alanwerth, Materials, The Mitchell Pub.Co.Ltd., London,1986. • R.Chudleu, 'Building Construction Handbook', British Libr Cataloguing in Publication Data, London,1990. • S.C. Rangwala, Engineering Materials, Charotar Pub.House, Anna 1997. 	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	3	-	-	-	2	-	-	3
CO2	2	2	2	-	3	-	-	-	3	-	-	3
CO3	2	2	2	-	3	-	-	-	3	-	-	3
CO4	2	2	2	-	3	-	-	-	3	-	-	3
CO5	2	2	2	-	3	-	-	-	3	-	-	3
CO6	3	3	2	1	2	-	3	-	3	-	-	2
Avg	2	2	2	1	3	-	3	-	3	-	-	3

ARJ 150: Construction Material & Methods-I

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: I	
1	Course Code	ARJ 150	
2	Course Title	Construction Material & Methods-I	
3	Credits	5	
4	Contact Hours (L-T-S)	0-0-5	
	Course Status	Compulsory	
5	Course Objective	1. To develop understanding about construction principles. 2. To familiarize students with building elements 3. To understand basic building materials such as mud, bamboo, stone and bricks and the various construction techniques wherein these materials are used. 4. To understand different types of brick & stone masonries and their applications along with mud & bamboo construction.	
6	Course Outcomes	CO1: To examine various building elements. CO2: To understand the functions and characteristics of common building systems and assemblies. CO3: To comprehend the standard nomenclature and classify the various types of bricks, brick masonry bonds & demonstrate the application of the same. CO4: To develop an understanding of different types of brick & stone masonries and their application. CO5: To discuss mud and bamboo construction techniques. CO6: To familiarize students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.	
7	Course Description	The entire course of Construction Methods and materials that is taught in architecture is a logically laid out curriculum which aims at one aspect of the construction in each semester. The course in First Semester aims at introducing to the students the primary building materials and their properties and applications in building construction. The students are taught the basics of construction through lectures and hands-on exercises. Further the course elaborates on mud, stone and bricks as the basic building materials.	
8	Outline syllabus		CO Mapping
	Unit 1	Building Elements & Terminology	
	A	Elements of building Terminology, Nomenclature of various parts of building from foundation to roof.	CO1
	B	Section through building.	CO1
	C	General idea of load transmission in load bearing & frame structures, their advantages, disadvantages and	CO2

		suitability.	
	Unit 2	Brick and Brick masonry	
	A	Brick terminology, types of brick and its manufacturing process.	CO2
	B	Types of Bricks : e.g. Bull Nose, Queen Closer, different kinds of bats etc.	CO3
	C	Brick bonds- English bond and Flemish (single and double) bond in brick for up to two brick thick wall.	CO6
	Unit 3	Brick Junctions & Jaalis	
	A	Tests and defects, properties of brick and its uses. Merits & Demerits of different types of brick bonds, principles of brick masonry	CO3
	B	Laying of brick bonds/ junctions on sites L Junction, T junction, Cross junction, Oblique junction	CO3
	C	Design and construction of brick jallis	CO3
	Unit 4	Stone Masonry	
	A	Dressing, laying in Stone Masonry- Tools used, Surface finishes, principles of stone masonry	CO4
	B	Classification of Stone Masonry- Random Rubble, Coursed Rubble, Ashlar, Composite Stones	CO6
	C	Joints of stone masonry	CO6
	Unit 5	Mud & Bamboo construction	
	A	Mud Architecture- Introduction and various construction techniques, Properties, Advantages & Disadvantages	CO5
	B	Bamboo Architecture- Construction details & Techniques, Properties, Advantages & Disadvantages	CO5
	C	Case Study of Mud & Bamboo buildings. Site Visit of Kiln	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s*	McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955. 3. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000. 4. The Construction of Buildings – Barry Volume I, II, III and IV 5. Chudley, Roy, "Construction Technology", Longman, 2005. 6. Building Construction_Mitchell (Elementary and Advanced) 7. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007 8. Building Construction-Bindra&Arora. 9. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005.	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	-
CO2	-	1	1	-	2	-	1	-	-	1	-	1
CO3	2	-	-	-	-	-	-	1	-	-	-	-
CO4	-	3	-	1	-	-	2	-	-	-	-	2
CO5	-	-	-	-	-	1	3	-	-	-	-	1
CO6	3	2	-	3	-	2	2	2	-	-	2	3
Avg	2	2	1	2	1	1	2	1	-	1	2	2

ARP 101: Communicative English-I

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: I
1	Course Code	ARP 101
2	Course Title	Communicative English-1
3	Credits	2
4	Contact Hours (L-P-S)	1-0-2
5	Course Status	Compulsory
6	Course Objective	To minimize the linguistic barriers that emerge in varied socio-linguistic environments using English. Help students to understand different accents and standardize their existing English. Guide the students to hone the basic communication skills - listening, speaking, reading, and writing while also uplifting their perception of themselves, giving them self-confidence, and building positive attitude.
7	Course Outcomes	Students will be able to: CO1: Learn and develop over all comprehension ability, interpret it and describe it in writing. CO2: Developing positive perception of self to be able to speak confidently in English CO3: To ingrain the spirit of Positive attitude in students CO4: To describe people and situations effectively and make effective conversations. CO5: To create and build successful and professional social media handles. Students will also be exposed to multiple Career Opportunities across CO6: To learn profusely about Social and cultural etiquettes along with teamwork.
8	Course Description	The course is designed to equip students, who are at a very basic level of language comprehension, to communicate and work with ease in varied workplace environment. The course begins with basic grammar structure and pronunciation patterns, leading up to apprehension of oneself through written and verbal expression as a first step towards greater employability.
9	Outline syllabus	CO Mapping
	Unit 1	Sentence Structure

		1a. Subject Verb Agreement 1b. Parts of speech 1c. Writing well-formed sentences	CO1
	Unit 2	Vocabulary Building & Punctuation	
		2a- Homonyms/ homophones, Synonyms/Antonyms	CO1
		2b- Punctuation/ Spellings (Prefixes-suffixes/Unjumbled Words)	CO1
		2c- Conjunctions/Compound Sentences	CO1,CO2
	Unit 3	Writing Skills	
		3a- Picture Description – Student Group Activity	CO3
		3b- Positive Thinking - Dead Poets Society-Full-length feature film - Paragraph Writing inculcating the positive attitude of a learner through the movie SWOT Analysis – Know yourself	CO3, CO2, CO3
		3c- Story Completion Exercise –Building positive attitude - The Man from Earth (Watching a Full length Feature Film)	CO2, CO3, CO4
		3d- Digital Literacy Effective Use of social media	CO3
	Unit 4	Speaking Skill, professional Skills, Leadership & Management	
		4a – Self-introduction/Greeting/Meeting people – Self branding	CO2, CO3
		4b-Describing people and situations - To Sir With Love (Watching a Full length Feature Film)	CO3, CO4
		4c - Dialogues/conversations (Situation based Role Plays	CO4, CO5, CO6
10	Mode of examination	Class Assignments/Free Speech Exercises / JAM Group Presentations/Problem Solving Scenarios/GD/Simulations (50% CA and 50% ETE	
11	Weightage Distribution	CA	ETE
		50%	50%
12	References	1. Blum, M. Rosen. <i>How to Build Better Vocabulary</i> . London: Bloomsbury Publication 2. Comfort, Jeremy(et.al). <i>Speaking Effectively</i> . Cambridge University Press	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	3	-	-	-	-	-	-	-	3	-	3
CO2	-	-	-	-	-	-	-	2	-	3	-	3
CO3	-	-	-	-	-	-	-	2	-	3	-	3
CO4	-	-	-	-	-	2	2	2	-	3	-	3
CO5	-	-	-	-	-	-	-	2	-	3	-	3
CO6	-	3	2	2	-	-	-	-	-	3	-	3
Avg	-	3	2	2	-	2	2	2	-	3	-	3

SEMESTER – II

ART 153: History, Theory & Criticism-I

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: II	
1	Course Code	ART 153	
2	Course Title	History, Theory & Criticism - I	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	To understand the historical development through different era's and region. 1. To understand the political economy of the period 2. To understand Cultural and Social significance of the period 3. To identify and study the salient features of the architectural styles during the era	
6	Course Outcomes	CO1: Identify different styles of historic architecture CO2: Classify prominent / important historic buildings by their components / style of design CO3: Describe prominent / important historic buildings CO4: Analyse the contributing factors for the design development of different styles. CO5: Compare various styles based on the contributing factors responsible for their development CO6: Apply the knowledge of historic architectural styles and techniques in design.	
7	Course Description	This Course deals specifically with the socio-political, historical, and cultural dimensions of Architectural history in various regions. Through this module students develop a deeper understanding of the architectural styles during the period and famous examples of the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Mesopotamia & Egypt	
		1a. Introduction to Mesopotamian civilizations, their social systems and cultures. Ziggurats and their development – White Temple, Ziggurat of Ur, Urnammu and Khorsabad. 1b. Generic Temple Layout - Temple Oval and Khafaje o Palace Complex/Citadel of Khorsabad, Nebuchadnezzar's Babylon, Persepolis Introduction to Egyptian civilization, their social systems and cultures. Monumentality tomb architecture: 1c. Evolution of the pyramid from the mastaba – Great Pyramid of Cheops, Gizeh etc. Temple architecture: mortuary temples and cult temples - Temple of Ammon Ra, Karnak, Khons - Temple of Abu	CO1, CO2

		Simbel (Rock Cut) etc.	
	Unit 2	Indus Valley civilization, The Aryan civilization, Buddhist and Jain Architecture	
		2a. Introduction to Indus Valley and Aryan civilizations, their social systems, and cultures. City of Harappa, Mohanjodaro and Lothal, layout of domestic units & public facilities, building materials and construction technologies used. The Vedic civilization; Layouts of Aryan Village, type of dwellings and building materials. 2b. Evolution of Jain & Buddhist Architecture; Development by Ashoka, Hinayan & Mahayan styles of Buddhist architecture. Architectural features of Stupas, Monolithic Pillars, Rock cut architecture (Chaityas & Viharas), Monestries, Rock edicts. 2c. Jain viharas, Temples of Rajasthan, Gujarat, Central India.	CO1, CO3
	Unit 3	Greece	
		3a. Introduction to Greek civilization, their social systems, and cultures 3b. Classical Order – Doric, Ionic, Corinthian. Temple types on basis of column layout – case example of Acropolis, Athens 3c. Public Buildings and Square – Agora, Stoa, Prytaneum, Bouleuterion, Tholos, Gymnasium, Theatre	CO4, CO5
	Unit 4	Rome	
		4a. Introduction to Roman civilization, their social systems and cultures 4b. Contribution in new materials and new construction/structural systems, eg, Pozzolana, Cementae, Stone Blocks, Stone Masonry, Arch, Vault, Dome Orders in architecture: Tuscan and Composite techniques of construction. 4c. Forum Romanum and other Imperial forums, Pantheon, Public buildings: Colloseum, Circus Maximus, Thermae of Caraculla.	CO5, CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
11	Reference	1. Sir Banister Fletcher, A History of Architecture, University of London, The AntholonePress, 1996. 2. Spiro Kostof - A History of Architecture - Setting and Rituals, Oxford UniversityPress, London, 1985. 3. Leland M Roth; Understanding Architecture: Its elements, history and meaning; CraftsmanHouse; 1994 4. Pier Luigi Nervi, General Editor - History of World Architecture - Series, Harry N.Abrams, 5. Inc.Pub., New York, 1972. 6. S.Lloyd and H.W.Muller, History of World Architecture - Series, Faber and Faber Ltd.,	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	1	2	1	1	-	2	-	-	1	1	1

ART 154: Environment, Sustainability & Services -I(Environment Science)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: II	
1	Course Code	ART 154	
2	Course Title	Environment, Sustainability & Services - I (Environment Science)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	The main intention of the course is to equip students with basic study of human behavior and interaction with the environment.	
7	Course Outcomes	CO1: To describe the elements of behavior and their relationship to the environment. CO2: To interpret the traditional built environment in context with community /neighborhood behavioral pattern CO3: To distinguish between built habitats based on community behavior CO4: To demonstrate space design with social aspects (like age, gender, ability, economy) CO5: To relate built spaces with human interpretations CO6: To illustrate the differences in social space design with the help of examples.	
8	Course Description	<ul style="list-style-type: none"> The course includes topics such as beliefs, meanings, values and attitudes of individuals or groups concerning various environments such as neighbourhoods, cities, transport routes and devices, or recreational areas; evaluation and effectiveness of environments designed to accomplish specific objectives; Interrelationships between human environments and behavioural systems; practises aimed at controlling environments and behaviour. The subject will have assignments in line with the understanding obtained from design studio, building materials & construction and history of architecture. 	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		1a - Psychology and its relation to built space 1b - Behavioral Science and modern movement 1c- Elements of behavior	CO1,CO2
	Unit 2	Built environment & User group	
		2a- Social behavior - Family, gender and group, 2b- Community behavior patterns , 1c- Behavioral	CO2, CO3

		concept in neighborhood and communities 2c- Development of perception, Memory and thinking, mental map , Gestalt theory of Perception – environmental cognition and effect, spatial behaviour,	
	Unit 3	Environmental perception	
		3a- Environment as interacting system, Environmental perception, • Environmental cognition 3b- Environment – Behavior: phenomena and design, Behavior Settings: Fits and Misfits, Anthropometrics and ergonomics 3c - Proxemics and Personal Space, Territoriality and Defensible space	CO3, CO4
	Unit 4	Social design aspects	
		4a - Privacy, Density, Crowding and Stress , Social space 4b - Safety, equity, Age and built space 4 c- Making space and place	CO5
10	Mode of examination	Theory	
11	Weightage Distribution	CA	MTE
		25%	25%
12	Text book/s*	ETE	
		50%	
12	Text book/s*	1. Hidden Dimensions by T. Hall 2. Personal Space by Sommer 3. House Form And Culture by Amos Rappoport 4. A Pattern Language by C. Alexander 5. Life and Death of Great American Cities by Jane Jacobs	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	2	3	-	3	1	-	-	3	-	-
CO2	1	-	2	3	-	3	1	-	-	3	-	1
CO3	1	-	2	3	-	3	1	-	-	3	-	1
CO4	1	-	2	3	-	3	1	-	-	3		1
CO5	1	1	2	3	-	3	1	-	-	3	1-	1
CO6	1	1	2	3	-	3	1	-	-	3	1	1
Avg	1	1	2	3	-	3	1	-	-	3	1	1

ARJ 155: Architectural Design –II

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: II
1	Course Code	ARJ 155
2	Course Title	Architectural Design -II
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is to</p> <ul style="list-style-type: none"> -To explain various components and techniques of a design process. -To expose students to different works of renowned architects. -To devise and appraise the documentation process along with architectural drawings portfolio -To learn, analyze and implement relations of Human- form - function -To identify and articulate the methods of design, spatial planning, and form generation strategies for a small scale project
7	Course Outcomes	<p>CO1: To Select the appropriate tools -methods of model making, drawings and design presentations- to access, predict a design project</p> <p>CO2: To Interpret the works of renowned architects documented and Illustrate various design processes, methods and means deployed to achieve spatial organization.</p> <p>CO3: To Analyze research literature and various scales of architectural projects contextually to arrive at substantiated conclusions.</p> <p>CO4: To Apply spatial configuration to a small scale project by using their user research based knowledge.</p> <p>CO5: To Communicate effectively through documentation, graphical and verbal presentations.</p> <p>CO6: To Create an illustrative architectural portfolio</p>
8	Course Description	The studio is designed to familiarize students with visual grammar, elements of design and methods of visual composition with various mediums and color in 2D & 3D. The studio focuses on space proportions and anthropometrics with its application on form based design process.
9	Outline syllabus	CO Mapping
	Unit 1	Reverse Engineer a Project

		1a- Study of renowned architect's buildings through open models. 1b- Drawings & Documents. 1c- Context manipulation.	CO1, CO2
	Unit 2	Documentation	
		2a- Interpretation of design methods and concepts. 2b- Interchanging between 2D and 3D representation to understand form generation and scale. 2c- Reverse design analysis and criticism.	CO1, CO2
	Unit 3	Analysis	
		Analyzing the architect's project to expose studio to: 3a- Design process 3b- Circulation 3c- Space relation	CO1, CO3
	Unit 4	Design Response	
		4a- Formal application of methods learnt through the preparatory exercises. 4b- Design exercise of residential dwelling with site constraints, client and context. 4c- Arriving at design solutions through physical models/block models, drawings and supportive documents.	CO3, CO4
	Unit 5	Portfolio Design	
		5a- Narrating the design process. 5b- Formulating complete set of drawings. 5c- Supporting the project with 3d visualizations/ model.	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Conditional Design- An introduction to Elemental Architecture 2. Operative Design- A catalogue of spatial Verbs, Di Mari Yoo 3. Case Study Houses, Elizabeth A.T.Smith 4. 101 Things I learned in architecture school, Mathew Fredrick. Shadow Makers, Stephen Kite.	

13	Other References	1. Ernst and Peter Neufert. Architects' Data Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	2	3	1	-	2	1	3	2	2
CO2	3	2	2	3	1	-	-	-	-	2	-	3
CO3	3	3	1	2	1	1	-	-	2	3	-	1
CO4	3	1	3	2	1	1	-	2	3	1	1	2
CO5	1	-	-	-	2	--	-	1	1	3	1	2
CO6	2	-	2	-	3	-	-	3	-	3	2	3
Avg	3	2	2	2	1	1	-	2	2	3	2	2

ARJ 156: Architectural Visual Representation & Design - II

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: II
1	Course Code	ARJ 156
2	Course Title	Architectural, Visual Representation & Design - II
3	Credits	4
4	Contact Hours (L-P-S)	0-0-4
5	Course Status	Compulsory
6	Course Objectives	<p>The main intention of the course is</p> <ul style="list-style-type: none"> -To introduce and familiarize students with drafting tools and other necessary equipment's -To understand and apply the basics of representation and visualization skills -To identify and illustrate the different real-life objects through architecture representation -To develop and appraise the imagination and subjective expression through form and images
7	Course Outcomes	<p>CO1: Student should be able to comprehend the drafting tools to produce qualitative work</p> <p>CO2: Student should be able to formulate and use observation-based knowledge and methods to implement different view typology</p> <p>CO3: Student should be able to relate different process and terminologies in 2d and 3d graphical representations</p> <p>CO4: Student should be able to apply the knowledge of colors, materials and textures through hand rendering techniques</p> <p>CO5: Student should be able to develop basic skills of drawings and representation, also assimilate learning of visualization of complex solids.</p> <p>CO6: Students should be able to combine learning of visualization of solids to surface developments and vice versa</p>
8	Course Description	<p>This course introduces advanced techniques for architectural drawing such as perspective projection, sciography mix-media renderings etc. The course intends to develop essential manual skills such as proficiency in drawing, largely used as primary mode of communication of ideas in architectural design.</p>

9	Outline syllabus		CO Mapping
	Unit 1	Three Dimensional Visualizations: Isometrics and Axonometric	
		1a- Isometric views 1b- oblique three dimensional views 1c- Visualizing Architectural drawings into view	CO1, CO2
	Unit 2	Three Dimensional Visualizations : Perspectives	
		2a- Free hand Perspective Drawings 2b- Two point and one point pespectives for simple forms and complex. 2c- Visualizing Architectural drawings into perspective view	CO1, CO3, CO5
	Unit 3	Sciography	
		3a- Sciography in architecture. Rendering for sciography, tones,texture, colors, and light. 3b- Sciography in two dimentional surfaces 3c- Sciography of simple and complex forms	CO1, CO2, CO3
	Unit 4	Architectural Rendering	
		4a- Introduction to various techniques of rendering 4b- Architectural Entourages (Trees, people, cars, materials) 4c- Application of skills on architectural drawings	CO1, CO3, CO5
	Unit 5	Visualization and Form Development	
		5a- Converting the orthographic projections/architectural drawings into Three Dimensional Visualizations like Sectional models, views 5b- Rendering (applying sciography and architectural renders) of orthographic projections drawings to develop deep understanding of proportions and scale. 5c- Compiling the entire portfolio	CO1, CO4, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Gill, R. W. (2011). <i>Rendering with pen and ink</i> . London: Thames and Hudson 2. Ching, F. D. (n.d.). <i>Architectural Graphics Ed. 6</i> . John Wiley & Sons.	

		Bhatt, N.D. and Panchal, V.M. (1996). <i>Engineering Drawing – Plane and Solid Geometry</i> . Charotar Publishing House.
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	3	3	2	-	-	-	2	3	-	3
CO2	3	1	1	3	1	-	-	-	3	3	-	2
CO3	3	-	3	3	3	-	-	-	2	3	-	2
CO4	3	1	1	3	1	-	-	-	3	3	-	2
CO5	3	-	2	2	3	-	-	-	3	2	-	3
CO6	3	-	2	2	3	-	-	-	3	2	-	3
Avg	3	1	2	3	3	-	-	-	3	3	-	3

ARJ 157: Digital Design Fabrication – II

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2023-24
Branch:		Semester: II
1	Course Code	ARJ 157
2	Course Title	DDF-II (Digital Design Fabrication-II)
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is:</p> <ol style="list-style-type: none"> 1. To develop understanding about of AutoCAD and its relevance in Architecture. 2. To familiarize students with digital 2D drafting skills using various tools and techniques. 3. To make familiar & aware of architectural drafting with a focus on industry standards. 4. To understand and should have ability to assemble drawings in industry-standard plan form and produce plotted hard copies ready for distribution.
7	Course Outcomes	<p>CO1: Understand Basics of Computer Aided Drafting</p> <p>CO2: Apply computer aided drafting and its parameter as tools and its application in Architecture</p> <p>CO3: Build the concepts of CAD drafting methods and techniques in 2D and 3D through various architectural projects of progressive complexity</p> <p>CO4: Formulate and apply CAD drafting in their projects</p> <p>CO5: Develop CAD techniques for quicker methods and presentation skills</p> <p>CO6: Students will adapt the CAD techniques and presentation skills.</p>
8	Course Description	<p>The entire course of Digital Design Fabrication that is taught in the almost 8 semesters is a logically laid out curriculum which aims at one aspect of the knowledge of digital tools in each semester.</p> <p>This course covers the study of Computer Aided Drafting (CAD) with regard to Architecture. Students learn the commands to draft necessary drawings using the latest version of AutoCAD Software.</p>
9	Outline syllabus	
	Unit 1	Introduction to Computer Aided Drafting
		1a- Introduction to Computer Aided Drafting
		1b - To develop and understand tools and basic set up for computer aided drafting
		1c - Theoretical understanding of CAD
	Unit 2	Computer Aided Drafting Methods and Techniques – 2D

		2a - To comprehend tools and systems for 2d drafting	CO1, CO2
		2b - Develops and draws various architectural plans, elevations and sections through 2D CAD	
		2c -Manipulate and alter through various tools and techniques existing architectural drawings in 2D CAD	
	Unit 3	Computer Aided Drafting methods and techniques – 2D – demonstration	
		3a - To apply more complex tools and methods to edit drawings in 2D CAD	CO2, CO3
		3b - Demonstrate presentation drawings in 2D Cad	
		3c - Draw and create a complete set of architectural drawings for a dwelling unit in 2D CAD	
	Unit 4	Computer Aided Drafting Methods and Techniques – 3D – Demonstration	
		4a - To apply more complex tools and methods to edit drawings in 3D CAD	CO3, CO4
		4b - Develops and draws various architectural volumes, forms and surfaces through 2D CAD	
		4c - Convert and draw 2D architectural drawings to 3D forms	
	Unit 5	Computer Aided Drafting Methods and Techniques – 3D – Demonstration	
		5a - To apply more complex tools and methods to edit drawings in 3D CAD	CO4, CO5, CO6
		5b - Demonstrate presentation drawings, material application and lighting in 3D CAD	
		5c - Draw and create a complete set of architectural drawings for a dwelling unit in 3D CAD	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Photoshop CC Bible Professional Edition by McClelland Deke 2. Fundamentals Of Three-Dimensional Computer Graphics by Watt 3. Computer Aided Design Guide for Architecture, Engineering and Construction by Aouad 4. The Illustrated AutoCAD 2021 Quick Reference First Edition by Ralph Grabowski 5. AutoCAD 2021: A Problem-Solving Approach 6. CAD For Interiors Beyond the Basics by J.A. Fiorello	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	2	-	3	-	-	-	1	2	-	3
CO2	2	-	2	-	3	-	-	-	1	2	-	3
CO3	2	-	2	-	3	-	-	-	2	2	-	3
CO4	2	-	2	-	3	-	-	-	2	3	-	3
CO5	2	-	2	-	3	-	-	-	2	3	-	3
CO6	2	-	2	-	3	-	-	-	2	3	-	3
Avg	2	-	2	-	3	-	-	-	2	2	-	3

ARJ 158 - Construction Material & Methods-II

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: 2	
1	Course Code	ARJ 158	
2	Course Title	Construction Material & Methods-II	
3	Credits	5	
4	Contact Hours (L-P-S)	0-0-5	
	Course Status	Compulsory	
5	Course Objective	1.To develop an understanding about arches built in stone and brick. 2. To acquaint the students with wood & commercial timber. 3. To familiarize the students with traditional & conventional use of timber in building construction. 4. To familiarize the students with various components and their construction details in timber. 5. To acquaint students with various kinds of deep and shallow foundations.	
6	Course Outcomes	CO1: To understand the basics of arch construction in stone and brick. CO2: To explain various construction details of substructure and superstructure in timber construction. CO3: To categorize timber doors and windows along with its components and make their construction details. CO4: To determine various construction details in timber. CO5 : To develop an understanding of various kinds of footings & foundations. CO6:To familiarize students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.	
7	Course Description	The second semester of Construction methods and materials deals with construction details of Load bearing and Timber Framed Structures. The students are taught the construction basics of using these materials, the differing structural characteristics and the varying ways they are employed in the making of buildings. Arches in different materials as well as Foundations & Footings are introduced this semester.	
8	Outline syllabus		CO Mapping
	Unit 1	Brick & Stone Arches	
		1a-Elementary principles of Arch construction, Definition of various technical terms, and Components of arch. 1b-Types of Arch – Flat, Segmental, Semi-circular etc. 1c-Exposure to site OR practicing in construction yard by making examples of Arches and brick masonry.	CO1
	Unit 2	Timber Construction	

		2a-Timber used as a building material, Types, advantages and disadvantage of Timber, Manufacturing process of timber, Characteristics, Defects & Preservation methods. 2b-Technical terms, classification of joints, Joinery details Exposure to site OR Practicing different types of timber joinery in wood workshops.	CO2
	Unit 3	Cement & Glass as Materials & Timber Doors	
		3a-Cement and glass as a building material, types, advantages and disadvantages & Manufacturing process 3b-Design considerations, Location of doors, design of different types of wooden doors and its construction details Sliding doors & its construction details 3c-Market Survey of industrial timber products- Veneer, Plywood , Sunmica, Laminates, Block board, particle board, fiber board etc. Timber & Hardware- Hinges, Handles, Knobs, Bolts, L-drops, Locks, Stoppers, Stays, Silencers, Chain guards, Closers, Catchers, Knockers etc. in various materials.	CO3,CO4
	Unit 4	RCC,PCC and Timber Windows	
		4a-RCC and PCC as building material, advantages & disadvantages, grades, uses, manufacturing process. 4b-Design considerations , location of windows, fully glazed window, louvered, centrally pivoted, top hung windows, side hung, partly glazed, Joinery details of timber frame, style, rails, panels, fixing of glass, double glazing etc. Fixtures and fastenings 4c-Market Survey of different types of windows and materials available in market like PVC, Metal, Timber etc.	CO3,CO4
	Unit 5	Foundation & Footings	
		5a-Definitions, Purpose of foundation, types of foundation, selection criteria for foundation based on soil conditions, physical properties. 5b-Types of Foundation- Spread/ Isolated foundation (Spread, Combined , Grillage & Raft) Pier Foundation 5c-Caisson Foundation), Pile Foundation, Load bearing Foundation (brick and stone) External Wall Section	CO5, CO6
	Mode of examination	Jury	
	Weightage Distribution	CA	ETE
		50%	50%
	Text book/s*	1.McKay, W.B., “Building Construction Volume I, II, III and IV”, Longmans, 1955. 2. Ching, Francis D. K. and Adams, Cassandra, “Building Construction Illustrated”, Wiley and Sons, 2000. 3. The Construction of Buildings – BarryVolume I, II, III and IV 4.	

		<p>Chudley, Roy, “Construction Technology”, Longman, 2005. 5.</p> <p>Building Construction_Mitchell (Elementary and Advanced)</p> <p>6. Rangwala, S. C., “Building Construction”, Charotar Publishing House, 2007</p> <p>7. Building Construction-Bindra&Arora.</p> <p>8. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005.</p> <p>9. Building Materials by SC Rangwala: Charotar Pub. House, Anand</p>
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	1	-	1	-	-	-	-	1	-	1
CO2	1	1	-	2	1	1	2	-	1	1	-	1
CO3	-	-	1	-	-	1	-	-	2	-	-	1
CO4	2	3	2	1	-	1	2	-	2	-	-	1
CO5	-	-	-	-	-	-	3	-	2	1	-	1
CO6	3	1	2	1	-	3	1	-	2	-	-	3
Avg	2	1	1	1	1	1	2	-	2	1	-	1

ARP 102: Communicative English-II

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2023-24	
Branch:		Semester: II	
1	Course Code	ARP 102	
2	Course Title	Communicative English-II	
3	Credits	2	
4	Contact Hours (L-P-S)	1-2-0	
5	Course Status	Compulsory	
6	Course Objective	. To Develop LSRW skills through audio-visual language acquirement, creative writing, advanced speech et al and MTI Reduction with the aid of certain tools like texts, movies, long and short essays.	
7	Course Outcomes	<p>CO1 :Move from primary self-assessment to larger goal and vision statement realisation with the help of feature length films as enablers and multimedia as language facilitators.</p> <p>CO2:To develop a positive attitude through written expression of positive thought process and outlook with the help of writing activities like story completion et al.</p> <p>CO3 Learn advanced writing skills in English like full length essays, Precis, Executive Summary et al.</p> <p>CO4: Master the science of speech and correct pronunciation through the accent-neutralisation program followed by reading sessions applying the lessons learnt. Also learning how to make a free speech and extempore art of speaking</p> <p>CO5: At this stage students will learn about Innovative Leadership and Design Thinking skills and practices along with Ethics and Integrity</p> <p>CO6: At this stage students will learn about Love & Compassion, Non-Violence & Truth, Righteousness, Peace, Service, Renunciation (Sacrifice) along with Introduction to Quant, Aptitude and Logical Reasoning.</p>	
8	Course Description	The course takes the learnings from the previous semester to an advanced level of language learning and self-comprehension through the introduction of audio-visual aids as language enablers. It also leads learners to an advanced level of writing, reading, listening and speaking abilities, while also reducing the usage of L1 to minimal in order to increase the employability chances.	
9	Outline syllabus		CO Mapping
	Unit 1	Acquiring Vision, Goals and Strategies through Audio-visual Language Texts	
		1a. Pursuit of Happiness / Goal Setting & Value Proposition in life	CO1, CO2

		1b. 12 Angry Men / Ethics & Principles 1c- The King's Speech / Mission statement in life strategies & Action Plans in Life	
	Unit 2	Creative Writing	
		2a- Story Reconstruction - Positive Thinking 2b- Theme based Story Writing - Positive attitude 2c- Learning Diary Learning Log – Self-introspection	CO2, CO3
	Unit 3	Writing Skills 1	
		3a- Precise 3b- Paraphrasing 3c-Essays(Simple Essays)	CO3, CO4
	Unit 4	MTI Reduction/Neutral Accent through Classroom Sessions & Practice	
		4a – Vowel, Consonant, sound correction, speech sounds, Monothongs, Diphthongs and Triphthongs 4b- Vowel Sound drills , Consonant Sound drills, Affricates and Fricative Sounds 4c- Speech Sounds Speech Music Tone Volume Diction Syntax Intonation Syllable Stress Jam sessions, Extempore, Situation-based Role Play	CO5, CO6
10	Mode of examination	Class Assignments/Free Speech Exercises / JAM Group Presentations/Problem Solving Scenarios/GD/Simulations (50% CA and 50% ETE	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	Blum, M. Rosen. <i>How to Build Better Vocabulary</i> . London: Bloomsbury Publication Comfort, Jeremy(et.al). <i>Speaking Effectively</i> . Cambridge University Press	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	-	-	-	-	-	2	-	2	-	3
CO2	-	-	-	-	-	-	-	-	-	3	-	-
CO3	-	-	-	-	-	-	-	-	-	3	-	-
CO4	-	-	-	-	-	-	-	3	-	3	-	3
CO5	-	-	-	-	-	-	-	3	-	-	-	3
CO6	-	-	-	-	-	-	-	2	-	2	-	3
Avg	-	-	-	-	-	-	-	2	-	3	-	3

SEMESTER – III

ART 201: History, Theory & Criticism – II

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester: III	
1	Course Code	ART 201	
2	Course Title	History, Theory & Criticism – II	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	1. To understand the historical development through different era's and region. 2. To understand the political economy of the period 3. To understand Cultural and Social significance of the period 4. To identify and study the salient features of the architectural styles during the era	
6	Course Outcomes	CO1: Identify different styles of historic architecture CO2: Classify prominent / important historic buildings by their components / style of design CO3: Describe prominent / important historic buildings CO4: Analyse the contributing factors for the design development of different styles. CO5: Compare various styles on the basis of the contributing factors responsible for their development CO6: Apply the knowledge of historic architectural styles and techniques in design.	
7	Course Description	This Course deals specifically with the socio-political, historical and cultural dimensions of Architectural history in various regions. Through this module students develop a deeper understanding of the architectural styles during the period and famous examples of the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Hindu Architecture – Nagara & Vesara Style	
		1a. The evolution of the temple form, evolution of the shikhara in north India. 1b. The three schools of architecture - the Gujarat (Sun Temple, Modhera), the Khajuraho (Kandariya Mahadeva 1c. Temple), and the Orissa styles (Lingaraj and Konark Temple). Comparison in spatial attributes scale and detail.	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	Hindu Architecture - Dravidian Style	
		2a. The evolution of the vimana and the contributions of the Chalukyas (Badami, Aihole & Pattadakal) 2b. the Pallavas (Shore Temple, Mahabalipuram), the Pandyas and the Cholas (brihadeshwara temple thanjavur) 2c. The contributions of the Nayaks to the temple cities (Meenakshi Amman Temple).	CO1, CO2, CO3, CO4, CO5, CO6

	Unit 3	Early Christian & Byzantine Architecture		
		3a. Introduction to society and culture of 400 -1150 AD in Europe. 3b. Contribution of Byzantine architecture in the development of structural system – dome construction over square plan, 3c. Adoption of Greek cross in church layout , Use of mosaic and mural in interior.		CO1, CO2, CO3, CO4,CO5,CO6
	Unit 4	Romanesque & Gothic Architecture		
		4a. Development of Early Christian Church from Roman Basilica. Development of Romanesque architecture from Early Christian architecture, Pisa Cathedral Complex 4b. Introduction to society and culture of 1150 – 1350 AD in Europe. Development of Gothic church and its new elements: Pointed Arch window, Different arch types – lancet, equilateral, depressed, Trefoil arch , Cluster column and intersecting vault roof , Clerestory window and triforium, Flying buttress , Glazed window, stone and metal trellis, flamboyant window, rose window , Entrance of church 4c. Salient buildings: Cathedrals of Chartres, Cathedrals of Notre Dame (Paris), Cathedrals of Reims		CO1, CO2, CO3, CO4,CO5,CO6
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
11	Other Reference	1. Sir Banister Fletcher, A History of Architecture, University of London, The AntholonePress, 1996. 2. Spiro Kostof - A History of Architecture - Setting and Rituals, Oxford UniversityPress, London, 1985. 3. Leland M Roth; Understanding Architecture: Its elements, history and meaning; CraftsmanHouse; 1994 4. Pier Luigi Nervi, General Editor - History of World Architecture - Series, Harry N.Abrams, 5. S.Lloyd and H.W.Muller, History of World Architecture - Series, Faber and Faber Ltd., 6. Gosta,E.Samdstrp, Man the Builder, Mc.Graw Hill Book Company, New York, 1970. 7. Webb and Schaeffer; Western Civilisation Volume I; VNR: NY: 1962’’ 8. Vincent Scully: Architecture; Architecture – The Natural and the Man Made: Harper Collins Pub: 1991. 9. Christian Norberg-Schulz, Meaning in Western Architecture, Praegur, 1975 10. Kenneth Frampton, Modern Architecture: A Critical History, Thames and Hudson, Ltd. 2007.		

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	1	2	1	1	-	2	-	-	1	-	1

ART 202: Environment, Sustainability & Services – II (Climatology Basics & Applied)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester III	
1	Course Code	ART 202	
2	Course Title	Environment, Sustainability & Services-II (Climatology Basics & Applied)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	<p>Obtain knowledge required for understanding the influence of climate on architecture. To familiarize students with the design and settings for buildings for daylight and factors that influence temperature. The students are exposed to the various design strategies for building in different types of climatic zones.</p> <p>The subject will be taught is correlation with the Design studio, and assignments for the subject will be linked to the design exercises to achieve higher level of learning and understanding the practical application of the same.</p>	
7	Course Outcomes	<p>CO1: describe the climate of a place appropriate for architectural intervention</p> <p>CO2: demonstrate an understanding of the concept of thermal comfort in buildings</p> <p>CO3: assess level of heat gain in buildings</p> <p>CO4 : summaries material properties with respect to. climate</p> <p>CO5: understand ways to modify heat gain, day-light and ventilation in buildings</p> <p>CO6: develop strategies for modifying/controlling building microclimate in the different climatic zones</p>	
8	Course Description	<p>This course aims to introduce the study of climate in the built environment from an architectural point of view and establishes the link between the climate of a place, thermal comfort, and the building design. It also prepares students to design climate responsive buildings.</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Basics of Climatology	
		1a- Introduction to climatology, climate and weather, importance of climatology in architecture, global climatic factors., Elements of climate such as	CO1

		temperature, wind, humidity, precipitation, solar radiation and various instruments, graphical representations to record climatic data. 1b- Classification of tropical climates ,its characteristics, , Climatic regions in India. 1c-Macro & Micro Climate, Environmental issues in urban areas, Urban climate change, concept of urban heat island, climatic elements and urban microclimate, site climate in urban areas.	
	Unit 2	Thermal Comfort and Thermal Design	
		2a- Principles of heat transfer, heat exchange process of buildings, building heat gain calculations 2b- Thermal comfort 2c- Factors, Indices, Bioclimatic Chart, Psychrometric chart	CO2, CO3, CO4
	Unit 3	Solar Geometry, DayLight and Ventilation	
		3a- Solar Geometry, Study of passive techniques for heating and cooling, techniques of solar radiation control and heat transfer and insulation. Structural Controls. 3b- Day Lighting, Daylight factor, etc. 3c- Natural Ventilation- Wind effect and Air Flow Pattern, Ventilation Techniques, Air movement around the buildings , Stack Effect and Thermally induced air currents	CO4, CO5
	Unit 4	Climate Responsive Building Design	
		4a-Climate Responsive for Hot & Dry Climate and Hot and Humid Climate 4b- Climate Responsive for Composite Climate, Climate Responsive for Cold Climate 4cClimate Responsive for Tropical Moderate Climate	CO6
10	Mode of examination	Theory	
11	Weightage Distribution	CA	MTE
		25%	25%
		ETE	50%
12	Text book/s*	Mayhew, A., Szokolay, S.V., Ingersoll, T.G., Koenigsberger O.H., (2011) Manual of Tropical Housing and Building, Edition 1, Universities Press	
13	Other References	1. Givoni, B. (1969) Man, Climate and Architecture, Elsevier 2. Olgyay, V., (1969) Design with Climate, Princeton University Press 3. <u>Krishan, A., Baker, N., Yannas, S., Szokolay, S.V.,</u> (2001) Climate Responsive Architecture: A Design Handbook for Energy Efficient Buildings, McGraw Hill Publication 4. Szokolay S.V., (2008) Introduction to Architectural Science: The Basis of Sustainable Design, Elsevier Press Nayak, J.K., Prajapati, J.A., Handbook on Energy Conscious Design	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	2	-	-	3	-	-	-	-	-
CO2	3	-	-	2	-	-	3	-	1	-	-	-
CO3	3	2	-	2	-	-	3	-	-	1	-	-
CO4	3	2	2	2	-	-	3	-	-	1	-	2
CO5	3	2	2	3	-	2	3	-	1	-	-	2
CO6	3	2	3	3	-	2	3	-	1	-	-	2
Avg	3	2	2	2	-	2	3	-	1	1	-	2

ART 203: Architectural Structures-I

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester III	
1	Course Code	ART 203	
2	Course Title	Architectural Structures-1	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	1. Understand how various materials function when loaded 2. To understand how different materials interact with each other 3. To introduce the concept of behaviour of structural components and simple analytical techniques 4. To understand how different materials interact with each other	
6	Course Outcomes	CO1: Understand Basic structural systems CO2: Demonstrate systematic knowledge of developing architectural forms based on structural systems CO2: Understand the interdependence of architectural form and structural system of a structure CO3: Identify basic structural systems CO4: Demonstrate the current knowledge and the latest trends in structural systems of contemporary architecture. CO5: Solve structural Problems CO6: Apply structural knowledge in structural scenarios	
7	Course Description	The course is an understanding of the basic principles of structural mechanics so that it forms the basis for study of structure systems. Through a series of practical exercise participants will be familiarized with how structural systems and materials interact with each other. The objective here is to develop amongst students an appreciation of the various nuances involved in the both manmade and natural structures.	
8	Outline syllabus		CO Mapping
	Unit 1	Direct Forces & Loads	
		1a-Concept of direct force mechanism structure, tension and compression. 1b-Concept of loads as forces, response deformations. 1c-Simple stresses and Strains	CO1, CO2

	Unit 2	Centre of Gravity & Moment of Inertia	
		2a-Centre of Gravity 2b-Moment of Inertia 2c-Concept of equilibrium of forces	CO1, CO3
	Unit 3	Shear Force and Bending Moment	
		3a-Elements of Static 3b-Shear force & Bending Moment 3c-Forces in Trusses	CO4, CO5
	Unit 4	Beams, Columns and structural materials	
		4a-Beams and Loads- Bending Stresses and Shear Stress Deflection of Beams 4b- Column and Struts, Concrete properties 4c- Properties of Steel	CO6
	Mode of examination	Theory	
	Weightage Distribution	CA	MTE
		25%	50%
	Text book/s*	Strength of Materials by R.S.Khurmi	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	1	-	1	-	-	-	-	1	-	1
CO2	1	1	-	2	1	1	2	-	1	1	-	1
CO3	-	-	1	-	-	1	-	-	2	-	-	1
CO4	2	3	2	1	-	1	2	-	2	-	-	1
CO5	-	-	-	-	-	-	3	-	2	1	-	1
CO6	3	1	2	1	-	3	1	-	2	-	-	3
Avg	2	1	1	1	1	1	2	-	2	1	-	1

ARJ 208: Architectural Design- III

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester III
1	Course Code	ARJ 208
2	Course Title	Architectural Design -III
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is to</p> <ul style="list-style-type: none"> • To understand norms & systems of building in a settlement and site context • To develop and connect intuitive mode of investigation for design through user research, site and context understanding and documentation • To study and appraise the built environment with the basic understanding of space and form. • To explore and invent the inter-relationship between human behavior and space in a built environment, including, volume of space, shape, form, function, climate and materials. • To learn and apply various tools of presentation of an architectural design project
7	Course Outcomes	<p>CO1: Illustrate systems of site planning and building in a settlement.</p> <p>CO2: Make use of research-based knowledge and methods including context analysis, case studies, project requirements and synthesis of information to provide context specific solutions.</p> <p>CO3: Student should be able to demonstrate creative skills for design of small projects along with Inferring from critical evaluation of these processes</p> <p>CO4: Student should be able to apply the knowledge of design fundamentals, Basic building sciences, societal issues and humanities and basic environmental sciences in design of project.</p> <p>CO5: Assimilate and Apply learning of construction, structures and computers to basic design.</p> <p>CO6: Demonstrate basic skills of drawings and representation for developing illustrative architectural portfolio.</p>
8	Course Description	<p>The studio syllabus is designed on diagonal learning: The students apply the skills and knowledge of varied subjects they learnt in the previous semesters in the current design project. The studio aims at studying and documenting a community and come up with designing a public building (300-750 sq. m), With the focus areas on Site,</p>

		community context and byelaws; The main objective of this subject is to make the students familiar with design & the architectural design process. The students will understand the norms & systems of building in a settlement and designing an 'Urban Insert' accordingly. Sensitizing students to be more observant to their surroundings and promoting it as a basic creative instinct in the students.	
9	Outline syllabus		CO Mapping
	Unit 1	Minor Project	
		1a- Introduction to Minor project. 1b- Form and material based investigation. 1c- Understanding spatial aspects based on activity, space, form and human scale.	CO1, CO2
	Unit 2	Minor Project Finalization	
		2a- Documentation and Analysis. 2b- Identification of requirements 2c- Final design presentation	CO3,CO4, CO5
	Unit 3	Major Project- Conceptual	
		3a- Introduction to Major project (insert for the settlement in question, such as Preprimary/ nursery school, Art gallery and Pavilion etc.) Scale: 1:50/ 1:100 3b- Understanding/Insight/Perception – Generating the insight for Context, Purpose, Motivation, End User etc. 3c- Action Research -Literature Study, Site Analysis, Case Study.	CO1, CO2
	Unit 4	Concept Development	
		4a- Concept- Understanding and generating the idea, its expression in different methods using manual, digital media etc. 4b- Schematic Design development- single line representations of drawings in architectural formats for the developed concept, which includes Site –its understanding of terrain, movement patterns, flora and fauna, climate etc. 4c- Blocking/ Massing of built forms- generating an understanding of built forms in relation to the site, their orientations, interrelation amongst all the built forms etc. Expression of the idea through 3d Model development. Facade/ Aesthetics- understanding whether form follows function or vice versa.	CO1, CO3, CO4
	Unit 5	Portfolio Design	

		5a- Design development (on appropriate scale)- double line representations of drawings in architectural formats for the developed schematic design, which includes : Site Plan, floor plans, sections, elevations, etc. 5b- Expression of the design through 3d Model development on appropriate scale and materials. 5c- Final portfolio submission (manual or digital output)	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Conditional Design- An introduction to Elemental Architecture 2. Operative Design- A catalogue of spatial Verbs, Di Mari Yoo 3. Case Study Houses, Elizabeth A.T.Smith 4. 101 Things I learned in architecture school, Mathew Fredrick. 5. Shadow Makers, Stephen Kite.	
13	Other References	1. Ernst and Peter Neufert. Architects' Data 2. Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition)	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	-	3	-	-	3	-	2	-	-	3
CO2	3	3	-	3	3	-	-	-	3	3	-	2
CO3	1	-	3	2	1	-	-	-	1	3	-	2
CO4	3	3	3	-	3	3	-	3	-	-	3	3
CO5	3	1	3	1	3	1	1	-	3	3	-	3
CO6	2	1	3	-	2	-	-	-	3	3	-	3
Avg	3	2	3	2	3	2	2	3	3	3	3	3

ARJ 209: Digital Design Fabrication-III

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester III
1	Course Code	ARJ 209
2	Course Title	Digital Design Fabrication-III
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is:</p> <ol style="list-style-type: none"> 1. To develop understanding about rendering output using various tools and its relevance in Architecture. 2. To familiarize students with digital rendering skills using various tools and techniques. 3. To make familiar & aware of architectural rendering for presentation & documentation with a focus on industry standards. 4. To understand functional and aesthetic requirements of architecture and the application of those in virtual environments.
7	Course Outcomes	<p>CO1: Basic Concepts & Knowledge of Rendering with Photoshop and other tools</p> <p>CO2: Understand new modes of digital presentation like Digital Presentations, 3D Presentations and Virtual Reality presentation.</p> <p>CO3: Apply & Demonstrate more efficient modes of production which facilitate group projects, i.e. organization</p> <p>CO4: Create rendering for their work presentations</p> <p>CO5: Develop render techniques for quicker methods and presentation skills</p> <p>CO6: Students will adapt the VR presentation skills.</p>
8	Course Description	<p>The entire course of Digital Design Fabrication that is taught in the almost 8 semesters is a logically laid out curriculum which aims at one aspect of the knowledge of digital tools in each semester.</p> <p>This course will be devoted to digital rendering, Advance rendering using V-RAY render & image processing, this class will present advanced concepts and methodologies of digital based design for use in all phases of the design process. An emphasis will be placed on bringing the analog and digital realms closer together through concept, process + presentation; thus, positioning the computer and digital media more intuitively in the students practice of architecture. As a result, the students should become more adept at clearly articulated presentation of concept and form and understand principles behind new processes of fabrication, documentation and architectural experimentation made possible by the computer.</p>

9	Outline syllabus		CO Mapping
	Unit 1	Introduction To Advance Render using Photoshop	CO1, CO2
		1a - Introduction to Digital & Matte Painting using Photoshop	
		1b - To develop and understand tools and basic set up for digital rendering	
		1c - Digital composition techniques	
	Unit 2	Basic 3D render & Photoshop	CO1, CO2
		2a - To comprehend tools and systems 3D rendering	
		2b - Develops 3D render output using touchup in Photoshop	
		2c - Manipulate and alter through various tools and techniques	
	Unit 3	Introduction to Advance 3D render tools	CO2, CO3
		3a - To apply more complex tools and methods for 3D renders	
		3b - Demonstrate presentation in 3D render	
		3c - Draw and create a complete set of architectural views using 3D render	
	Unit 4	Advance Renders as Image, Animation & VR	CO3, CO4
		4a - Understanding Animation and Walkthrough	
		4b - Keyframe & Animation scene setup	
		4c - Introduction to Virtual reality (VR)	
	Unit 5	Final Render output	CO4, CO5, CO6
		5a - Final Project output in various Image formats	
		5b - Final Project output in Walkthrough/Animation/Video format	
		5c - Final Project output in VR	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Digital Painting in Photoshop - by Susan Ruddick Bloom 2. Photoshop Studio with Bert Monroy: Digital Painting - by Bert Monroy 3. The Digital Matte Painting Handbook – by David B Mattingly 3D Photorealistic Rendering: Interiors & Exteriors - by Jamie Cardoso	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	2	-	3	-	-	-	1	2	-	3
CO2	2	-	2	-	3	-	-	-	1	2	-	3
CO3	2	-	2	-	3	-	-	-	2	2	-	3
CO4	2	-	2	-	3	-	-	-	2	3	-	3
CO5	2	-	2	-	3	-	-	-	2	3	-	3
CO6	2	-	2	-	3	-	-	-	2	3	-	3
Avg	2	-	2	-	3	-	-	-	2	3	-	3

ARJ 210: Construction Material & Methods-III

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester III	
1	Course Code	ARJ 210	
2	Course Title	Construction Material & Methods-III	
3	Credits	5	
4	Contact Hours (L-P-S)	0-0-5	
	Course Status	Compulsory	
5	Course Objective	<p>1. To provide complete knowledge on roofing systems, flooring systems & partitions using various materials.</p> <p>2. To understand various methods of water proofing and fire protection means.</p> <p>3. To familiarize students about the conventional and new formwork systems, scaffolds, temporary supports, and underpinning</p> <p>4. To cultivate personal observation and self-learning in students, site visits are conducted so as to cover the given syllabus.</p> <p>5. To help students observe measure, sketch, and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation.</p> <p>This shall form part and parcel of the sessional work for internal assessment.</p>	
6	Course Outcomes	<p>CO1: Understand roofing systems in different materials.</p> <p>CO2: Illustrate the construction details of various flooring systems.</p> <p>CO3: Develop an understanding of various partitioning methods with use of different materials like timber, glass, and metal.</p> <p>CO4: Analyze various methods of waterproofing and fire protection means.</p> <p>CO5: Discuss conventional and new formwork systems, scaffolds, temporary supports, and underpinning.</p> <p>CO6: To familiarize students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.</p>	
7	Course Description	This Construction Studio is designed to study roofing, flooring, and partitions of various materials. Also, waterproofing, scaffolding and formwork systems are introduced through a series of workshops, site visits and studio work.	
8	Outline syllabus		CO Mapping
	Unit 1	Roof & Roof Covering	
		1a-Classification of roof, technical terms, various forms of roofs for different spans- collar beam roof, pitched roof, single roof, double roof, trussed roof etc.	CO1
		1b-Introduction to Timber Portal Frames, Timber	

		trusses and joinery details of tie beam, principal rafter, common rafter etc., fixing of roof tiles.	
		1c-Introduction to metal truss and joinery details. Study of contemporary roofing materials	
	Unit 2	Flooring	
		2a-Types of Floorings, materials, and methods of flooring	CO2, CO3
		2b-Mud flooring, Brick Flooring, Mosaic, Marble, Tiled, Terrazzo, Cement Concrete Flooring	
		2c-Timber Floors, RCC Flooring, Ribbed Floor, Pre-Cast Concrete Floor, Steel Structure Flooring	
	Unit 3	Partitions	
		3a-Partitioning methods with use of different materials e.g., Timber and Timber Products, Brick / Block, Pre-cast Concrete Block, Cement Board, Compressed Straw Board, Glass and Glass Brick, Gypsum board	CO3, CO4
		3b-Types of timber partitions: Single, double, and flushed timber partitions	
		3cGlass Partitions, Gypsum Partitions	
	Unit 4	Water Proofing, Damp Proofing, Structure Joints, and Fire Protection	
		4a-Causes and defects of dampness, methods adopted for waterproofing (Basement, Toilet, Kitchen & Terrace) and damp proofing at different levels of a building, treatment and admixtures and different materials (rigid, flexible) used in the process.	CO4, CO5
		4b -Types of Joints- Expansion Joint, Isolation Joint, Contraction Joint, Sliding Joint and construction Joint)	
		4c- Fire resistance properties of different materials, Fire Resistance construction techniques, Hollow Protection to Steel Columns and Beams, Fire protection equipment and requirement for multi-story buildings.	
	Unit 5	Deep Excavation, Scaffolding & Formwork, Shoring, and Underpinning	
		5a-Setting out of Site, Excavations method, precautions to be taken in deep excavation, de-watering, and Timbering (Hard Soil, Firm Soil, loose wet Soils and Loose Dry Soil), Timbering of Shallow Trenches	CO5, CO6
		5b-Scaffolding & Types of Scaffolding (Brick-Layer's, Mason's, Steel or Tubular Needle and Wooden Scaffold), Shoring & Types of Shoring (Raking, Flying & Dead Shores), Underpinning.	
		5c- Formwork (Plywood and Steel Formwork), Formwork for Square column, Round Column, Beam, Slab and RCC Staircase, Construction and Removal of Formwork.	

9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s*	1. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955. 2. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000. 3. The Construction of Buildings – Barry Volume I, II, III and IV 4. Chudley, Roy, "Construction Technology", Longman, 2005. 5. Building Construction_Mitchell (Elementary and Advanced) 6. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007 7. Building Construction-Bindra&Arora. 8. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005. 9. Building Materials by SC Rangwala: Charotar Pub. House, Anand	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	2	3	-	3	1	-	-	1	-	-
CO2	1	1	-	1	1	-	-	2	-	3	1	1
CO3	-	-	2	-	1	2	1	-	-	1	-	1
CO4	1	-	1	-	2	-	-	1	-	-	-	1
CO5	-	1	-	1	-	-	1	-	-	-	1	1
CO6	3	1	2	1	-	3	1	-	2	-	-	3
Avg	1	1	2	1	1	3	1	1	2	1	1	1

AEJ 211 – Design Trends

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester: III	
1	Course Code	AEJ 211	
2	Course Title	Design Trends	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	The course will highlight and challenge students to think critically about the various trends in architecture within various time frames starting from 19 th century till date.	
6	Course Outcomes	<p>Students will be able to:</p> <p>CO1: Define trends in architecture and their relevance from 19th century onwards</p> <p>CO2: Compare the trends evolved in architecture since 19th century</p> <p>CO3: Compare and critically appraise students with the knowledge of various architects and their works.</p> <p>CO4: Apply and analyze the case studies with respect to defined parameters.</p> <p>CO5: Assessing the works of various architects throughout the world and their impact on world architecture</p> <p>CO6: Building reasonable arguments on the trends in architecture</p>	
7	Course Description	This course is designed to introduce the students to the main trends in architecture from the nineteenth century till date and the activities of important architects under this time frame.	
8	Outline syllabus		CO Mapping
	Unit 1	Trends in Architecture-19th Century	
		a) Emanuel Rocco, Sullivan and Alder, Felix Duban b) Case Examples- Galleria Umberto, Auditorium Building, Chicago, School of Beaux Arts	CO1 -CO6

		c) Analysis of Case examples	
	Unit 2	Trends in Architecture- First Half of 20th Century/ Pre war	
		a) Walter Gropius, Pierre Chareu, Otto Wagner, Antonio Gaudi b) Case Examples- Bauhaus, Maison De Verre, Casa Mila c) Analysis of Case examples	CO1 – CO6
	Unit 3	Trends in Architecture-Industrial Revolution	
		a) Le Corbusier, Jean Pourve, Frank Lloyd Wright, Alvaro Alto, Godin b) Case Examples- The Cloister, Johnson Wax Administrative Building, Le Familistere. c) Analysis of Case Examples	CO1 – CO6
	Unit 4	Trends in Architecture- 20th Century/ Post war	
		a) Frank O’ Gehry, Jean Nouvel, Renzo Piano, Peter Zumthor, Charles GarnierEnergy, Toyo Ito, Zaha hadid b) Case Examples- Guggenheim Museum, Nemausus, Pompidou Center, The Opera Garnier, The Sendai Media Center, Heydar Aliyev c) Analysis of Case Examples	CO1 – CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Troman, R. (ed.), “History of Architecture, From Classic to Contemporary”, Parragon.2009 2. Gossel, P. (2005) Architecture in the 20 th century, Vol-1 & Vol 2, Taschen 3. The Phaidon Atlas of Contemporary Architecture, Phaidon Press, 2004 2. Vidiella, A.S. (2008) The sourcebook of Contemporary Architecture, Harper Collins	

12	Other References	1. Restructuring 21st-Century Architecture through Human Intelligence 2. Phaidon Atlas Of 21st Century World Architecture: World Edition
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CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	-	-	2	2	-	3
CO2	2	3	-	-	-	3	-	-	-	-	-	2
CO3	3	2	-	2	2	-	-	-	2	3	-	2
CO4	-	3	-	3	1	-	-	-	-	3	-	1
CO5	3	-	1	3	-	-	-	1	2	-	-	2
CO6	-	3	-	3	1	-	-	-	-	3	-	1
Avg	3	2	1	2	1	1	-	1	2	3	-	2

AEJ 204: Visual Representation and Composition

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester: III	
1	Course Code	AEJ	
2	Course Title	Visual Representation & Composition	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	This course is an introduction to the elements and principles of two-dimensional design (composition) and how to apply them with intention in creating and compiling compositions and understanding them.	
6	Course Outcomes	<p>Students will be able to:</p> <p>CO1: Understand the elements and principles of two-dimensional design and how to apply them deliberately in creating compositions.</p> <p>CO2: Explore two-dimensional composition through various mediums.</p> <p>CO3: Develop methods for generating ideas and solving problems while composing images.</p> <p>CO4: Develop ability to articulate the use of visual elements and their role in how a composition function both visually and conceptually.</p> <p>CO5: Apply the principles and elements of two-dimensional composition in your own photographic work</p> <p>CO6: Design and present a composition.</p>	
7	Course Description	The course aim to introduce both conventional and digital knowledge which enable students with multiple skill sets to produce visual compositions of their work.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		a) Understanding of fundamentals of visual composition - space, form, size, shape, line.	CO1, CO2

		b) Understanding of fundamentals of visual composition - colour, texture, tonal values, - perspective, design and aesthetic. c) Application of the fundamental of composition.	
	Unit 2	Principles of Visual Composition	
		a) Understanding visual principles of composition (proportion, unity, harmony, rhythm, contrast, balance and emphasis). b) Rule of Thirds c) Application of the principles & rules	CO3
	Unit 3	Medium, Materials And Techniques	
		a) Introduction to different Medium, Materials and Techniques b) Manual Representation c) Digital Representation	CO4
	Unit 4	Design Composition	
		a) 2D representation b) 3D representation c) Final Composition	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Gill, R. W. (2011). Rendering with pen and ink. London: Thames and Hudson 2. Ching, F. D. (n.d.). Architectural Graphics Ed. 6. John Wiley & Sons.	
12	Other References	1. Rob Krier (1983), Architectural Composition, Academy Edition	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-		3	1	2	--	2	
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

AEJ 205: Universal Design (RBL-I)

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: III
1	Course Code	AEJ 205
2	Course Title	Universal Design
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	<p>To sensitize the students to universal accessibility and its implication on built environment.</p> <p>To promote study of a wide variety of examples that teaches them to appreciate architecture as an outcome of various social and economic values of society.</p> <p>To identify and promote adoption of universal design and conserve the untapped values and principles in the evolution of new theories for architectural creations.</p>
6	Course Outcomes	<p>CO1: Identify and learn about the various disabilities and highlight the need for universal design.</p> <p>CO2: Discuss the various ways of universal design application for buildings and products</p> <p>CO3: Interpret & discuss the initiatives in planning and design aspects</p> <p>CO4: Describe the universal design practices adopted in countries abroad.</p> <p>CO5: Describe the universal design practices adopted in countries abroad.</p> <p>CO6: Design and demonstrate universal design in buildings.</p>
7	Course Description	Universal Design (UD) is a concept introduced by architects and designers; they had a goal of creating buildings and products that would be able to be used by all individuals. The course gives in-depth information about universal design
8	Outline syllabus	
	Unit 1	Understanding Disability and Assistive Technology

		a. basic understanding of some of the major disability types (visual, hearing, motor, and cognitive) b. main functional challenges, and some of the related assistive technologies c. disabilities and assistive technology from people with different disabilities	CO1, CO2
	Unit 2	Initiative and policies for Universal Accessibility	
		a. basic understanding of the key legislation that impacts accessibility b. Initiatives for universal Design c. Norms and standards followed in universal design	CO2, CO3
	Unit 3	Universal Design	
		a. seven principles of universal design and the roots of universal design in architecture b. Recent advancements and developments taken from related fields (including ergonomics, usability engineering, user centred design, health and safety) c. Universal Design Architecture	CO4, CO5
	Unit 4	Case Studies- India and International	
		a. Universal Design b. Case Study India c. Case Study International	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Universal Design Handbook: Preiser and Ostroff 2. Building for Everyone 2010: National Disability Authority, Ireland. 3. Inclusive Design for the Population: Keates and Clarkson 4. Countering Design Exclusion: Keates and Clarkson	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	-	-	-	2	-	-	-	-	1
CO2	3	1	2	-	-	-	2	-	-	-	-	1
CO3	3	-	1	-	-	-	1	-	-	-	-	-
CO4	3	3	3	3	-	-	3	-	-	1	2	1
CO5	-	3	-	2	1	-	3	-	1	1	-	1
CO6	3	3	1	2	1	-	3	-	1	1	-	1
Avg	3	3	2	2	1	-	2	-	1	1	2	1

AEJ 206 : Design Investigation (RBL-I)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester: III	
1	Course Code	AEJ 205	
2	Course Title	Design Investigation (RBL-I)	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	To course intends in developing the research skills of a student by studying a lifecycle of any form of design namely product design, performing art, material and technology, architecture or art . The course enables in developing critical thinking and articulation skills.	
6	Course Outcomes	Students will be able to: CO 1:- understand the methods of researching a product CO2: trace the origin of a product CO3: study the evolution of a product over the ages CO 4: appreciate the need for evolution based on specific needs CO5: define what dictates the need for changes in a product CO6: identify future anticipated trends of the product chosen	
7	Course Description	To course intends in developing the research skills of a student by studying a lifecycle of any form of design namely product design, performing art, material and technology, architecture or art . The student has to do an in-depth investigation about the project assigned using various methodologies of research and present their learnings. The course enables in developing critical thinking and articulation skills. The students will do on and off field investigations and present them through various medias of presentation.	
8	Outline syllabus		CO Mapping
	Unit 1	Design Investigation	
		a. Understanding research and investigation b. Research types c. Research methodologies	CO1, CO2

	Unit 2	Investigating Lifecycle/ design evolution	
		a. Selecting project o of any form of design namely product design, performing art, material, and technology, b. Literature study, case study and forecasting future concepts c. Developing and presenting timeline	CO3
	Unit 3	Investigating Design process/ Design language	
		a. Selecting project o of any form of design that follows a certain design language b. Understanding design evolution in terms of form development/ technology development or design language c. Developing and presenting timeline/ process models	CO4
	Unit 4	Investigating Live project	
		a. Selecting a live project (architectural or urban element, craft or skill) b. Field study with necessary tools and methodologies c. Presenting the investigation and findings	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	-	-	-	2	-	-	-	-	1
CO2	3	1	2	-	-	-	2	-	-	-	-	1
CO3	3	-	1	-	-	-	1	-	-	-	-	-
CO4	3	3	3	3	-	-	3	-	-	1	2	1
CO5	-	3	-	2	1	-	3	-	1	1	-	1
CO6	3	3	1	2	1	-	3	-	1	1	-	1
Avg	3	3	2	2	1	-	2	-	1	1	2	1

CCU – Community Connect

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: III
1	Course Code	CCU
2	Course Title	Community Connect
3	Credits	Non-CGPA
4	Contact Hours (L-T-P)	0-4-0
	Course Status	Compulsory
5	Course Objective	<p>1. The objective of assigning the project related to community work is to expose our students to different social and infrastructural issues faced by the people in different sections of society in rural areas.</p> <p>2. This type of project work will help the students to develop better understanding of problems of people living in a less privileged position in the society, may be socially, medically, economically, in the built fabric or otherwise.</p> <p>3. This type of live project work will help our students to connect their class-room learning with practical issues/problems in the rural setup.</p>
6	Course Outcomes	<p>CO1: Students develop awareness of the social, health, and environmental challenges faced by the community</p> <p>CO2: Students are more appreciative of socio-economic realities beyond textbooks and classrooms</p> <p>CO3: Students learn to apply their knowledge through research, awareness creation, and services for community benefit</p> <p>CO4: Students are able to carry out community-based projects with sincerity, teamwork and timely delivery</p> <p>CO5: Students learn to respectfully engage with communities with purposive intent to contribute to society and sustainable development</p> <p>CO6: Students are able to document and present their community project findings in an academically robust manner</p>
7	Course Description	<p>The course shall enable the students to be able to connect with the community and provide them with architectural solutions for the social issues that they face in their day to day life. Major sub themes for research are</p> <ul style="list-style-type: none"> • Impact of government projects in community • Social issues through surveys • Environment issues through primary and secondary surveys • Economic issues, through census and primary surveys. • Technology-adaption • Infrastructure Issues.
8	Outline syllabus	CO Mapping
	Unit 1	Introduction to the Research problem

	A	1a. Statement of the problem.		CO1, CO2, CO4
	B	1b. Purpose of the study		
	C	1c. Significance of the study.		
	Unit 2	Literature/ On site review		
	A	2a. Identify and group together common areas.		CO1, CO2, CO3, CO4
	B	2b. Compare, contrast and evaluate issues.		
	C	2c. Demonstrate why the topic and research is relevant to your field of study.		
	Unit 3	Methodology		
	A	3a. Sample		CO3, CO4
	B	3b. Data collection		
	C	3c. Data analysis		
	Unit 4	Implications and Limitations of study		
	A	4a. Identifying the limitations and how important each limitation is.		CO3, CO4
	B	4b. Explaining the nature of limitations.		
	C	4c. Suggesting how such limitation could be overcome		
	Unit 5	Implications and Recommendations		
	A	5a. Specific measures or directions that can be taken		CO5, CO6
	B	5b. Critical suggestion regarding the best course of action in a certain situation		
	C	5c. Guide to resolve issues and result in a beneficial outcome		
9	Mode of examination	Jury		
10	Weightage Distribution	CA	ETE	
		50%	50 %	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	1	2	-	3	-	1	1	1	-	1
CO2	1	2	1	3	-	3	-	1	1	1	3	1
CO3	3	3	3	3	2	3	-	-	1	2	1	3
CO4	-	3	3	3	-	3	-	3	3	3	1	2
CO5	-	2	1	1	1	3	3	3	2	3	1	2
CO6	2	3	1	1	3	--		-	2	2	1	1
Avg	2	3	2	2	2	3	3	3	2	2	1	2

SEMESTER – IV

ART 224: History, Theory & Criticism - III

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ART 224	
2	Course Title	History, Theory & Criticism – III	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	1. To understand the historical development through different era’s and region. 2. To understand the political economy of the period 3. To understand Cultural and Social significance of the period 4. To identify and study the salient features of the architectural styles during the era	
6	Course Outcomes	CO1: Identify different styles of historic architecture CO2: Classify prominent / important historic buildings by their components / style of design CO3: Describe prominent / important historic buildings CO4: Analyse the contributing factors for the design development of different styles. CO5: Compare various styles based on the contributing factors responsible for their development CO6: Apply the knowledge of historic architectural styles and techniques in design.	
7	Course Description	This Course deals specifically with the socio-political, historical and cultural dimensions of Architectural history in various regions. Through this module students develop a deeper understanding of the architectural styles during the period and famous examples of the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Indo-Islamic Architecture - the Sultanate Style	
		Introduction and understanding of ‘Islam’s’ philosophy and its consequent rituals and their interpretation in building types.	CO1, CO2, CO3, CO4,CO5,CO6
		The architecture of early Islamic dynasties that ruled from Delhi like the Slave, Khalji, Tughlaq, Sayyid, Lodhis and Shershah Suri regimes. Analysis of Architecture of Qutub Complex	
		Provincial styles (Bengal, Gujrat, Malwa, Deccan, Sasaram)	
	Unit 2	Mughal Architecture	
		Evolution of Mughal Architecture from the Sultane style of Architecture from Babur to Shahjahan.	CO1, CO2, CO3, CO4,CO5,CO6
		Analysis of Architecture of Humayun’s Tomb, Taj Mahal, Fatehpur Sikri, Tomb of Itmad-Ud-Daulah and similar spaces and interpretation in comparative context.	
		Analysis of Architecture Red Fort, Jama Masjid and similar spaces and interpretation in comparative context.	

	Unit 3	Renaissance		
		3a. Early Renaissance – Florence Cathedral 3b. High Renaissance – Tempietto, Rome 3c. Late Renaissance /Mannerism – Villa Rotunda		CO1, CO2, CO3, CO4,CO5,CO6
	Unit 4	Baroque, Rococo & Neo-Classical		
		4a. Introduction to society and culture, Baroque 4b. Rococo – Piazza of St. Peter 4c. Neoclassicism		CO1, CO2, CO3, CO4,CO5,CO6
9	Mode of examination	Theory		
10	Weightage	CA	MTE	ETE
	Distribution	25%	25%	50%
11	Other Reference	1. Stella Kramrisch, The Hindu temple, Volume 1 & 2, Motilal Banarsidass Publications, 1996. 2. Percy Brown, Indian Architecture (Buddhist and Hindu period), D.B.Taraporewala Sons & co Pvt. Ltd. 1965 3. Volwahren, Andreas, Living Architecture 4. Satish Grover, The Architecture of India- Volume 2, Vikas, 1980. 5. Henri Stierlin, Anne Stierlin, Hindu India: from Khajuraho to the temple city of Madurai, Taschen, 1998. 6. James Fergusson, History of Indian & Eastern Architecture, 2007 7. C. Batley, Design Development of Indian Architecture, John murray, London, 1934. 8. A. Cunningham, Archaeological Survey of India, Vol. I – XXIII, Simla, Calcutta, 1903-30. 9. M. Edwards, Indian temples & Palaces, Paul Hamlyn, London. 10. Christopher Tadgell, Indian & South Asia: The Buddhist & Hindu Tradition, Ellipses, 1998. 11. Surendra sahai, Indian architecture, Prakash books, 2006. 12. Ernest Binfield Havell, Indian Architecture, J. Murray, 1913 13. Percy Brown, “Islamic Architecture.” 2. Jown’d Hoag, “Islamic Architecture (History of World Architecture)”, 2004. 14. Rober Hillenbrand “ Islamic Art and Architecture” Tames and Hudson. 15 Rober Hillenbrand, “Islamic Form Function and Meaning”. 16. Adam Barkman, “Making Sense of Islamic Art and Architecture”, Tames and Hudson. 17. Tadgell, “World Architecture”.		

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	2	2	1	1	-	2	-	-	1	-	1

ART 225: Environment, Sustainability & Services – III (Water supply and Sanitation)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ART 225	
2	Course Title	Environment, Sustainability & Services – III (Water supply and Sanitation)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	To understand the need for and importance of building services.	
7	Course Outcomes	CO1- To discuss the active and passive components of plumbing. CO2-To value the importance of building services CO3-To summarise water supply system at city and building levels CO4-To develop understanding of the sewage system at building levels and city level. CO5-To illustrate water supply, drainage layout for a residential and other small buildings CO6-To explain rain and wastewater system in domestic building	
8	Course Description	Building services are the systems installed in buildings to make them comfortable, functional, efficient and safe. Building services might include: Building control systems. Energy distribution. Energy supply (gas,electricity and renewable sources such as solar, wind, geothermal and biomass). This course is designed to give architects an overview and introduction to Plumbing systems; and architectural considerations and their coordination with other services and architectural designs.	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction to building services	
		1a – Introduction to building services , Importance of water supply and sewerage. Historical overview of development of water/ sewerage systems 1b -Sources of water , Quality of water, impurities in water and its treatment, Norms and standards.Water Supply for Urban Area, Water distribution system at city/ neighbourhood overview, Water treatment plant, Types of water distribution networks, 1c- Water pipe materials, apparatus, joints, fixtures and valves, Guidelines for laying of water mains, distribution., Case study of any building along with	CO1, CO2

		understanding various terminologies , symbols, legends used in the service drawings, Design of Water Supply at building level	
	Unit 2	Domestic Water Supply	
		2a – Principles of water supply in domestic buildings. 2b Water supply in low-rise and multi-storeyed buildings. Hot-cold water supply network and connections. 2c- Pipes types and appurtenances, Pipe materials, fixtures, joints, equipment's. Roof top water drainage.	CO2
	Unit 3	Domestic Sewage System	
		3a Principles of domestic sewer systems norms and standards, Types of pipe systems. Types of traps, use and water seal. 3b Domestic sewer conveyance network., Components of sewer conveyance network, Basic terminology, Gully trap, inspection chamber, intercepting trap, man holes etc., Calculation for Gradient and slope in sewage disposal. Various sanitary fixtures and its connections, Sewage disposal to septic tank, cess pool, soak pit, Connection of house drainage to public sewer. 3c Case study of any building along with understanding various terminologies , symbols, legends used in the service drawings , Design of Sewage disposal at building and site level	CO3, CO4
	Unit 4	Alternate sewage disposal and waste	
		4a Alternative Sewage disposal Systems, Sewage treatment plan, 4b Rain Water and Storm Water management, 4c Solid Waste management	CO5, CO6
10	Mode of examination	Theory	
11	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
12	Text book/s*	1. Plumbing Engineering by Dr. Subhash Patil 2. International Plumbing Code by Indian Code Council 3. Modern Plumbing by E. Keith Blumberg 4. Building Construction Illustrated by Dr. F.D.K Ching 5. Building Construction by Sushil Kumar 6. Building Construction by B.C Punmia 7. Building Construction by Rangwala 8. Building Construction by P.C Varghese	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2	1	-	1	-	-	-	-	-	-
CO2	2	2	3	1	-	-	1	-	-	-	-	1
CO3	1	1	2	1	-	1	-	-	-	-	-	-
CO4	1	1	2	1	-	1	-	-	-	-	-	-
CO5	3	3	3	-	1	-	-	-	-	-	-	1
CO6	3	3	3	-	1	1	-	-	-	-	-	1
Avg	2	2	3	1	1	1	1	-	-	-	-	1

ART 226 : Architectural Structures- II

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ART 226	
2	Course Title	Architectural Structures-II	
3	Credits	2	
4	Contact Hours (L-T-P)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	1. To understand the analysis of indeterminate structures and their use. 2. To understand how different materials interact with each other 3. To introduce the concept of behaviour of structural components under deflection	
6	Course Outcomes	CO1: Demonstrate systematic knowledge of developing architectural forms based on structural systems CO2: Understand the interdependence of architectural form and structural system of a structure CO3: Identify basic structural systems CO4: Demonstrate the current knowledge and the latest trends in structural systems of contemporary architecture. CO5: Develop an understanding of various construction details of RCC CO6: Apply structural knowledge in structural scenarios	
7	Course Description	The course is an understanding of the basic principles of structural mechanics so that it forms the basis for study of structure systems. Through a series of practical exercise participants will be familiarized with how structural systems and materials interact with each other. The objective here is to develop amongst students an appreciation of the various nuances involved in both manmade and natural structures.	
8	Outline syllabus		CO Mapping
	Unit 1	Determinacy, Energy Principles & Elastic Strain	
		1a-Determinacy and Indeterminacy: Determinate Indeterminate structures .	CO1, CO2
		1b- Energy Principles Introduction: Virtual work, Betti's and Maxwell, laws of reciprocal deflection. Application of Virtual work. Castigliano's theorems.	
		1c-Introduction, forms of Elastic Strain Energy	
	Unit 2	Slope Deflection, Analysis of Beams & Yeild	
		2a-Slope Deflection method	CO1, CO3
		2b-Analysis of fixed and continuous beams	
		2c-yielding of supports.	
	Unit 3	Design of Sections	
		3a-Analysis and design of sections	CO3, CO4

		3b-Singly and doubly reinforced sections				
		3c-Introduction and use of design aids (IS 456:2007)				
	Unit 4	Strength & Stress				CO5, CO6
		4a-Strength and Serviceability requirements, Design methods, Working stress ,ultimate strength and limit state				
		4b- Introduction to One-Way slab., Two way slab & detailing of Reinforcement				
		4c- Introduction. Shear stress, Diagonal tension. shear reinforcement , Development length, Anchorage Bond, Flexural bond.				
9	Mode of examination	Theory				
10	Weightage Distribution	CA	MTE	ETE		
		25%	25%	50%		
11	Text book/s*	Strength of Materials by Khurmi				

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	1	-	1	-	-	-	-	1	-	1
CO2	1	1	-	2	1	1	2	-	1	1	-	1
CO3	-	-	1	-	-	1	-	-	2	-	-	1
CO4	2	3	2	1	-	1	2	-	2	-	-	1
CO5	-	-	-	-	-	-	3	-	2	1	-	1
CO6	3	1	2	1	-	3	1	-	2	-	-	3
Avg	2	1	1	1	1	1	2	-	2	1	-	1

ARJ 219: Architectural Design- IV

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester IV
1	Course Code	ARJ 219
2	Course Title	Architectural Design -IV
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is to</p> <ul style="list-style-type: none"> -To understand and comprehend design considerations in regional, religious, cultural and social context -To enhance observation of the environment and incorporating the learning's into their design. -To focus on design evolution with respect to climatic zones and site context; implement respective passive design strategies. -To recognize and judge the potentials of building materials, light and shade to design possible innovative forms -To learn and apply the structure techniques and technologies in their design projects.
7	Course Outcomes	<p>CO1: To Illustrate the learning from climatic study to the designed modules.</p> <p>CO2: To Translate research and environmental strategies to incorporate in the design process.</p> <p>CO3: To Analyze the different variables while using light as a major source of design element.</p> <p>CO4: To Apply the knowledge of local materials, sustainability and climatic impact on design project.</p> <p>CO5: To Implement the structural design in the design project.</p> <p>CO6: To Demonstrate basic skills of drawings and representation with modern tool usage for developing illustrative architectural portfolio.</p>
8	Course Description	<p>The studio syllabus is designed on diagonal learning: The students apply the skills and knowledge of varied subjects they learnt in the previous semesters in the current design project. Looking at the immediate built environment in religious/ regional context and understanding its fundamental components and their impact on the surroundings. The studio deals with the study of built form (750-2000 sqm. built up) and its relationship to the site, surroundings and climatic setting (different climatic zones). Design proposals to address sensitivity to climatic and physical settings. The design problem (religious/ museum etc.) would induce students to experiment with built and open spaces/ light and</p>

		<p>shadows along with extensive focus on building materials and structural form. Exercises relating personal experiences to behavioral needs and translating them into documented information that can be used as a basis for design. Introduction to other role players in the Architectural process viz; the client and the user.</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Minor Project	
		<p>1a- Introduction to Minor project. 1b- Form and material based investigation. 1c- Understanding spatial aspects based on activity, space, form and human scale.</p>	CO1, CO2
	Unit 2	Minor Project Finalization	
		<p>2a- Pre design study-Case study and functional standards 2b- Concept formulation and idea investigation 2c- Final design presentation</p>	CO3,CO4, CO5, CO6
	Unit 3	Major Project- Conceptual	
		<p>3a- Introduction to Major project (Scale: 1:100 , 1:200) 3b- Understanding/Insight/Perception – Generating the insight for Context (religional/ regional context), Purpose, Motivation, End User etc. Action Research - Literature Study, Site Analysis, climatic setting, Case Study. 3c- Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns.</p>	CO1, CO2
	Unit 4	Concept Development	
		<p>4a- Concept- Understanding and generating the idea, its expression in different methods using manual, digital media etc. 4b- Schematic Design development- single line representations of drawings in architectural formats for the developed concept, which includes: Site –its understanding of terrain, movement patterns, flora and fauna, climate etc. 4c- Blocking/ Massing of built forms- generating an understanding of built forms in relation to the site, their orientations, interrelation amongst all the built forms etc. Expression of the idea through 3d Model development. Facade/ Aesthetics- understanding whether form follows</p>	CO1, CO3, CO4

		function or vice versa.	
	Unit 5	Portfolio Design	
		5a- Design development (on appropriate scale)- double line representations of drawings in architectural formats for the developed schematic design, which includes : Site Plan, floor plans, sections, elevations, etc. 5b- Expression of the design through 3d Model development on appropriate scale and materials. 5c- Final portfolio submission (manual or digital output)	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1.Climate Responsive Architecture, Dr. Arvind Krishnan 2. Conditional Design- An introduction to Elemental Architecture 3.Operative Design- A catalogue of spatial Verbs, Di Mari Yoo 4.Case Study Houses, Elizabeth A.T.Smith 5.101 Things I learned in architecture school, Mathew Fredrick. 6.Shadow Makers, Stephen Kite.	
13	Other References	1.Ernst and Peter Neufert. Architects' Data 2.Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	1	3	1	-	3	-	2	2	-	2
CO2	1	3	2	3	2	-	3	-	2	3	-	3
CO3	1	-	3	3	3	-	-	-	3	3	-	2
CO4	-	1	3	3	-	-	1	-	1	1	-	2
CO5	3	-	3	-	3	-	-	-	2	3	-	3
CO6	2	1	3	-	2	-	-	-	3	3	-	3
Avg	2	2	3	3	2	-	3	-	2	3	-	2

ARJ 220- Construction Material & Methods-IV

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ARJ 220	
2	Course Title	Construction Material & Methods-IV	
3	Credits	5	
4	Contact Hours (L-P-S)	0-0-5	
	Course Status	Compulsory	
5	Course Objective	<p>1. To introduce Various kinds of Timber Staircases</p> <p>2.To introduce them to various types of RCC staircases and their details</p> <p>3.To familiarize students about various metal staircases and construction details</p> <p>4. To study various types of false ceilings and their details.</p> <p>4. To cultivate personal observation and self learning in students,site visits are conducted so as to cover the given syllabus.</p> <p>5. To help students observe, measure, sketch and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation.</p> <p>This shall form part and parcel of the sessional work for internal assessment.</p>	
6	Course Outcomes	<p>CO1: To Classify various kinds of staircases and their details</p> <p>CO2:To understand details of timber staircase.</p> <p>CO3: To illustrate details of various kinds of RCC staircases</p> <p>CO4: To discuss details of various kinds of Metal Staircases.</p> <p>CO5: To develop an understanding of various details of false ceilings.</p> <p>CO6:To familiarize students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.</p>	
7	Course Description	This Construction Studio is designed to study various kinds of staircases and their details. Timber, metal and RCC are the main materials to be studied for staircases. Also, false ceilings are introduced. These components are taught through workshops, studio work and site exposure.	
8	Outline syllabus	CO Mapping	
	Unit 1	Staircases	
		1a-Introduction, technical terms, calculations, requirement of a good staircase 1b-Classification and materials of staircase 1c-Escalators, Byelaws of staircase	CO1, CO2

	Unit 2	Timber Staircase	
		2a-Design a timber staircase for a single/two story building (Dog legged, spiral, straight flight) 2b-Joinery details of timber tread riser, baluster, handrail, newel post etc. 2c-Market survey/case study	CO1, CO3
	Unit 3	RCC Staircase	
		3a-Design a RCC staircase for a single/two story building 3b-Construction details of waist slab & folded slab 3c-Market survey/case study	CO3
	Unit 4	Metal Staircase	
		4a-Design a metal staircase for a single/two story building 4b-Steel staircase and its elements, Types of Steel Staircase- Straight Flight, Winder, Quarter landing, Half Landing, Curved and Spiral Staircase. Construction details 4c-Market survey/case study	CO4,CO6
	Unit 5	False Ceiling	
		5a -Introduction to different types of False ceilings and their materials. 5b -Gypsum Products Introduction - Gypsum Board, Suspended Ceiling (Board & Tiles). Construction details of different false ceilings 5c-Market Survey/Case Study	CO5,CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA 50%	ETE 50%
11	Text book/s*	1.McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955. 2. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000. 3. The Construction of Buildings – Barry Volume I, II, III and IV 4. Chudley, Roy, "Construction Technology", Longman, 2005. 5. Building Construction_Mitchell (Elementary and Advanced) 6. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007 7. Building Construction-Bindra&Arora. 8. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005. 9. Building Materials by SC Rangwala: Charotar Pub. House, Anand	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	2	3	-	3	1	-	-	1	-	-
CO2	1	1	-	1	1	-	-	2	-	3	1	1
CO3	-	-	2	-	1	2	1	-	-	1	-	1
CO4	1	-	1	-	2	-	-	1	-	-	-	1
CO5	-	1	-	1	-	-	1	-	-	-	1	1
CO6	3	1	2	1	-	3	1	-	2	-	-	3
Avg	1	1	2	1	1	2	1	1	2	1	1	1

ARJ 221: Digital Design Fabrication-IV

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ARJ 221	
2	Course Title	DDF-IV (Digital Design Fabrication-IV)	
3	Credits	3	
4	Contact Hours (L-P-S)	0-0-3	
5	Course Status	Compulsory	
6	Course Objective	<p>The main intention of the course is:</p> <ol style="list-style-type: none"> 1. To develop Knowledge and understanding of Computer Graphics tools and its relevance in Architecture. 2. To familiarize students with practical skills in the computer graphic software for architectural presentation. 3. Skills in experimentation, critical analysis and the discriminatory selection of computer software for specific end uses. 4. To understand functional and ability to assemble drawings in industry-standard plan form and produce plotted hard copies ready for distribution. 	
7	Course Outcomes	<p>CO1: Understand and learn work using Computer Graphic tools. CO2: Apply new mode of digital presentation with Digital Presentations skills. CO3: Anal more efficient modes of production which facilitate group projects. CO4: Create Digital Presentations for studio projects. CO5: Develop 2D representations techniques for quicker methods and presentation skills. CO6: Adapt the Digital presentation skills.</p>	
8	Course Description	<p>The entire course of Digital Design Fabrication that is taught in the almost 8 semesters is a logically laid out curriculum which aims at one aspect of the knowledge of digital tools in each semester.</p> <p>Students will use the Adobe Creative Suite for this course. Students will learn to use the basic tools of Adobe Illustrator and InDesign. Upon completion of the course students will be able to understand the difference between a pixel-based and vector-based graphic and import and export graphics in multiple formats. Topics will include creating text and gradients, drawing and composing an illustration, transforming and distorting objects, incorporating color techniques, placing type in an image, how to work with layers and printing preparation will also be covered.</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction to Vector Based tools using Adobe Illustrator	
		1a - Introduction to Adobe illustrator	CO1, CO2
		1b - To develop and understand tools and basic set up for digital Illustration	

		1c - Digital composition techniques	
	Unit 2	Use of type (and typography) as a design element	
		2a - To comprehend tools and systems for character settings	CO1, CO2
		2b - Paragraph settings	
		2c - Composition & Layout in Illustrator	
	Unit 3	Introduction to Adobe InDesign	
		3a - Introduction to Adobe InDesign	CO2, CO3
		3b - Demonstrate presentation & types of projects should be built in InDesign	
		3c - Use of frames, content management, and links	
	Unit 4	Document setup, multiple pages, project management	
		4a - Working with Document setup and its preferences	CO3, CO4
		4b - Type: Kerning, tracking, leading, paragraph styles	
		4c - Hyperlinks & Settings for web output	
	Unit 5	Final project output	
		5a - Final Project output using Adobe Illustrator	CO5, CO6
		5b - Final Project output with single page layouts	
		5c - Final Project output using multipage layout booklet/book publishing.	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Adobe Illustrator CC Classroom in a Book 2. Adobe InDesign CC Classroom in a Book 3. Layout Workbook: Revised and Updated: A real-world guide to building pages in graphic design - by Dennis Puhalla 4. Layout Essentials Revised and Updated: 100 Design Principles for Using Grids - by Beth Tondreau	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	2	-	3	-	-	-	1	2	-	3
CO2	2	-	2	-	3	-	-	-	1	2	-	3
CO3	2	-	2	-	3	-	-	-	2	2	-	3
CO4	2	-	2	-	3	-	-	-	2	3	-	3
CO5	2	-	2	-	3	-	-	-	2	3	-	3
CO6	2	-	2	-	3	-	-	-	2	3	-	3
Avg	2	-	2	-	3	-	-	-	2	3	-	3

ARJ 222: Site Planning & Landscape

School: SSDAP		Batch: 2023-2028	
Programme: B. Arch		Academic Year: 2024-25	
Branch:		Semester IV	
1	Course Code	ARJ 222	
2	Course Title	Site Planning & Landscape	
3	Credits	4	
4	Contact Hours (L-P-S)	0-0-4	
Course Status		Compulsory	
5	Course Objective	To gather data for preliminary planning. To evaluate the site and features To understand site contributing features	
6	Course Outcomes	CO1: To Understand data for preliminary planning. CO2: To Evaluate the site for compatibility and the proposed project. CO3: To identify the potential, constraints and propose design. CO4: Analyse the contributing factors for the design development of different styles. CO5: Compare various case studies on the basis of the contributing factors responsible for their development CO6: Apply the knowledge design the portfolio.	
7	Course Description	This course is design for analytical approach for design a good architectural case study.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction of Site Planning	
		1a. Site planning process and its significance. 1b. establishing relationship between site characteristics and design requirements. 1c. Inventory, documentation	CO1, CO2
	Unit 2	Site Planning checklist	
		2a. Site planning analysis, construction technologies and materials. 2b. Environment and micro climate, requirement and used behavior, Form and function, circulation, structure. 3b. Case studies of projects to understand designing criterion, materials used & coordination with built form.	CO2, CO3
	Unit 3	An Introduction to Landscape Graphics	
		3a. Drawing trees with different textures, Foliage patterns, tone, contrast and balance, rock and water. 3b. Conventional symbols in landscape presentations.	CO4, CO5

		3c. Conceptual drawings.	
	Unit 4	Portfolio	
		4a. Design and develop live case study portfolio1. 4b. Design and develop live case study portfolio2. 4c. Design and develop live case study portfolio3.	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA 50%	ETE 50%
11	Reference	1. An Introduction to Landscape architecture by M. Laurie. 2. An Introduction to Landscape Design by H. V. Hubbard 3. Fundamentals of Landscaping and Site Planning by James B. Root.	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	1	2	1	1	-	2	-	-	1	1	1

AEJ 201: Vernacular: Architecture without Architects

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: IV
1	Course Code	AEJ 201
2	Course Title	Vernacular: Architecture without Architects
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	<ul style="list-style-type: none"> • To expose the students to traditional architecture of the various parts of the country and Abroad. • The students are exposed to a wide variety of examples that teach them to appreciate architecture as an outcome of various social and economic values of society. • Identify and conserve the untapped values and principles in the evolution of new theories for architectural creations.
6	Course Outcomes	<p>CO1: Define Vernacular Architecture</p> <p>CO2: Outline needs and various ways of vernacular building research, analysis, presentation of finding and its application to contemporary buildings.</p> <p>CO3: Identify and learn the main characteristics of the planning aspects, materials used in construction and the constructional details.</p> <p>CO4: Compare & learn the settlement planning of the settlements in various parts of the country and Abroad.</p> <p>CO5: Interpret & discuss the factors influencing vernacular architecture of various places.</p> <p>CO6: The student should be able to create a project considering all the practical aspects of vernacular architecture.</p>
7	Course Description	<p>Vernacular buildings comprise 99% of the buildings of the world. They are those buildings which spring from local custom and practice, that are usually not the result of what we today consider to be mainstream architectural practice.</p> <p>It provides powerful insights into fundamental issues of architecture. Its study provides insights into architectural form</p>

		<p>and typology, the building process, the relationship between buildings and human activity, the connection of buildings to geography, the ways in which material culture expresses social and cultural values.</p> <p>This course uses a survey of various traditions of vernacular building as a means to understand theoretical frameworks dealing with the nature, diffusion and transformation of architectural type; the formal, functional and aesthetic content of vernacular buildings and the continuities between the vernacular and the professional world of architects.</p>	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction to Vernacular Architecture	
		a) Definitions; Relevance. b) Role & scope of Vernacular Architecture c) Issues of concern in present day architecture and causative forces of the vernacular form	CO1
	Unit 2	Climate, Building Materials, and the Vernacular	
		a) To understand evolution of building forms based on function, building material and construction techniques. b) To understand evolution of building forms based on art and craft, religion and culture in the period when they were built. c) To understand evolution of building forms based on the local conditions, climate and geography	CO2, CO3
	Unit 3	Sustainable Conservation and the future of Vernacular Architecture	
		a) Defining Architecture Conservation b) Conservation of Vernacular Heritage c) The Future of Vernacular Architecture	CO4, CO5
	Unit 4	Case study and design	
		a) Case Study: works of architects in contemporary Indian architecture whose works are influenced by the vernacular architecture of the region. b) Inference from the case study – as what were the factors influencing their works. c) Designing of a small scale building with the application of vernacular architecture.	CO6

9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Vernacular Architecture: An Illustrated Handbook By R.W. Brunskill, 4th ed 2000 2. Architecture Without Architects: A Short Introduction to Non-pedigreed Architecture by Bernard Rudofsky 3. Laurie Baker, Life, Work, Writings by Gautam Bhatia	
12	Other References	1. Voluntary Agencies and Housing: A Report on Some Voluntary Agencies Working in the Field of Housing in India, by Madhao Achwal 2. Hassan Fathy- Architectural Monographs, By James Steele	

CO-PO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3	-	2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	1	2	-	-	-	-	-	-	2	-	2
Avg	3	2	2	2	1	1	1	1	2	2	1	3

AEJ 213: Architecture Photography

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: IV
1	Course Code	AEJ 213
2	Course Title	Architecture Photography
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	To familiarize the students to principles of photography pertaining to architecture and the skills required for architectural photography, including technical requirements and working mechanisms of photography equipment.
6	Course Outcomes	CO1: Students should be able to Identify the various principles in Architecture photography CO2: Students should be able to understand and apply techniques in architecture photography. CO3: The students should be able to understand and analyze the works of famous architectural photographers. CO4: The student should be able to comprehend the skills and knowledge of natural and artificial lighting in photography. CO5: The student should be able to comprehend and evaluate the impact of different modes of light in various projects. CO6: The student should be able to create a project considering all the practical aspects of architecture photography.
7	Course Description	The studio is designed to familiarize students with various elements, details and techniques used in architecture photography. It will enable students to create a visual dictionary of work showcased during the studio and thus perceiving themselves as future photographers if interested.
8	Outline syllabus	
	Unit 1	Introduction to the Basic Principles of Architectural Photography

		a) Introduction to the basic principles of Architectural photography and photographic equipment. b) Analog and digital photography. c) Types of cameras. Understanding of the camera, its various parts and controls.	CO1
	Unit 2	Techniques in Architectural Photography	
		a) Techniques: Seeing and photographing, using the view finder, framing up. b) creating a point of emphasis, picking lighting conditions, pattern, texture and shape, color etc. c) Case study of various famous architecture photographers.	CO2, CO3
	Unit 3	Lighting in Architectural Photography	
		a) Lighting in Architectural photography: quality and quantity, soft and hard, lighting direction, types of lights, tungsten, flash, fluorescent, neon etc. b) Lighting in Architectural photography: daylight, artificial light, mixed light, simple setups for adding light, multiple light sources, focus lighting, creating shades and shadows through lighting etc. c) Case study for understanding impact of natural and artificial light in photography.	CO4, CO5
	Unit 4	Subject and Content	
		a) Analysis of subject and content. b) Perspective – vanishing points, distortion, converging verticals, usage of shift lens, camera position, picture format, Image frame and composition – stationery surrounding objects, moving objects. c) Practical application of photography in a project.	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11		1. Architectural Photography: Composition, Capture and Digital	

	Text/Reference Books	Image Processing by Adrian Schulz, 2015 2. Professional Architectural Photography by Michael Harris
12	Other References	1. Construction and Design Manual, Architectural Photography by Axel Hausberg 2. Professional Architectural Photography by Michael Harris

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3		2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

AEJ 212: Art Appreciation

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: IV
1	Course Code	AEJ 212
2	Course Title	Art Appreciation
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	<p>To course intends in developing the knowledge of application of design sense and principles in varied fields of art. The student will be able to establish a relation between art, art movement and architecture.</p> <ol style="list-style-type: none"> 1. The programme is intended to comprehend various visual art practices sculpture, painting and performance art. 2. It focuses on comprehending various forms, techniques and materials that have been experimented and explored to comprehend expanse of practices. 3. To understand the growth of visual art and the ideologies behind art works. <p>To aid in developing an ability to read and analyse different art works. .</p>
6	Course Outcomes	<p>Students will be able to:</p> <p>CO 1: understand the basic principles, materials and techniques used in developing an artwork.</p> <p>CO2:- understand art works through history</p> <p>CO3: analyse art works and differentiate between various art practices.</p> <p>CO4: access and articulate their comprehension of various works of art.</p> <p>CO 5: They will be able to assess visual art forms</p> <p>CO6: explore various ideologies and their relationship with visual art.</p>

7	Course Description	The course of Art Appreciation explores architecture, its history, and its relation to visual art. Architecture is the art and science of designing structures and spaces for human use. Architectural design is an art form realized through considerations of spatial design and aesthetics. Related to sculpture, architecture creates three-dimensional objects that serve human purposes and forms visual relationships with the surrounding areas. The course enables in developing critical thinking and articulation skills.	
8	Outline syllabus		CO Mapping
	Unit 1	Art	
		a. Principles and Elements of Art b. Material, medium and Techniques c. “Ways of Seeing”	CO1, CO2
	Unit 2	Art of Ancient India	
		a. Learning examples of Indian Art b. Critical Study of important art of Ancient India c. Analysis and establishing relation between art and architecture of India	CO3
	Unit 3	Art of Ancient Western World	
		a. Learning examples of Ancient Western World art movements b. Critical Study of important art of Ancient Western World c. Analysis and establishing relation between art and architecture of Ancient Western World	CO4, CO5
	Unit 4	Contemporary Art	
		a. Learning examples of Contemporary art b. Critical Study of important art of today c. Analysis and establishing relation between art and architecture of contemporary art movements	CO6
9	Mode of examination	Jury	

10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	<ul style="list-style-type: none"> - Laurie Adams - A History of Western Art-McGraw-Hill Humanities_Social Sciences_Languages (2011) - Adrian George (2015) - The Curators Handbook - RoseLee Goldberg - Performance Art: from Futurism to the Present - Aisan Art : Dorinda Neave, Lara C.W. Blanchard and Marika Sardar - History of Fine Arts in India and the West: Edith Tomory - A Student's Handbook of Indian Aesthetics : Neerja A. Gupta - Thomas Godfrey and Tony Godfrey: <p>3. Conceptual Art Book</p>	
12	Other References	<ul style="list-style-type: none"> - Fred S. Kleiner - Gardner's Art Through the Ages_ A Concise History of Western Art-Cengage Learning (2013) 	

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3		2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

AEJ 203: Product Design

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2024-25
Branch:		Semester: IV
1	Course Code	AEJ 203
2	Course Title	Product Design
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	<p>To develop the knowledge base that will enrich approaches to, and understanding of the field of Product Design</p> <p>To pursue specialized skills, techniques of practice and areas of knowledge that will expand awareness of the field of product design</p>
6	Course Outcomes	<p>Students will be able to:</p> <p>CO1: Identify various areas of product design and various terminologies associated with it.</p> <p>CO2: Interpret research and analysis methodologies as it pertains to the product design process, meaning, and user experience.</p> <p>CO3: Apply creative process techniques in synthesizing information, problem-solving and critical thinking.</p> <p>CO4: Devise and Illustrate the Product Design and Development Process, as a means to manage the development of an idea from concept through to production.</p> <p>CO5: Design manipulation and presentation of designed products.</p> <p>CO6: Build an understanding about the profession of a product designer.</p>
7	Course Description	Product Design is a course which deals with the design, manufacturing, and use of products around us This elective course is primarily oriented as a preparatory course for architecture students on understanding user groups and designing products while working at a smaller scale. The outcome of such learning will be demonstrated with building a an in depth study of the field of product design.
8	Outline syllabus	
	Unit 1	Product Design

		a) Introduction to Product Design as a field b) Scope and significance of product design as a field. c) Brief introduction to various areas of product design and various terminologies associated with it.	CO1
	Unit 2	Human factors in design	
		a) Study the importance of different human factors like visual, hearing, tactile, taste, ergonomics etc. b) Experiments to demonstrate the importance of different human factors like visual, hearing, tactile, taste, ergonomics etc. c) Designing different products to demonstrate the use of human factors in design.	CO1 CO2 CO3
	Unit 3	Design for User	
		a) Study basic ergonomics, user, lifestyles and create mood boards. b) Product design in field – study various brands and their design language. c) Designing/ styling a product (lifestyle).	CO3 CO4 CO5
	Unit 4	Product Design and Innovation	
		a) Understanding innovation. Discussion on innovations done in various stages of product cycle. Product evolution and timeline on the bases on innovation done b) Study futuristic designs and technologies including innovations in new materials, products, and technologies. c) Difference between Patents, Trademarks and Copyrights.	CO4, CO5 CO6
9	Mode of examination	Jury	
10	Weightage	CA	ETE

	Distribution	50%	50%
11	Text/Reference Books	1. The complete book of colour, Suzi Chiazzari. 2. Indian anthropometric dimensions for ergonomic design practice, Debkumar Chakrabarti, National Institute of Design. 3. Materials and Design, M. F. Ashby, Kara Johnson.	
12	Other References	1. Dynamic color Painting, Diane Edison.	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	3	3	2	-	-	-	2	3	-	3
CO2	3	1	1	3	1	-	-	-	3	3	-	2
CO3	3	-	3	3	3	-	-	-	2	3	-	2
CO4	3	1	1	3	1	-	-	-	3	3	-	2
CO5	3	-	2	2	3	-	-	-	3	2	-	3
CO6	1	-	-	-	-	-	-	-	3	3	-	3
Avg												

SEMESTER – V

ART: History, Theory & Criticism - IV

School: SUSAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1	Course Code	ART	
2	Course Title	History, Theory & Criticism - IV	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	-To understand the historical development through different era's and region. -To understand the political economy of the period -To understand Cultural and Social significance of the period -To identify and study the salient features of the architectural styles during the era	
6	Course Outcomes	CO1: Identify different styles of architecture CO2: Identify prominent / important buildings by their components / style of design CO3: Describe prominent / important buildings CO4: Analyse the contributing factors for the design development of different styles. CO5: Compare and Contrast various styles based on the contributing factors responsible for their development CO6: Design buildings in different architectural styles.	
7	Course Description	This Course deals specifically with the socio-political, historical and cultural dimensions of Architectural history in various regions. Through this module students develop a deeper understanding of the architectural styles during the period and famous examples of the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Early-Century Styles	
		1a. Industrial revolution - eclecticism, Art Nouveau & Art Deco 1b. De Stijl 1c. Constructivism & Expressionism	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	Mid-Century Styles	
		2a. Functionalism & Minimalism 2b. International Style 2c. Metabolism & Brutalism	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 3	Late-Century Styles	
		3a. Postmodernism 3b. High-Tech & Deconstructivism 3c. Critical Regionalism	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 4	Indian Architecture	

		4a. Colonial Architecture 4b. Indo-Saracenic style 4c. Modern Architecture in India	CO1, CO2, CO3, CO4, CO5, CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA 25%	MTE 25% ETE 50%
11	References	1. Kenneth Frampton, "Modern Architecture; A Critical History" by, Tames and Hudson 2. Willam Jr.Curtis, "Modern Architecture since 1900", Phaidol 3. Sir Banister Fletcher, A History of Architecture, University of London, The AntholonePress, 1996. 4. Spiro Kostof - A History of Architecture - Setting and Rituals, Oxford UniversityPress, London, 1985. 5. Leland M Roth; Understanding Architecture: Its elements, history and meaning; CraftsmanHouse; 1994 6. Pier Luigi Nervi, General Editor - History of World Architecture - Series, Harry N.Abrams, 7. Inc.Pub., New York, 1972. 8. S.Lloyd and H.W.Muller, History of World Architecture - Series, Faber and Faber Ltd., London, 1986. 10. Gosta,E.Samdstrp, Man the Builder, Mc.Graw Hill Book Company, New York, 1970. 11. Webb and Schaeffer; Western Civilisation Volume I; VNR: NY: 1962 12. Vincent Scully: Architecture; Architecture – The Natural and the Man Made: Harper Collins Pub: 1991. 13. Charles Jencks, "The language of Post-Modern Architecture". 14. Heinrich Clotz, "History of Post-Modern Architecture". 15. Marvin Trastctenberg, "Architecture from Prehistory to Post modernism"	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	2	2	1	1	-	2	-	-	1	-	1

ART : Environment , Sustainability & Services-IV (Electrical, Illumination & Fire Services)

School: SUSAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1	Course Code	ART	
2	Course Title	Environment , Sustainability & Services-IV(Electrical, Illumination & Fire Services)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	This course is designed to enable students to understand various systems of Electrical services, Fire fighting, and Illumination services; and its design application for a small and large building.	
7	Course Outcomes	<p>CO1- To summarise the active and passive components of Electrical system and various principles.</p> <p>CO2- To explain the techniques and standards that are used in electrical services in small and medium scale architectural projects.</p> <p>CO3- interpret illumination services for various typologies of buildings</p> <p>CO4- To demonstrate an understanding for firefighting services and its various components</p> <p>CO5- To design Electrical, Illumination and Firefighting services for domestic building</p> <p>CO6- To apply of learning to design of Electrical, Firefighting, illumination and vertical transportation system in buildings (except detail design calculation)</p>	
8	Course Description	<p>-Building services engineering, technical building services, architectural engineering, building engineering or facilities and services planning engineering refers to the implementation of engineering for the internal environment and environmental impact of a building.</p> <p>-Building services engineers are responsible for the design, installation, operation and monitoring of the mechanical, electrical and public health systems required for the safe, comfortable and environmentally operation of modern buildings.</p> <p>-This module of ESS focuses on building services namely, electrical, Illumination and fire fighting</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		1a- Importance of Electrical, illumination and	CO1

		Firefighting, Historical overview of these services 1b- Basic principles of electricity, Norms and standards, High side electrical system at site level - Transformers and switch gears – Layout of substations, Electrical distribution system at site level overview 1c- Types of distribution networks at site level and building level, Planning electrical wiring for building – Main and distribution boards			
	Unit 2	Electrical Services details			
		2a- Types of wires, wiring systems and conduit, Fixing of electrical fixtures and switches 2 b - Materials, apparatus, joints, fixtures and breakers –Market survey, Low voltage supply (data and telephone) 2c – Electrical service drawings, nomenclatures used in drawings, design of electrical layouts.			CO2, CO5
	Unit 3	Illumination			
		3a- Basics of illumination, Glare, Factors affecting visual tasks 3b - Classification of lighting – Artificial light sources – Spectral energy distribution – Luminous efficiency – Colour temperature – Colour rendering, Choice of luminaries 3c- Architectural lighting schemes and special effects in various architectural typology of buildings, Design process of modern lighting – Lighting for stores, offices, schools, hospitals and house lighting etc. Elementary idea of special features required and minimum level of illumination required for physically handicapped and elderly in building type			CO3, CO4
	Unit 4	Fire Fighting System			
		4a- Causes and spread of fire, Combustibility of materials and safety norms, Fire resistant materials Passive Fire Protection Strategies. 4b- Active Fire Protection Systems. ,Fire Detection Systems, Alarm Systems Fire Extinguishing Systems , Smoke Control. 5c- Designing Fire Escapes for Life Safety, Code Provisions			CO5, CO6
10	Mode of examination	Theory			
11	Weightage Distribution	CA	MTE	ETE	
		25%	25%	50%	

12	Text book/s*	1.Basic electrical engineering by D.P Kothari, I.J Nagrath 2.Introduction to the design and analysis of building electrical system by John Mathew 3.Electrical design guide for commercial buildings by William H. Clark 4.Handbook of electrical design details by Neil Sclater 5.Building construction illustrated by Dr. D.K. Ching 6.Mechanical and electrical equipment for building by Walter T. Gondzik
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2	-	-	-	2	-	-	-	-	1
CO2	1	1	2	-	-	-	2	-	-	-	-	1
CO3	2	2	2	-	-	-	2	-	-	-	-	-
CO4	2	2	3	1	-	-	3	-	-	1	2	1
CO5	3	3	3	2	1	-	3	-	1	1	-	1
CO6	3	3	3	2	1	-	3	-	1	1	-	1
Avg	2	2	3	1	1	-	2	-	1	1	2	1

ART : Building, Estimation & Costing

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1	Course Code	ART	
2	Course Title	Building, Estimation & Costing	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	1. To know the various types of estimates and the techniques for preparing them 2. To know the importance and uses of specifications and how to write them 3. To know how to calculate the rates for a unit of work to be executed 4. To know the process of valuation of properties and how to prepare a valuation report	
6	Course Outcomes	CO1: To recall the process of Construction stage wise and the type of Construction and materials used. CO2: To be able to elaborate various processes of Estimating, Valuation, and tendering CO3: To implement the appropriate methods for preparing the estimates and valuation reports CO4: To Demonstrate the acquired knowledge to complete a building Estimate/ Valuation report for a small-scale project. CO5: To compare , the building typologies for preparing an estimate or doing the valuation, CO6: To identify the specification types for different categories of building works	
7	Course Description	This module introduces students to the methods of estimation and costing. Students are also familiarized with the specifications in a building project. The module also strives to inculcate awareness regarding the factors affecting the cost of buildings. Further it also deals with introducing to the students the methods of rate analysis for buildings components. Students would also familiarize with the valuation of building projects.	
8	Outline syllabus		CO Mapping
	Unit 1	Classification of Areas & Types of Estimates	
	A	Introduction to relevance and need of Estimation.	CO1
	B	Introduction to various types of Estimates.	
	C	Methods of estimating different components of a building	
	Unit 2	Methods of building estimates	
	A	Preparation of Bill of Quantities (BOQ)	CO2
	B	Introduction of Centerline method & individual wall method of building estimate	
	C	Methods for preparation of Preliminary estimate.	
	Unit 3	Specifications	
	A	Introduction to Specifications, Types of Specifications	CO3, CO4
	B	Writing general Specifications of work.	

	C	Writing detailed Specifications for Building work.			
	Unit 4	Analysis of Rates			
	A	Introduction to Schedule of Rates , Importance of Rate Analysis, Considerations done while doing the Rate Analysis			CO5, CO6
	B	Calculating the various quantities of materials required per unit.			
	C	Calculations for basic building materials like RCC, Brick work, etc.			
9	Mode of examination	Theory			
10	Weightage Distribution	CA	MTE	ETE	
		25%	25%	50%	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
CO1	3	2	2	2	1	2	1	2	2	2	2	2
CO2	3	3	3	1	1	1	1	-	1	-	-	3
CO3	2	2	3	-	1	1	-	2	1	1	2	2
CO4	2	2	3	2	1	2	-	2	2	1	2	3
CO5	3	2	3	3	1	2	1	3	2	3	3	3
CO6	3	3	3	1	1	1	1	-	1	-	-	3
Avg	3	2	3	2	1	2	1	2	2	1	2	3

ART : Human Settlement

School: SSDAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1	Course Code	ART	
2	Course Title	Human Settlements	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	To gain insights into the evolution of human settlements from ancient to modern town / cities in relation to cultural, socio-economic aspects and human values.	
6	Course Outcomes	After completing this course students are expected to: CO1: Understand the evolution of Planning. CO2: Get updated knowledge of emerging planning concepts. CO3: Differentiate various planning theories. CO4: To familiarize with different concepts of settlement planning. CO5: Evaluate planning thoughts of various planners. CO6: Understand concepts of cities and people	
7	Course Description	Origins and growth of cities, effects of cultural influence on physical form. Human settlements as an expression of civilizations; Basic elements of the city; Concepts of space, time, scale of cities.	
8	Outline syllabus		CO Mapping
	Unit 1	Importance of Evolution of Human Settlement.	
		1a- Beginning of settlements.	CO1
		1b- Social choices and ecological determinants.	
		1c- Elements of science in study of human settlement-Ekistics.	
	Unit 2	Analytical account of historic context	
		2a- Cities in history (Indian sub-continent)	CO2
		2b- Cities in history (Europe and other countries)	
		2c- Classification based on evolution	
	Unit 3	Industrial Revolution	
		3a- Introduction to industrial revolution.	CO3, CO4
		3b- Characteristics of industrial towns.	
		3c- Three major areas of thoughts towards decentralization.	
	Unit 4	Human Settlement as Political Expression.	
		4a- Neighbourhood concept e.g. Radburn city: concept of an ideal city	CO5, CO6

		4b- Contribution of Ebenezer Howard; Petrick Geddes; Lewis Mumford; C A Doxiadis	
		4c- Study of Brazilia; Chandigarh; New Delhi.	
9	Mode of examination	Theory	
10	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
11	Text book/s*	1. Ayyar, C.P.V, (2004), Town Planning in Early South India, Kanishka Publications, Delhi. 2. Bedge, P.V,(1978), Ancient and Medieval Town Planning in India, Sagar Publications, New Delhi. 3. Das, A.K, (2007), Urban Planning in India, Rawat Publications, Jaipur. 4. El-Khoury, R and E. Robbins,(2003), Shaping the City; Studies in History, Theory and Urban Design, Routledge Publications, New Delhi. 5. Gallion, A, (1963), The Urban Pattern; City Planning and Design, D.V. Nostrand Company Inc, N.York. 6. Ramachnadran, R., (1992), Urbanisation and Urban Systems in India, Oxford University Press, NewDelhi. 7. Nath, R, (1995), Medieval Indian History and Architecture, APH Publishing Pvt. Ltd., New Delhi. 8. Gallion, Arthur B and Simon Eisner,(2002), The Urban Pattern: City Planning and Design (5th Ed), CBS Publishers and Distributors, New Delhi. 9. Gallion, Arthur B and Simon Eisner, (1969), The Urban Pattern: City Planning and Design (second east west reprint), W. D. Ten, Broeck, New Delhi. 10. Morris, A.E.J, (1979), History of Urban Form before the Industrial Revolutions, George Godwin Limited, London. 11. Smith, Roger. T, (1987), An Illustrated History of Architectural Styles, Omega Books, London. 12. Thooyavan, K.R, (2005), Human Settlement – Planning Guide to Beginners, M.A Publications, Chennai. 13. Textbook of Town Planning by Abir Bandyopadhyay	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	-	3	-	2	3	-	1	1	-	3
CO2	1	-	-	3	-	2	3	-	1	1	-	3
CO3	1	-	-	3	-	2	3	-	1	1	-	3
CO4	1	-	-	3	-	2	3	-	1	1	-	3
CO5	1	-	-	3	-	2	3	-	1	1	-	3
CO6	1	-	-	3	-	2	3	-	1	1	-	3
Avg	1	-	-	3	-	2	3	-	1	1	-	3

ARJ: Architectural Design – V

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1	Course Code	ARJ	
2	Course Title	Architectural Design – V	
3	Credits	8	
4	Contact Hours (L-P-S)	0-0-8	
	Course Status	Compulsory	
5	Course Objective	<p>1.The aim of the studio is to introduce students to Idea Embodiment.</p> <p>2.To sensitise them to observing their environment and incorporating the learning's into their design.</p> <p>3.The objective is to focus on design evolution with respect to passive design strategies and site context.</p>	
6	Course Outcomes	<p>CO1: Illustrate the learning from historic/ vernacular/ ecological heritage study to the designed modules.</p> <p>CO2: Translate research and the understanding of the built environment into the design project.</p> <p>CO3: Build design strategies to incorporate in the design process for designing in Vernacular/Historical or heritage context.</p> <p>CO4: Apply the knowledge of passive design strategies and site context in design of project</p> <p>CO5: Integrate learning of construction, structures and computers to apply to design.</p> <p>CO6: Demonstrate advanced skills of drawings and representation with modern tool usage for developing illustrative architectural portfolio..</p>	
7	Course Description	<p>Looking at the immediate built environment and understanding its fundamental components and their impact on the surroundings. The studio deals with the study of built form and its relationship to the site, surroundings and climatic setting. Design proposals to address sensitivity to climatic and physical settings. The design problem would induce students to experiment with built and open spaces. Exercises relating personal experiences to behavioural needs and translating them into documented information that can be used as a basis for design.</p> <p>Introduction to other role players in the Architectural process viz; the client and the user.</p>	
8	Outline syllabus	CO Mapping	
	Unit 1	Minor Project	
		<p>1a. Introduction to Minor project</p> <p>1b. Form and material based investigation</p> <p>1c. Understanding spatial aspects based on</p>	CO1, CO2

		activity, space, form and human scale.	
	Unit 2	Minor Project- finalization	
		2a. Pre design study-Case study and functional standards 2b. Concept formulation and idea investigation 2c. Final design presentation	CO3, CO4, CO5
	Unit 3	Major Project- Conceptual	
		3a. Introduction to Major project 3b. Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns. 3c. Pre design study -Literature Study, Site Analysis, Case Study. Site- 8000 sqm (appx)	CO1, CO2
	Unit 4	Concept Development	
		4a. Concept Formulation, Bubble Diagram and activity zoning. 4b. Design development- site development 4c. Design development- floor Plans	CO1, CO3, CO4
	Unit 5	Finalisation	
		5a. Design development- sections and elevations 5b. Model making on appropriate scale 5c. Final portfolio submission	CO4, CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	1	2	3	2	2	2	-	2
CO2	1	3	2	3	2	1	3	1	2	3	-	3
CO3	3	1	3	3	3	2	3	2	3	3	-	2
CO4	2	1	3	3	1	2	3	2	1	1	-	2
CO5	3	-	3	-	3	-	-	-	2	3	-	3
CO6	2	1	3	-	3	-	-	-	3	3	-	3
Avg	2	2	3	3	3	2	3	2	2	3	-	2

ARJ : Construction Material & Methods-V

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: V
1	Course Code	ARJ -
2	Course Title	Construction Material & Methods-V
3	Credits	5
4	Contact Hours (L-P-S)	0-0-5
	Course Status	Compulsory
5	Course Objective	<p>1.To generate a basic understanding of the prefab construction</p> <p>2.To familiarize the students with the constructional details of Prefab construction including open prefab systems, large panel prefab system, joints, precasting methods, on-site and off-site prefabrication, components.</p> <p>3.To help them understand the methods of pre-stressing and post-tensioning of concrete, their application in large space structures today.</p> <p>4.To familiarize the students with the components of Steel structures, their application, joinery, construction details of multi-storeyed steel structures, forms and materials for speedy construction from foundation to roofing, from walls to slabs, from structure to facade.</p> <p>5.To cultivate personal observation and self learning in the students, site visits should be conducted so as to cover the given syllabus.</p> <p>6.To help students observe measure, sketch and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation. This shall form part and parcel of the sessional work for internal assessment.</p>
6	Course Outcomes	<p>CO1: Understand the basic construction of steel and prefab structures.</p> <p>CO2: Illustrate the applications of prefab construction, steel construction</p> <p>CO3: Discuss components of prefab construction, steel construction from foundation to roofing.</p> <p>CO4: Analyse details of prefab construction, steel construction from foundation to roofing with roof coverings.</p> <p>CO5: Apply all related details concerned with the material in the components studied.</p> <p>CO6: To familiarize students will be able to explain principles of</p>

		construction in mass building and use of the technical knowledge in project drawings.	
7	Course Description	This Construction Studio is designed to study the Precast and Modular construction practices involving open prefab system, large panel prefab system. The students are introduced to pre-stressing and post-stressing of concrete, their characteristics and applications. The students are taught the construction basics of steel and wooden structures, their differing characteristics and the varying ways employed in the making of multi-storeyed buildings.	
8	Outline syllabus		CO Mapping
	Unit 1	Precast and Modular Construction Practices	
	A	Materials and Building components in small prefab construction	CO1, CO2
	B	Prefabrication Material and Systems – open prefab system, large panel prefab system, joints, precasting methods, materials, on-site and off-site prefabrication, components, etc	
	C	Assembly of components, tolerances, modules, reference system, grids, positioning of functional elements – slabs, walls, staircases; Standardization in buildings' design and their components.	
	Unit 2	Precast and Modular Construction Practices –Prestressing & Post tensioning	
	A	Pre-stressed Concrete Introduction, methods of pre-stressing and their application to large space structures	CO1, CO3
	B	Pre-stressed Concrete-Materials for pre-stressing Classification, Availability, Characteristics and Uses	
	C	Post-tensioned Concrete, their applications & characteristics	
	Unit 3	Steel structures	
	A	Metal as building material, application, advantages, disadvantages, characteristics etc.	CO3, CO4
	B	Elements and Components of Steel and Wooden structures -Beams ,Columns etc.	
	C	Joinery of Steel and Wooden structures	
	Unit 4	Steel structures	
	A	Foundation, Floors, Slabs, mezzanine floors	CO2, CO6
	B	Portal frames, Space frames, their assembly & construction	
	C	Multi storied steel structure / Speed floors - Forms & materials for speedy construction, and the construction methods	
	Unit 5	Roof coverings	
	A	Introduction of roof covering materials & their uses.	CO5, CO6
	B	Roof coverings using AC/CGI sheets, Gutters, Ridge and Valley detail	
	C	Site exposure	

9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	-	-	-	2	-	-	1	-	1
CO2	3	-	-	1	-	-	-	-	-	3	1	1
CO3	3	2	1	-	1	2	1	-	1	1	-	1
CO4	3	-	1	2	2	-	2	1	1	-	-	1
CO5	2	-	-	1	-	1	-		1	-	1	1
CO6	3	-	2	2	2	2	-	2	2	-	3	2
Avg	3	2	1	2	2	2	2	1	1	1	2	1

ARJ : Digital Design Fabrication – V

School: SSDAP		Batch : 2023-28
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: V
1	Course Code	ARJ:
2	Course Title	Digital Design Fabrication – V
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
	Course Status	Compulsory
5	Course Objective	<ul style="list-style-type: none"> ·Understanding of Autodesk Revit as an example of a parametric BIM building modeling software. ·Knowledge of options to work collaboratively on Virtual Design and Construction (VDC) projects. ·Knowledge and understanding of functional and aesthetic requirements of architecture and the application of those in virtual environments. ·Knowledge of advanced CAD/BIM principles: Interoperability, software extensions, scripting/automation, texturing/rendering, workflow methods and others.
6	Course Outcomes	<p>CO1: Develop Understanding of a parametric building information model (“BIM” = a 3d object-oriented model of a building where each component has “intelligent” behaviors and embedded data) and extract data. This approach facilitates the creation of construction documents (plans, elevations etc.), material takeoffs and building schedules as well as performance (e.g. building energy) analysis.</p> <p>CO2: Comprehends & Create CAD/BIM-based tools to solve technical issues (fabrication, energy efficiency, lighting, structural etc.) during the planning process.</p> <p>CO3: Demonstrate BIM based Project Design.</p> <p>CO4: Create BIM project and documentation.</p> <p>CO5: Evaluates on understanding of BIM project and techniques for quicker methods and presentation skills.</p> <p>CO6: Students will adapt the BIM presentation skills.</p>

7	Course Description	In this module the students will learn Centered on problem-based tasks, topics such as 3-dimensional modeling, design for fabrication, parametric building design, building information modeling (BIM), material takeoff, energy-efficient planning and model analysis, rendering and presentation, and others will be explored.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction to BIM and BIM tools	
	A	Introduction to Autodesk Revit	CO1, CO2
	B	Introduction to BIM, Scope, Challenges and Opportunities	
	C	Drawing Tools, Basic Walls, Doors and windows	
	Unit 2	Design development process in BIM & Tools of parametric design	
	A	Wall Finishes, Components, Material & Texturing	CO1, CO2
	B	Working with Floor and Slabs with finishes	
	C	Working with Roof and Roof Types	
	Unit 3	Building modelling using BIM tools	
	A	Stairs and Railings	CO2, CO3
	B	Complex walls with finishes-1	
	C	Complex walls with finishes-2	
	Unit 4	Scheduling and detailing with BIM	
	A	3D Views, Section and elevations	CO3, CO4
	B	3D Texturing and Materials	
	C	3D Components & 3D massing	

	Unit 5	Methods, Techniques and implementation	
	A	Sheets & layout	CO4, CO5, CO6
	B	Plot settings	
	C	Final Project	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s*	1. Mastering Autodesk Revit, by Eddy Krygiel, Lance Kirby, and Marcus Kim 2.Residential Design Using Autodesk Revit 2020, by Daniel John Stine 3. Design Integration Using Autodesk Revit 2021 4.Building Information Modeling, by Karen M. Kensek	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	2	2	3	1	1	-	-	-	1	3
CO2	2	1	2	1	3	-	-	-	-	-	1	3
CO3	2	1	2	1	3	1	1	-	-	-	1	3
CO4	3	2	2	2	3	1	1	-	-	-	2	3
CO5	3	2	2	2	3	1	1	-	-	-	2	3
CO6	3	2	2	2	3	1	1	-	-	-	2	3
Avg	3	2	2	2	3	1	1	-	-	-	2	3

AEJ : Landscape Design

School: SSDAP		Batch : 2023-2028	
Programme: B. Arch		Academic Year: 2025-26	
Branch:		Semester: V	
1		AEJ	
2		Landscape Design	
3	Course Code	2	
4	Course Title	0-0-2	
	Course Status	Elective	
5	Course Objective	1. Acquire a comprehensive base of knowledge required for the practice of landscape architecture site planning. 2. Develop awareness in the physical context about implications of limited sources in design decision making. 3. To develop understanding about circulation principles of developing private and public areas. 4. To familiarize students with landscape elements, lighting, furniture and develop connection between them. 5. To develop the knowledge of designing of any sport ground.	
6	Course Outcomes	CO1: Explain the importance of topographical survey related to site planning. CO2: Analyze the barriers of site planning. CO3: Establish relationship between all the element while designing public and private spaces. CO4: Summarize the problems and issues. CO5: Identify possible solutions for different typologies. CO6: Create related drawings of site	
7	Course Description	This course would introduce the students to the basics of landscape and site planning. It would enable the student to develop an understanding of landscape design with appropriate site planning and its application. It would also help the student to understand the various landforms and plan accordingly.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction of site planning, types, and methodology	
	A	Site planning process and its significance; establishing relationship between site characteristics and design requirements. Inventory, documentation, and site planning checklist.	CO1, CO2
	B	Site Survey and Appraisal; topographic surveys and their methodology, visualising landforms.	
	C	Understanding contours and their characteristics, graphical representation, deriving contours by interpolation.	
	Unit 2	Earthform Grading	
	A	Earthform Grading; symbols and annotations, Basic grading principles, grading terraces, grading of roads	CO1,CO2, CO3

		across/along contours, Basics of road alignment (horizontal and vertical)	
	B	Surface Drainage: Site planning for efficient drainage; understanding drainage pattern and watershed area, calculation of surface runoff, determination of catchments area and discharge rate; types of drainage systems, design of drainage elements: swales and culverts etc. Sub surface drainage planning. Planning, grading and drainage of sports fields.	
	C	Earthworks cut and fill processes, volume computations.	
	Unit 3	Different type of circulation, materials, lighting, and street furniture	
	A	Landscape Construction: Factors in relation to systems, structures and materials for: Circulation: Roads and Parking, paths and plazas. Level Change: Wall, steps, and ramps Planting: Planters, beds, edges and terraces.	CO3, CO4
	B	Landscape simulation and site utilities: Basic planning and understanding of principles for: External lighting; types of fixtures and their use in varying situations.	
	C	Street furniture / site furnishings	
	Unit 4	Understand landscape services and drawings	
	A	Overall consideration of external electrical, plumbing co-ordination vis-à-vis routing and interface with landscape elements.	CO5, CO6
	B	Landscape working drawings: Format and logical representation of information	
	C	Overall organization of design drawings and data as respective package with relevant cross- referencing.	
9	Mode of examination	Jury	
10	Weightage Distribution	CA 50%	ETE 50%
11	Text book/s	1. Randhawa M S : Flowering Trees. National Book Trust, New Delhi 2. Santapau H: Common Trees. India the Land and the People 3. Mukherjee Pippa : Nature Guides, Common Trees of India. Worldwide Fund For Nature, India. 4. Virginie& Elbert George A : Foliage Plants For Decorating Indoors. Timber Press, 5. CloustanBrain : Landscape Design With Plants Ed. 2. Heinemann Newnes Oxford. 6. Planting In Paved Area By Timothy Cochrane 7. Cloustan Brian: Landscape Design with plants Ed. 2. Heinemann newnes Oxford. 8. Tree Planting By Brenda Colvin 9. Environmental Science – Earth as a living planet second Ed. University of California, Santa Barbara 10. Cerver Francisco A: World of Landscape Architects: World of Environmental Design	

		11. Cever Francisco A: Elements of Landscape,World of Environment. Printed In Spain
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2	1	-	1	-	-	-	-	-	-
CO2	2	2	3	1	-	-	1	-	-	-	-	1
CO3	1	1	2	1	-	1	-	-	-	-	-	-
CO4	1	1	2	1	-	1	-	-	-	-	-	-
CO5	3	3	3	-	1	-	-	-	-	-	-	1
CO6	3	3	3	-	1	1	-	-	-	-	-	1
Avg	2	2	3	1	1	1	1	-	-	-	-	1

AEJ 305– Façade Articulation

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: V
1	Course Code	AEJ 305
2	Course Title	Façade Articulation
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	To make student learn Facade Design in depth with Façade Design Principles and advanced representation techniques of the same. It also aims at imparting knowledge on evolution in Façade Design and its relationship with Intelligent Architecture.
6	Course Outcomes	CO1: Students should be able to Identify the various styles of Façade Design during different historical era. CO2: Students should be able to understand and apply concepts of composition and basic principles of design in façade. CO3: The students should be able to understand and analyze the design principles of facades through various factors. CO4: The student should be able to comprehend the skills and knowledge from different case studies of Intelligent & static facades. CO5: The student should be able to comprehend and Design Facades for different type of projects effectively through documentation, graphical and verbal presentations. CO6: The student should be able to create a project considering all the practical aspects of façade design.
7	Course Description	The studio is designed to familiarize students with various elements, details and design techniques that define the elevation as most expressive part of a building and new trends in façade design.
8	Outline syllabus	CO Mapping
	Unit 1	Façade in Architecture: A historical Review

		a) Review and identification of evolution in façade design b) Façade manifestations in different Architectural periods and their review c) Case study and analyses of facades for various architecture styles by Pritzker prize winner architects.	CO1
	Unit 2	Elements of Façade and Design Principles	
		d) Basics of Façade Drawing, Arrangement and Orientation, Scale and Detail e) Representing Materials, Spatial Depth Cues - Continuity of Outline, Texture, Light and Shade. f) Advanced Façade Design Principles	CO2, CO3
	Unit 3	Design of Intelligent Façades	
		d) Types of facades; facade materials; control of heat, air, and moisture e) Emerging technologies such as smart materials, double-skin facades f) Facades as energy generators, and control systems in Intelligent facades	CO4, CO5
	Unit 4	Application of learning by designing	
		a) Preparing facades according to learned principals and analyses using different software's such as Velux, Energy-2D etc. b) Judging the facades according to various principles and styles c) Presentation of Façade Design	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	3. A façade for a new style of architecture – By Serge Ferrari 4. Façade Engineering & Architectural Design – By Dow Corning 5. Façades: Design, Construction & Technology (Architecture in Focus) – By Lara Menzel	
12	Other References	1. Seven of the Most Innovative Brick Façade Styles in Architecture – Architizer	

		2. New Façade Book – VMZinc
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CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3		2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

AEJ: UI UX and Design Thinking

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: V
1	Course Code	AEJ 317
2	Course Title	UI UX and Design Thinking
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	Students will get to know about various techniques of Graphic Design and UI/UX and will develop skills to become a professional designer. They will be taught to enhance their knowledge and master tools producing good industry standard designs. Students will be able to work on advertisements, website, and app designs.
6	Course Outcomes	CO 1. Create Graphic Design artworks of your own. CO 2. Explain the functionality of different design related software CO 3. Use learned skills to solve problems of various layouts CO 4. Test own's skill and knowledge for a better workflow CO 5. Select best output and what works for a particular given project CO 6. Develop ideas and various app designs and website pages.
7	Course Description	The increasing possibilities with interactive technology as opened to virtual classrooms for teaching and educating the students. Research has proven that interactive teaching using such visual technologies is much more effective than the traditional methods which help students understand and gain knowledge better. Virtual reality is used in many training scenarios as it consists of a wide range of benefits for academia and industrial needs
8	Outline syllabus	
	Unit 1	Visual Language

		a. Introductory session b. Elements of design, Colour & composition c. Design process	CO1
	Unit 2	Elements of UX	
		a. UX process b. User needs c. Business goals	CO2
	Unit 3	Scope and Structure	
		a. Feature functionality b. Information architecture c. Interaction design	CO3
	Unit 4	Skeleton and Surface	
		a. Navigation design b. Interface design c. Information design	CO4, CO5
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Weathers David. (2021). "UX/UI Design 2021 For Beginners: A Simple Approach to UX/UI Design for Intuitive Designers" (ISBN-13 : 979-8719605470) 2. Branson Steven (June 2020) "UX / UI Design: Introduction Guide To Intuitive Design And User-Friendly Experience" (ISBN-13 : 979-8653877315) 3. Anderson Gail. (2016). "The Typography Idea Book: Inspiration from 50 Masters" (ISBN10 : 1780678495, ISBN-13 : 978-1780678498) 4. Slade-Brooking Catharine (2016). "Creating a Brand Identity: A Guide for Designers: (Graphic Design Books, Logo Design, Marketing". (ISBN-10 : 1780675623, ISBN-13 : 978-1780675626)	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-		3	1	2	--	2	
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

AEJ 306: Allied Study (Visual Communication)

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: V
1	Course Code	AEJ 306
2	Course Title	Allied Study (Visual Communication)
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	<p>Use industry-standard software to design graphical images</p> <p>Understand the difference between different graphics and image file formats</p> <p>Apply the concepts found within elements and principles of design</p> <p>Incorporate theories and concepts when discussing visual communication</p> <p>Use theory when considering different mediums in visual communication</p> <p>Create a brand identity such as business cards, packaging, and advertising</p> <p>Design logos, especially as related to brand identity</p>
6	Course Outcomes	<p>CO 1. to articulate the role of visual communication within society, and implement the creative process to solve diverse visual communication problems.</p> <p>CO 2. to conceive a visually unified and balanced design using various two and three-dimensional media that communicates a clear message</p> <p>CO 3. to articulate the fundamental elements and principals of formalist design that enable a visual message</p> <p>CO 4. to test own's skill and knowledge for a better workflow</p> <p>CO 5. to select best output and what works for a particular given project</p> <p>CO 6. to Develop ideas and various app designs and website pages.</p>

7	Course Description	This course introduces students to a practice-based, hands-on approach to visual communication design. Students will learn the about vector and raster graphics, how to design with specific audiences in mind, and edit images using some of the most commonly used photo editing software in the visual design industry. Topics also include the elements and principles of design, color theory, visual perception theories, typography, symbols, brand identity, logos, and information design	
8	Outline syllabus	CO Mapping	
	Unit 1	Introduction to Course	
		a. Defining visual communication design, historical development b. Graphic design vs art c. Design thinking, Visual design tools, Image files	CO1
	Unit 2	Elements and Principles of Design	
		a. Color, shape, texture, space, form b. Unity/harmony, balance, hierarchy, scale/proportion, emphasis, similarity, contrast , Design Thoery: Gestalt Principles, Visual perception c. Typography and typographic elements, Historical evolution, Serif vs sans-serif fonts, Legibility vs readability, Use in ads, signs, movie posters, etc	CO2
	Unit 3	Composition	
		a. Focus, Leading lines, Scale/hierarchy, Contrast, Repetition, White space, Rule of thirds b. Creativity vs Innovation, Aesthetics and their evolution,Creative/Design Process,Flow c. Symbolism- Symbols and signs, Psychoanalytical symbols,Metaphor in visual design, Evolution of symbols and metaphor	CO3
	Unit 4	Skeleton and Surface	

		a. Navigation design b. Visual Identity and Branding , Logo Design c. Advertising, Brouchures, prints, posters.	CO4, CO5
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-		3	1	2	--	2	
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

SEMESTER – VI

ART __: Environment, Sustainability & Services -V (HVAC, Vertical & Horizontal Transportation)

School: SUSAP		Batch: 2023-2028	
Program: B.Arch		Academic Year: 2025-26	
Branch:		Semester: VI	
1	Course Code	ART	
2	Course Title	Environment, Sustainability & Services -V (HVAC, Vertical & Horizontal Transportation)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	This course aims at exposing the architecture students to the areas of air conditioning, vertical transportation, and coordination of all services in buildings.	
7	Course Outcomes	<p>CO1 - Discuss the active and passive components of HVAC and their underlying principles.</p> <p>CO2- Explain different types of air conditioning systems. Also, identify the design / execution time considerations specific to each of them.</p> <p>CO3- Apply the knowledge of air conditioning systems in their current design exercise</p> <p>CO4- To develop understanding for vertical transportation system for Low rise and high-rise buildings</p> <p>CO5- Identify the various interventions / innovations to make these systems energy efficient.</p> <p>CO6- To develop understanding for coordination and integration of various building services namely, water supply, electrical, HVAC, Firefighting etc. in architectural design</p>	
8	Course Description	Building services are the systems installed in buildings to make them comfortable, functional, efficient, and safe. Building services include Building control systems. Energy distribution. Energy supply (gas, electricity, and renewable sources such as solar, wind, geothermal and biomass). This course is designed to give architects an overview and introduction to HVAC and Vertical Transportation; and architectural considerations and their coordination with other services and architectural designs.	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction to HVAC	
		1a - Principles of Air conditioning, Humidification & Dehumidification, Evaporative cooling systems of air	CO1

		conditioning, Mechanical ventilation systems, 1b - Refrigeration cycle, Applications of refrigeration Psychometric chart and comfort zone. 1c - Refrigerant Cycle (Vapour Compression System), Types of Air Conditioning Systems, Non centralized air conditioner systems		
	Unit 2	Centralised Air conditioning		
		1a- Centralised air conditioning systems, Various terminologies associated, Selection criteria, design / structural considerations and energy requirements 1b- Components of Central Air conditioning systems, Air distribution system-fans, filters, ductwork, outlets, dampers, HVAC layout of a room showing Air distribution system 1c- Emerging Technologies in HVAC– VRV, VRF, Heat Recovery Systems, etc.	CO2, CO3	
	Unit 3	Vertical & Horizontal Transportation System		
		3a- Fundamentals of lift services System Design. Types, control, arrangements and operation, Building Plans, Drawings and Schematics. Standard space requirements and architectural implications. 3b- Definitions regarding lifts such as average travel lift carrying capacity, rated load, rated speed, RTT etc. Grouping of lifts and design standards of a lift lobby. Design standards from building codes. Details of systems and equipments 3c - Escalators, Trav-o-lators and Conveyor system, its components, arrangements and functioning, space requirements, construction details	CO4, CO5	
	Unit 4	Service Coordination in Architectural Layouts		
		4a- Importance of service coordination with architectural, interior and structural layouts. 4b- Coordination layouts of all services, HVAC, Electrical, Plumbing, Firefighting, Lighting and other miscellaneous services 4c – Drawing references of various scales of projects	CO6	
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
12	Text book/s	1.Prasad, M., “Refrigeration and Air Conditioning”, 2nd Ed., New Age International 2.Arora, C.P., “Refrigeration and Air Conditioning”, Tata McGraw-Hill		

		3.Howell, R.H., Saucer, H.J., and Coad, W.J., “Principles of Heating,Ventilation and Air Conditioning”, ASHRAE 4.ASHRAE Hand Book (Fundamentals), ASHRAE 5.National Building Code 2005 6.Mechanical and Electrical Equipment for Buildings by Walter T. Grondzik, Alison G. Kwok, Benjamin Stein. 7.Basic Refrigeration and Air Conditioning by A. Ananthanarayana.
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	-	3	-		1	-	-	-	1	1
CO2	-	2	2	3	-	-	3	-	1	2	2	1
CO3	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	2	2	3	-	-	3	-	1	2	2	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	-	2	-	3	-	1	-	-	3	1	3	-
Avg	1	2	2	3	-	1	3	-	1	2	2	1

ART : Theory of Architecture

School: SSDAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2025-26	
Branch:		Semester: VI	
1	Course Code	ART	
2	Course Title	Theory of Architecture	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	-To understand the various theories and concepts of design and how -To evolve a conceptual framework for intelligent appreciation of Architecture -To develop a vocabulary for discussing design ideas at a broader level	
6	Course Outcomes	CO1: Comprehend a theoretical framework in architectural thinking since antiquities thus developing sensitivity to link design and theory. CO2: Understand theoretical premises in architectural design thinking. CO3: Learn Theoretical concepts and contextual variations of thoughts through historical eras. CO4: Apply theoretical standpoints in architectural design. CO5: Review the condition of development/status of urbanization CO5: Sensitize to various theoretical positions CO6: Synthesize theoretical approaches in design processes.	
7	Course Description	The course acts as an umbrella of knowledge that will be practically manifested in architectural design problems in the current as well as subsequent semesters.	
8	Outline syllabus		CO Mapping
	Unit 1	Pre Modern	
		1a- Antonio Gaudi; Charles Rennie Mackintosh; Antonio Sant'Elia 1b- Adolf Loos;Auguste Perret; Peter Behrens; 1 - Bruno Taut; Gerrit Reitveld; Tatlin	CO1, CO2, CO3
	Unit 2	Modern	
		2a- Gropius; Mies Van der Rohe 2b- Frank Lloyd Wright; Le Corbusier; 2c- Alvar Aalto; Terragini; Louis Kahn.	CO1, CO2, CO3
	Unit 3	Post Modern	
		3a- Spatial/Deconstruction: Frank O Gehry, Michael	CO1, CO3,

		Graves, Peter Eisenman, Moore, Richard Meier, Robert Venturi, Zaha Hadid, Coop Himmelblau, Richard Rogers, Tadao Ando, Rem Koolhaas, Herzog and de Meuron, Daniel Libeskind. 3b- Historicism: Michael Graves & Robert Venturi, Bernard Tschumi. 3c- Urbanist: Mario Botta, Aldo Rossi, Cesar Pelli.	CO5
	Unit 4	Post Modern	
		4a- Classicists: Arata Isozaki, Michael Graves, Mario Botta. 4b- Revivalists: Louis I Kahn, James Stirling, Charles Gwathmey, Richard Meier. Vernacular: Hasan Fathy. Philosophy: Charles Jencks, Bernard Tschumi, Peter Eisenman, John Hejduk. 4c- Critical Regionalism: Charles Correa, B.V Doshi, Tadao. Materialist: Peter Zumthor.	CO1, CO3, CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
11	Other Reference	1. Pattern language-Christopher Alexander 2. The language of post Modern architecture –Charles Jencks 3. K. Michael Hays, “Architecture Theory since 1968” 4. Kenneth Frampton, “Modern Architecture; A Critical History” by, Tames and Hudson 5. Colin Davies, “Thinking about Architecture and Introduction to Architectural Theory” 6. Robert Venturi, “Complexity and Contradiction in Architecture” 7. Le Corbusier, “Towards a New Architecture” 8. Charles Jencks, “The language of Post Modern Architecture”. 9. Willam Jr.Curtis, “Modern Architecture since 1900”, Phaidol 10. Aldo Rossi, “ The Architecture of City” 11. Robert Venturi, “ Learning from Las Vegas” 12. M. Reza Shirazi, “Towards an Articulated Phenomenological Interpretation of Architecture: Phenomenal Phenomenology	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	2	2	1	1	-	2	-	-	1	-	1

ART : Housing

School: SSDAP		Batch : 2023-28	
Program: B. Arch		Academic Year: 2025-26	
Branch: Architecture		Semester: VI	
1	Course Code	ART	
2	Course Title	Housing	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	Historically, human settlement has been the manifestation of socio-cultural, economical and environmental understanding. Designs of Adobe and habitat has been characterized and practiced by people presents huge variety mainly responding to the contextual setting that strive to achieve comfort conditions within a prevailing challenges. Growing urbanization, scarcity of land and housing shortage for poor, has imposing challenges whereas, new technology, concepts, and capacity of real estate sector for mass housing production providing opportunities. This is quite important that, budding architects should understand challenges and opportunities of housing development.	
6	Course Outcomes	CO1: To define basic elements of housing, neighbourhood, community, slums and real estate market. CO2: To outline various housing policies and programmes CO3: To explain inter-relationships between hierarchy of human needs and housing typologies or differentiate settlement design in terms of local context CO4: To Apply zoning regulations and sub-division techniques and computation for density, FAR, built-up area, MOS, as per development norms. CO5: To Understand physical, legal, socio-economic, cultural and environmental conditions. CO6: To prepare suitable design of a neighbourhood under given context	
7	Course Description	The course Housing acts as bridge between architecture and urban planning thus will require inter-linkages with planning aspects, housing policies, development regulations, site planning, urban design and infrastructural service designs at neighbourhood levels.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction& Terminology Housing Need and Demand in India	
	a	Present and Future. House, Housing and Settlement.	CO1, CO2
	b	Detached and Attached House Types.	
	c	Net & Gross Residential Density, Zoning.	
	Unit 2	Objectives of Housing Agencies	
	a	Objectives and role of government, urban local bodies and other agencies in housing development	CO3
	b	NSSO, HUDCO, State Housing Board, NBO, National Housing Bank (NHB).	

	c	Factors of housing demand and supply		
	Unit 3	Policies and Programmes		
	a	Housing Problems and Housing Shortages		CO4, CO5
	b	Obstacles to progress of Housing in developing countries.		
	c	Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Rajiv Awas Yojana (RAY), Basic Services for the Urban Poor (BSUP), Integrated Housing & Slum Development Programme (IHSDP), and Site & Services Scheme.		
	Unit 4	Housing Design		
	a	Housing surveys: Definition, need and objectives, planning of a housing survey: type of surveys, drafting a questionnaire.		CO6
	b	Housing layout: organization of space, access roads, parking, pedestrian movement in housing areas.		
	c	Neighbourhood and neighborhood planning.		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
11	References	1. Bennett L. Hecht (1990, “Developing Affordable Housing: A Practical Guide for Nonprofit Organizations” (Wiley Nonprofit Law, Finance and Management Series) 2. Thomas Sowell (2009), “The Housing Boom and Bust” 3. Sam Davis (1995), “The Architecture of Affordable Housing” 4. Barbara Miller Lane (2009), “Housing and Dwelling: Perspectives on Modern Domestic Architecture” 5. Barbara Miller Lane (2006), “Housing and Dwelling: Perspectives on Modern Domestic Architecture” 6. Affordable Housing and Public Policy: Strategies for Metropolitan Chicago (Assembly Book); Lawrence B. Joseph (Editor)		

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	-	1	-	3	1	-	3	3	3	1
CO2	-	-	-	3	-	3	3	3	3	3	3	2
CO3	-	1	2	3	-	1	3	-	3	3	-	2
CO4	1	1	1	3	-	2	3	-	3	3	-	3
CO5	3	3	3	-	2	-	3	1	3	3	-	3
CO6	2	2	2	3	2	2	3	3	3	3	3	2
Avg	2	2	2	3	2	2	3	3	3	3	3	2

ARJ : Architectural Design –VI

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: VI
1	Course Code	ARJ
2	Course Title	Architectural Design VI
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
	Course Status	Compulsory
5	Course Objective	1.The aim of the studio is to introduce students to design with focus on building services and functionality. 2.To develop sensitivity to building by laws. 3.To understand varied structural building systems. 4.Exploring and designing systems involving complex services for different requirements
6	Course Outcomes	CO1: To Develop an understanding of the Modular construction and related issues CO2: To Integrate details of bye laws and building regulations for creation of practical design CO3: To Apply the knowledge the services required for the building in the design project. CO4: To Design project using sustainable design strategies and detailing the building structural techniques, CO5: To Demonstrate advanced skills of drawings and representation with modern tool usage. CO6: To Develop an illustrative architectural portfolio
7	Course Description	The project would involve the study of complex projects with intricate building services- Hospital/ Hotel/Convention Centre etc. <ul style="list-style-type: none"> • Integration of Design ideas with structural feasibility. • The project would involve case studies and analysis, site study and analysis. • Concept evolution, preparation of design requirements, area requirements, interrelation and circulation patterns. sensitivity towards horizontal as well as vertical circulation requirements in a multi-storeyed building. • Detailing of services to cater to the requirements • Developing plans, sections and elevations, perspectives and sketches to be included in all key submissions for the development of communication skills. • Detailed models to be generated with key submissions to communicate details of parking, landscaping and elevation features

8	Outline syllabus		CO Mapping
	Unit 1	Design Problem	
		a. Introduction to Project b. Form and material based investigation c. Understanding spatial aspects based on activity, space, form and human scale.	CO1
	Unit 2	Literature & Case Study	
		a. Pre design study-Case study b. Pre design study -Literature Study, Site Analysis. c. Functional standards.	CO2, CO5
	Unit 3	Concept Development	
		a. Concept formulation and idea investigation b. Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns c. Concept Formulation, Bubble Diagram and activity zoning.	CO1, CO3
	Unit 4	Design Development	
		a. Design development- site development b. Design development- floor Plans c. Design development- sections and elevations	CO3, CO4
	Unit 5	Design Presentation	
		a. Design sheets presentation. b. Model making on appropriate scale c. Final portfolio submission	CO2, CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	-	-	3	-	2	1	-	2
CO2	3	-	-	3	-	-	3	3	-	-	3	3
CO3	3	3	3	3	3	-	-	-	3	-	-	3
CO4	2	3	1	3	3	1	-	-	3	3	-	3
CO5	3	-	3	-	3	-	-	-	3	3	-	3

CO6	2	-	2	-	3	-	-	3	-	3	2	3
Avg	3	3	2	3	3	1	3	3	3	3	2	3

ARJ : Construction Material & Methods-VI

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: VI
1	Course Code	ARJ
2	Course Title	Construction Material & Methods-VI
3	Credits	4
4	Contact Hours (L-P-S)	0-0-4
	Course Status	Compulsory
5	Course Objective	<p>1.To make students understand the composite materials, curtain walling and structural glazing systems used in facade.</p> <p>2.To familiarize the students with different conventional wall and floor finishes. The students are introduced to Gypsum, it's various component and jointing details.</p> <p>3.To help them understand the methods of wet and dry cladding in different material.</p> <p>4.To introduce students with different types of false ceilings, gypsum false ceilings, it's construction details and incorporation of services.</p> <p>5.The students are taught about the internal partition details.</p> <p>6.To cultivate personal observation and self learning in the students, site visits should be conducted so as to cover the given syllabus.</p>
6	Course Outcomes	<p>CO1:To Understand and comprehend the facade systems including composite, cladding materials and glazing systems.</p> <p>CO2:To Illustrate the construction of interior finishes, flooring, wall and false ceiling,interior partitioning and furniture details.</p> <p>CO3: To Apply all related details concerned with the material in the components studied.</p> <p>CO4:To help students observe measure, sketch and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation.</p> <p>CO5:To cultivate personal observation and self learning in the students, site visits should be conducted so as to cover the given syllabus.</p> <p>CO6:To familiarize students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.</p>
7	Course Description	<p>This Construction Studio is designed to study the Internal floor and wall finishes of wet and dry cladding systems. The students are introduced to the use of gypsum as a product used in false ceilings and internal partitions apart from other conventional materials.The students are taught the curtain walling systems and structural glazings, characteristics of glass as a building material.</p> <p>The students will also study the constructional details of furniture and new composite materials. The students are encouraged to conduct a market research of new materials in design and construction.</p>

8	Outline syllabus		CO Mapping
	Unit 1	Curtain walling/ structural glazing	
	A	Curtain walling- Conventional Stick System, Semi unitized system, Unitized system, etc	CO1, CO2
	B	Structural glazing both on walls and roofs/ Site Exposure	
	C	Introduction- Glass as a building material, types & its applications, factors defining performance & selection of Glass	
	Unit 2	Wall and Floor Finishes	
	A	Floor & Floor Finishes Brick, Cement Concrete, Stone, Terrazzo, Chequered Tile, Ceramic Tile, Vitrified Tiles, Wooden.	CO2,CO3
	B	Wall finishes- Gypsum Plaster, Components and Accessories, Jointing and Finishing. Paints and Plaster	
	C	Materials and Details of Cladding -wet and dry in different materials, market research	
	Unit 3	False Ceilings	
	A	Introduction to different types of False ceilings and their materials.	CO3,CO6
	B	Gypsum Products Introduction - Gypsum Board, Suspended Ceiling (Board & Tiles).	
	C	Construction details of different false ceilings	
	Unit 4	Internal Partitions	
	A	Construction details of Metal Partition	CO4,CO5
	B	Construction details of Wooden Partition	
	C	Construction details of Glass Partition	
	Unit 5	Composite materials	
	A	Definition and Introduction to composite materials	CO5,CO6
	B	Application of Composite Material	
	C	Advantages & disadvantages of the composite materials	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	-
CO2	-	1	3	-	2	-	1	-	-	1	-	1
CO3	2	-	-	-	-	-	-	1	-	-	-	-
CO4	-	3	-	1	-	-	2	-	-	-	-	2
CO5	-	-	-	-	-	1	3	-	-	-	-	1
CO6	2	-	3	3	3	2	-	2	-	3	1	2
Avg	2	1	3	2	2	1	2	1	-	2	1	1

ARJ : Digital Design Fabrication-VI

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: VI
1	Course Code	ARJ
2	Course Title	Digital Design Fabrication-VI
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is:</p> <p>Building Information Modeling (BIM) is fundamentally changing the nature of the building profession. Current BIM technology, such as Autodesk Revit is quickly establishing itself as a new standard for architectural practice. As professionals and students eagerly acquire the skills necessary for using BIM in practice, it is critical to understand these new tools in the context of a rapidly evolving practice.</p> <p>This course aims to provide a context for learning so that new technology is not taught in isolation. As students of the digital age, rapidly adapting to new and often radical forms of communication and expression is a way of life. Learning software is a matter of technological literacy, and it demands that one evolve just as rapidly.</p>
7	Course Outcomes	<p>CO1: Develop Understanding of a parametric building information model (“BIM” = a 3d object-oriented model of a building where each component has “intelligent” behaviors and embedded data) and extract data. This approach facilitates the creation of construction documents (plans, elevations etc.), material takeoffs and building schedules as well as performance (e.g. building energy) analysis.</p> <p>CO2: Comprehends & Create CAD/BIM-based tools to solve technical issues (fabrication, energy efficiency, lighting, structural etc.) during the planning process.</p> <p>CO3: Demonstrate BIM based Project Design.</p> <p>CO4: Create BIM project and documentation.</p> <p>CO5: Evaluates on understanding of BIM project</p> <p>CO6: Apply techniques for quicker methods and presentation skills through BIM</p>
8	Course Description	<p>The entire course of Digital Design Fabrication that is taught in the almost 8 semesters is a logically laid out curriculum which aims at one aspect of the knowledge of digital tools in each semester.</p> <p>This course introduces students to Building Information Modeling through the use of Autodesk Revit. Students will learn the fundamentals of working in Revit by developing a project, using both 3D parametric modeling and the 2D documentation skills essential to communicating ideas effectively in professional practice.</p>

9	Outline syllabus		CO Mapping
	Unit 1	Introduction to BIM and BIM tools	
		1a - Introduction to Autodesk Revit 1b - Introduction to BIM, Scope, Challenges and Opportunities 1c - Drawing Tools, Basic Walls, Doors and windows	CO1, CO2
	Unit 2	Design development process in BIM & Tools of parametric design	
		2a - Wall Finishes, Components, Material & Texturing 2b - Working with Floor and Slabs with finishes 2c - Working with Roof and Roof Types	CO1, CO2
	Unit 3	Building modeling using BIM tools	
		3a - Stairs and Railings 3b - Complex walls with finishes-1 3c - Complex walls with finishes-2	CO2, CO3
	Unit 4	Scheduling and detailing with BIM	
		4a - 3D Views, Section and elevations 4b - 3D Texturing and Materials 4c - 3D Components & 3D massing	CO3, CO4
	Unit 5	Methods, Techniques and implementation	
		5a - Sheets & layout 5b - Plot settings 5c - Final Project.	CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Mastering Autodesk Revit, by Eddy Krygiel, Lance Kirby, and Marcus Kim 2. Residential Design Using Autodesk Revit 2020, by Daniel John Stine 3. Design Integration Using Autodesk Revit 2021 4. Building Information Modeling, by Karen M. Kensek	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	2	-	3	-	-	-	1	2	-	3
CO2	2	-	2	-	3	-	-	-	1	2	-	3
CO3	2	-	2	-	3	-	-	-	2	2	-	3
CO4	2	-	2	-	3	-	-	-	2	3	-	3
CO5	2	-	2	-	3	-	-	-	2	3	-	3
CO6	2	-	2	-	3	-	-	-	2	3	-	3
Avg	2	-	2	-	3	-	-	-	2	3	-	3

ARJ : Working Drawing – I

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch: Architecture		Semester: VI	
1	Course Code	ARJ	
2	Course Title	Working Drawing - I	
3	Credits	3	
4	Contact Hours (L-P-S)	0-0-3	
	Course Status	Compulsory	
5	Course Objective	1. To familiarize the students with the local building bye- laws. 2. To familiarize the students to the methods and components of submission / municipal drawings based on the local bye-laws. 3. To familiarize the students to the language of representation of working drawings and the methodology of preparing drawings.	
6	Course Outcomes	After completion of this course student should have: CO1: To recognise the need and relevance of building bye-law and to apply them in the building design. CO2: To understand the methodology of presentation and representation in working drawings. CO3: To prepare detailed dimensioned working drawings of the building. CO4: To understand various footing types and footing details CO5: To produce a comprehensive and well designed and detailed-out set of working drawings CO6: To understand execution of the building project.	
7	Course Description	The module introduces the students to the local bye-laws, their needs and interpretation and application in design including making submission/municipal drawings. The students are taught how to generate a well detailed-out set of working drawings of the building project including site plan, floor plans, elevations, sections.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction to Bye-Laws	
		1a- Introduction to local building bye-laws, its need, relevance, interpretations and application in the design. 1b- General requirements. 1c- Other requirements	CO1
	Unit 2	Working Drawings	

		2a- Incorporating Bye Laws in presentation drawing. 2b- Preparation of presentation drawing with furniture layout 2c- Introduction to working drawings there methodology of dimensioning and how to prepare comprehensive working drawings	CO1, CO2, CO4
	Unit 3	Floor plans, Setting out plans / Centre lines plans	
		3a- Setting Out Plan and Centre Line Plan 3b- Floor plans 3c- Terrace Plan/Mumty level Plan	CO3
	Unit 4	Elevations and Sections	
		4a- Elevations 4b- Sections 4c- Skin/ Facade sections and details.	CO3, CO4
	Unit 5	Preparation of Municipal Drawings	
		5a- Contents of Municipal drawing 5b- Plans, Elevation, Sections etc. in 1: 100 scale 5c- Area calculation	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Other References	1. National Building Code (NBC) 2. Model Building Bye Laws	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	3	3	3	-	3	3	3	2	-	3
CO2	-	-	3	-	3	-	-	-	3	3	-	2
CO3	-	-	-	-	3	-	-	-	3	3	-	3
CO4	3	1	-	-	3	-	-	-	3	3	-	3
CO5	3	-	3	3	3	-	3	-	3	3	-	3
CO6	3	-	3	-	3	-	-	-	-	3	-	3
Avg	3	2	3	3	3	-	3	3	3	3	-	3

AEJ____: Sustainable Design (RBL-I)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2024-25	
Branch:		Semester: VI	
1	Course Code	AEJ____	
2	Course Title	Sustainable Design (RBL-I)	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
5	Course Status	Professional Elective	
6	Course Objective	The program offers a comprehensive learning and problem-solving forum for those who want to apply sustainable concepts in their building project designs.	
7	Course Outcomes	<p>CO1: To identify and define the basics of Sustainability</p> <p>CO2: To classify and define various concepts in sustainable design.</p> <p>CO3: To describe and understand various strategies and technologies used in sustainable design.</p> <p>CO4: To analyse the traditional and contemporary examples of sustainable design.</p> <p>CO5: To compare and evaluate an existing project on the basis of elements of sustainable design.</p> <p>CO6: To apply the knowledge of elements of sustainability and rating system in designing a built form.</p>	
8	Course Description	This course is primarily concerned with learning the rudiments of sustainable development in architecture. It will equip the students with knowledge to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space and the ecosystem at large. Furthermore, it will expose students the to the processes and considerations involved in undertaking an energy management and analysis of buildings.	
9	Outline Syllabus		CO Mapping
	Unit 1	Introduction and Concepts of Sustainable Architecture	
		1. Sustainability and its various dimensions (economic, social and ecological); Sustainable development goals of UN 2. Sustainable development of built environment; Global Warming and Climate Change 3. Concepts in sustainable architecture- sustainable buildings, green buildings, climate-responsive buildings, ecological buildings.	CO1, CO2
	Unit 2	Elements of Sustainable Architecture-I	

		<p>1. Sustainable Sites: Site Specific Design; Development Density and Community Connectivity, Alternative Transportation, Site Development, Storm water Design and Heat Island Effect.</p> <p>2. Water Efficiency: Innovative Wastewater Treatment and Reuse and Water Use Reduction and Re-use factors.</p> <p>3. Energy and Atmosphere: Optimization of Energy Performance, On-site Renewable Energy, Enhanced Commissioning and Green Power. To apply the principles of Solar Passive Architecture to design of buildings</p>	CO3
	Unit 3	Elements of Sustainable Architecture-II	
		<p>1. Materials and Resources: Building Reuse: Maintain Existing Walls, Floors, and Roof, Construction Waste Management, Materials Reuse, Recycled Content, Regional Materials and Certified Wood.</p> <p>2. Indoor Environmental Quality: Construction Indoor Air Quality Management Plan and Daylight and Views</p> <p>3. Regional Priority: To provide incentive for project teams to address geographically significant environmental local issues. Introduction to passive techniques of cooling such as evaporative cooling, earth tubing, wind scoops, roof ponds, shaded courtyards etc.</p>	CO3
	Unit 4	Review and Design of a Sustainable Project	
		<p>1. Examples of sustainable architecture- traditional and contemporary</p> <p>2. Review of a design project considering various factors of green building design</p> <p>3. Design of a small building with an objective to integrate elements of green design.</p>	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	<ul style="list-style-type: none"> National Building Code Energy Conservation Building Code CPWD Sustainability Handbook TERI Sustainable building manual 	
13	Other References	<p>1. Leon Glicksman, and Andrew Scott. <i>4.183 Sustainable Design anFstrcd Technology Research Workshop</i>. Spring 2004. Massachusetts Institute of Technology: MIT OpenCourseWare, https://ocw.mit.edu. License: Creative Commons BY-NC-SA.</p> <p>2. A.H. Hu, M. Matsumoto, T.C. Kuo, S. Smith (2019) <i>Technologies and Eco-innovation towards Sustainability II: Ecodesign Assessment and Management</i>, Springer, Singapore</p>	

		3.The Energy Research Institute https://www.teriin.org/ 4.Centre for Science and Environment https://www.cseindia.org/ 5.EPA Web site for Sustainable Development 6.IGBC https://igbc.in/igbc/ 7.Griha India https://www.grihaindia.org/#&home 8.Sustainability assessment methodologies https://www.oecd.org/greengrowth/39925248.pdf 9. Bringing Life to IDEAS https://cpdm.iisc.ac.in/cpdm/ideaslab/sustainability.php 10. Auroville Earth Institute http://www.earth-auroville.com/sustainable_development_en.php 11. Building Material and Technology Promotion Council http://mohua.gov.in/cms/BMTPC.php Development Alternatives https://www.devalt.org/
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CO- PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	3	-	3	1	-	3	-	-	-	-	1
CO6	-	-	3	2	-	-	3	1	2	-	2	-
Avg	3	2	3	2	1	3	3	1	2	-	2	2

AEJ___ : Urban Element Design (RBL-I)

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2025-26
Branch:		Semester: VI
1	Course Code	AEJ
2	Course Title	Urban Element Design (RBL-I)
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	The course offers a comprehensive learning using an international, interdisciplinary, and intersectional approach, this course will examine the practice and process of creative urban element design. .
6	Course Outcomes	Students will be able to: CO1: Understand the urban elements. CO2: Create awareness on the significance of Urban Elements CO3: Develop a basic understanding of the physical components of the urban environment and landscape. CO4: Develop a basic understanding of how to represent urban elements in two and three- dimensions. CO5: Engage in basic exercises that analyze conditions towards proposing transformation and change. CO6: Design , and present a proposal for a project that communicates effectively and aesthetically.
7	Course Description	This course is aimed at exposing graduate students to the foundational ideas and basic skills of designing urban elements. Specifically, this course will overview various graphic means of representing a designed landscape and/or place. Finally, this course will engage students in design exercises involving strategic thinking on physical interventions through design of urban elements.
8	Outline syllabus	CO Mapping
	Unit 1	Introduction

		a) Introduction to course b) Key Definitions and Concepts c) Street Furniture & Hardware	CO1, CO2
	Unit 2	Case Study	
		a) National Case Study b) International Case Study c) Synthesis & Inference.	CO3
	Unit 3	Site Selection & Study	
		a) Site Selection & Reason b) Site Study & Survey c) Existing Conditions on Scale	CO4
	Unit 4	Design Proposal	
		a) Site Plan & Relevant Drawings b) 3D representation of proposal a) Narrative on the main idea of proposal,.	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Street Furniture, Chris van Uffelen 2. Urban Street Design Guide 3. Street Furniture, C. Broto	
12	Other References	1. https://www.metamorphosisproject.eu/sites/default/files/downloads/Urban_Street_Design_Guide_NACTO.pdf	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-	-	3	1	2	-	2	-
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

AEJ – Interior Design

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2025-26	
Branch:		Semester: VI	
1	Course Code	AEJ	
2	Course Title	Interior Design	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	To understand and analyze elements, principles, space, and human relationship with interior design of spaces along its application into a practical project of small scale with integrated services.	
6	Course Outcomes	<p>CO1: Students should be able to Identify the appropriate skills of interior Design and its history.</p> <p>CO2: Students should be able to understand and apply concepts of composition and basic principles of design, principles of colour and texture in interior design.</p> <p>CO3: The students should be able to understand and analyze the material availability and application for different projects.</p> <p>CO4: The student should be able to comprehend the skills and knowledge from different case studies.</p> <p>CO5: The student should be able to comprehend and Design effectively through documentation, graphical and verbal presentations.</p> <p>CO6: The student should be able to create a project considering all the practical aspects of interior design.</p>	
7	Course Description	The studio is designed to familiarize students with the complexities and constraints in the design and execution of architectural interiors.	
8	Outline syllabus		CO Mapping
	Unit 1	Theory of Interiors	
		a) Interior design with historic reference, timeline (Global History as well as the Indian Context) b) Evolution in interiors. (Global History as	CO1

		well as the Indian Context) c) Introduction on features & elements of Interior design.	
	Unit 2	Concept of Interior Designing	
		a) Principles of Interior design analyse the aesthetic and functionality of a design. b) Role and application of lighting in Interiors c) Role and principal of colours in Interior design	CO2
	Unit 3	Role of Materials & Case Studies	
		a) Market Survey of the various flooring material , Cost, specifications & application b) Market Survey of the various wall & ceiling material , Cost, specifications & application c) Case study of different typology and scale of buildings (Restaurant, Residence & Office)	CO3, CO4
	Unit 4	Application of learning by designing	
		a) Preparing interior layouts according to learned principals b) Judging the Interior design according to Art principles c) Presentation of Interior layouts	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. "Interior Design", Ahmed Kasu, Om Books, 2005 2. "Time Saver Standards for Interior design and space planning", De Chiara, Panero & Zelnik, McGraw-Hill, 1991 3. "Interior Architecture" John Kurtich & Garret Eakin, Wiley, 1st Edition, 1995 4. "Interior Spaces", Hans Diter Schaal, Wiley, 1995 5. "International Interiors", Lucy Bullivant, Laurence King Publishing, 1993	
12	Other References	1. The Psychology Of Interior Design, Tapanwita Saha,	

		<p>2021</p> <p>2. The Interior Design Reference & Specification Book, Chris Grimley, 2018</p> <p>3. Branding Interior Design: Visibilty and Business Strategy for Interior Designers, Kuhteubl Kim, 2021</p>
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CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3		2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

ARJ: Barrier Free Architecture

School: SSDAP		Batch: 2023-2028	
Program: B.Arch		Academic Year: 2025-26	
Branch:		Semester: VI	
1	Course Code	ARJ	
2	Course Title	Barrier Free Architecture	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
5	Course Status	Professional Elective	
6	Course Objective	<ol style="list-style-type: none"> 1. To sensitize the students to universal accessibility and its implication on built environment. 2. To promote study of a wide variety of examples that teaches them to appreciate architecture as an outcome of various social and economic values of society. 3. To identify and promote adoption of barrier free architecture in contemporary architecture and conserve the untapped values and principles in the evolution of new theories for architectural creations. 	
7	Course Outcomes	<p>CO1: Identify and learn about the barriers in built environment and highlight the need for barrier free architecture.</p> <p>CO2: Discuss the various ways of barrier free application in contemporary buildings.</p> <p>CO3: Interpret & discuss the planning and design aspects, materials used in construction and the details in barrier free architecture.</p> <p>CO4: Describe the barrier free building design practices adopted in countries abroad.</p> <p>CO5: Design and demonstrate barrier free requirements in public spaces and buildings.</p> <p>CO6: Identify and analyses the issue facing during design.</p>	
8	Course Description	<p>Barrier free architecture has a basic premise that persons with disabilities and elderly should have equal access to all services and facilities in all public buildings and buildings open for general public like Restaurants, hospitals, offices, airports, entertainments facilities, library, etc. It addresses the need for Safety, Dignity and Independence of individuals. The course provides insights into architectural form and typology, the building design, the relationship between built spaces and activity of the differently-abled groups.</p>	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction to Barrier Free Architecture.	
		1a. Introduction to course and topic	CO1

		1b. Sensitizing to disabilities 1c. Study of examples of barriers in built spaces and various typologies of buildings	
	Unit 2	Anthropometry and Mobility devices	
		2a. Various mobility devices and their measurements 2b. Use of spaces and functioning of mobility devices in spaces. 2c. Sample design of a public space	CO1,CO2, CO3
	Unit 3	Site Planning and Signage	
		3a. External parking, pavements and street furniture design 3b. Signage in exteriors and buildings, Fire evacuation needs 3c. International practices	CO4,CO5
	Unit 4	Special feature design	
		4a. Controls and miscellaneous items 4b. Level changes and Ramps 4c. Design of Toilets for the differently abled	CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s	Harmonized guidelines and space standards for barrier free built environment for persons with disability and elderly persons, Government of India, Ministry of Urban development, February 2016.	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	-	-	2	-	-	-	-	1	-	1
CO2	3	-	-	-	-	-	2	1	1	1	-	1
CO3	2	3	-	-	-	-	-	2	1	-	-	1
CO4	-	2	3	-	-	-	2	-	1	-	-	1
CO5	2	1	3	-	-	-	3	-	1	-	-	1
CO6	-	3	2	-	2	-	-	-	-	-	-	-
Avg	2	2	2	-	2	-	2	1	1	1	-	1

Semester VII

ART___: Urban Design

School: SUSAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	ART	
2	Course Title	Urban Design	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	-To understand the basic elements, principles, and techniques of urban design. -To understand the broader aspects and issues that bear upon the conception and built environment and public spaces at urban level -To understand the transition of the private space into the public realm and its articulation, determining the overall volume of built space and its form require an understanding of the complex urban fabric.	
7	Course Outcomes	CO1: To Interpret relationship between the building and city CO2: To map the dimensions of urban space CO3: To synthesize complex urban issues CO4: To resolve the interface between the building and urban space CO5: To respond to urban design of built form context. CO6: To choose the principles of urban design for a context.	
8	Course Description	The overall goal of the course is to help students formulate an understanding of the urban forms and spaces. City history and theory will be examined. The contemporary needs of the society and the role of spaces will be dealt along with the need for design control.	
9	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		1a. Emergence of urban design as a discipline 1b. Definitions and its ambiguities. 1c. Scope of urban design and its relationship with architecture and planning:	CO1,CO2
	Unit 2	Urban Space Study	
		2a. Historical examples of urban space. 2b. Contemporary example of urban space. 2c. Indian cases, particularly towns on bazars & streets.	CO3
	Unit 3	Urban design Parameters	

		3a. Space and place, Urban morphology 3b. Urban form and structure, fabric, texture, grain, 3c. Enclosure, human scale, complexity, etc.	CO4
	Unit 4	Basic Principles and Theories of Urban Design	
		4a.Theories related to visual or perception aspect (Gorden Cullen) 4b. Theories related to physical aspect (Kevin lynch) 4c. Theories related to social aspect (Jane Jacob)	CO5, CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA	MTE
		25%	25%
			50%
11	References	1. A.E.J. Morris, History of Urban Form before the Industrial Revolution, Prentice Hall 1996 2. Edmund Bacon, Design of Cities , Penguin, 1976 3. Gordon Cullen, The Concise Townscape, The Architectural Press, 1978 4. Kevin Lynch, Image of the City, MIT Press 1960. 5. Christian Norberg Schulz- Towards a Phenomenology of Architecture, Rizzoli New York, 1980 6. Jonathan Barnett, An Introduction to Urban Design 7. Gosling and Maitland, Urban Design, St. Martin's Press, 1984 8. William J. Mitchell, City of Bits: Space, Place and the infobahn, MIT Press, 1996. 9. Charles Correa, Housing and Urbanisation, Thames and Hudson, 1999 10. Donald Appleyard, Kevin Lynch, John R. Myer, The View from the Road, MIT Press 1965 11. Peter Calthorpe, The Next American Metropolis, Princeton Architectural Press, 1993 12. Thomas A, Horan, Digital Places: Building our city of bits, Urban Land Institute, 2000 13. Tridib Banerjee, Anastasia Loukaitou- Sideris, Companion to Urban Design, Routledge 2014 14: Design of cities Bacon, By Edmund. Publisher N Thames and Hudson Ltd. London. 15: Emerging Concepts in Urban Space Design By Broadbent. G . Publisher Van Nostrand Reihnhold N Y	

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11	PO 12
CO1	2	2	-	2	-	-	-	-	-	2	-	-
CO2	-	-	3	-	-	-	-	-	-	2	-	-
CO3	-	-	3	-	-	-	2	-	-	2	-	-
CO4	-	-	-	-	2	3	-	-	-	2	-	2
CO5	-	-	3	2	-	-	-	-	-	2	-	-

CO6	-	-	3	2	-	-	-	-	-	2	-	-
Avg	2	2	3	2	2	3	2	-	-	2	-	2

ART __ : Environment , Sustainability & Services -VI (Acoustics, Communication Systems, Renewable Energy and Intelligent services)

School: SUSAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	ART	
2	Course Title	Environment , Sustainability & Services -VI (Acoustics, Communication Systems, Renewable Energy and Intelligent services)	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Compulsory	
6	Course Objective	To expose the students to the concept of sound, its propagations and ways of handling various magnitude of projects wherein treatment of sound is utmost importance.	
7	Course Outcomes	<p>CO1-To explain different phenomena and principles related to sound propagation and their implications on building design.</p> <p>CO2- To summarize the common acoustical defects in various types of architectural projects and the ways to avoid / correct them.</p> <p>CO3- To describe the different types of noise, their transmission, and the measures to isolate / control them.</p> <p>CO4- To develop understanding for domestic gas piping system for Low rise and high-rise buildings</p> <p>CO5-To explain the concept of renewable energy systems and elaborate on its various technologies</p> <p>CO6-To elaborate the concept, working and application of building automation system</p>	
8	Course Description	This course aims at exposing the architecture students to acoustics and measures that can be employed to improve the acoustics of the indoor as well as the outdoor spaces. It also gives information about incorporation of Gas pipeline, renewable energy and building automation.	
9	Outline syllabus		CO Mapping
	Unit 1	Acoustics -I	
		<p>1a - Basic introduction of Acoustics, Origin of sound, propagation of sound, Behavior of sound. Inverse square law. Reverberation of sound,</p> <p>1b- Sabins formula and reverberation time calculations. Acoustical defects & their remedies. Noise (Structural Borne noise & Air borne noise).</p> <p>1c- Use of Various Acoustic Calculating instruments to achieve RT with applied material. (For ex. Sound intensity Calibrator, Impedance tube, RT analyser or</p>	CO1, CO2

		RT analysis application etc.)	
	Unit 2	Acoustics -II	
		2a- Acoustical materials, Surface treatment, Sound absorbing materials & their properties. 2b- Constructional and planning measures for good acoustical design of building in general, Acoustical treatment of Auditorium / Lecture Halls / Conference hall / Recording Studio / Broadcasting Studio 2c- Sound Isolation & Insulation. Construction Details and material application for sound isolations of floor, wall and ceilings. For ex. Floating Floors. Study of sound reinforcement systems.	CO3
	Unit 3	Gas Piping, Communication systems	
		3a- A brief study of Centralized Domestic Gas Piping system, Introductionfunction, utility and its importance, Working principles and its application, merits and demerits. Design of various building elements and their location criteria to anchor the services such as walls, Floor and their features, ceiling, Shafts or ducts, tranches, chambers etc. 3b- Communication systems in buildings, Video conferencing, Security and Surveillance system, Computer networks. Trenches and conduits to accommodate the systems 3c- Systems of DTH, Introduction, Its classification with respect to Single and multi user. DTH layout and its Architectural implications.	CO4
	Unit 4	Renewable energy systems & Building automation	
		4a- Renewable energy systems -Solar Energy - Solar panels, Photovoltaic cells, Conversion of solar energy into electricity Advantages and disadvantages of solar energy, Active solar heating, Passive solar heating, Passive cooling techniques in buildings, Status of solar energy in India. Wind Energy - Conversion of wind energy into electricity, Uses of wind energy, Status of wind energy in India. Modern/Futuristic technologies in RE 4b- Building automation and control and Best management practices- Fundamentals of control systems, Types of control systems, The impact of automation, Application and components of building automation systems 4c- Case studies, market surveys and design drawings	CO5,CO6
10	Mode of examination	Theory	
11	Weightage	CA	MTE ETE

	Distribution	25%	25%	50%	
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1	1	-	2	3	-	3	1	-	-	3	-	-
CO2	1	-	2	3	-	3	1	-	-	3	-	1
CO3	1	-	2	3	-	3	1	-	-	3	-	1
CO4	1	-	2	3	-	3	1	-	-	3	-	1
CO5	1	1	2	3	-	3	1	-	-	3	1	1
CO6	1	1	2	3	-	3	1	-	-	3	1	1
Avg	1	1	2	3	-	3	1	-	-	3	1	1

ARJ - Architectural Design –VII

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	ARJ	
2	Course Title	Architectural Design-VII	
3	Credits	8	
4	Contact Hours (L-T-P)	0-0-8	
	Course Status	Compulsory	
5	Course Objective	1.The aim of the studio is to introduce students to High Density Development, Preferably High-Density Housing 2.Exploring and designing systems involving complex services for different requirements 3.To develop sensitivity to building for large crowds 4.To develop sensitivity to building by laws.	
6	Course Outcomes	CO1: To make use of the knowledge of modern tools for design thinking process CO2: To apply the knowledge of design fundamentals through scripting in their design process CO3: To Assess multiple options of designs to the learning process CO4: To Adapt latest trends in architecture and their application CO5: To Demonstrate advanced skills of drawings and representation with modern tool usage CO6: To Develop an illustrative architectural portfolio	
7	Course Description	Looking at the immediate built environment and understanding its fundamental components and their impact on the surroundings. The studio deals with the study of built form and its relationship to the site, surroundings, and climatic setting. Design proposals to address sensitivity to people, climatic and physical settings. The design problem would induce students to experiment with built and open spaces.	
8	Outline syllabus		CO Achievement
	Unit 1	Minor Project	
		1a: Introduction to Minor project 1b: Form and material-based investigation 1c: Understanding spatial aspects based on activity, space, form and human scale.	CO1, CO2
	Unit 2	Minor Project- finalization	
		2a: Predesign study-Case study and functional standards	C03

		2b: Concept formulation and idea investigation 2c: Final design presentation	
	Unit 3	Major Project- Conceptual	
		3a: Introduction to Major project 3b: Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns. 3c: Pre design study -Literature Study, Site Analysis, Case Study.	CO3, CO4
	Unit 4	Concept Development	
		4a: Concept Formulation, Bubble Diagram and activity zoning. 4b: Design development- site development 4c: Design development- floor Plans	CO3, CO4
	Unit 5	Finalization	
		5a: Design development- sections and elevations 5b: Model making on appropriate scale 5c: Final portfolio submission	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	-	3	3	3	-	-	-	2	1	-	2
CO2	3	3	3	3	3	-	-	-	3	3	-	1
CO3	1	-	2	1	1	-	-	-	1	3	-	2
CO4	3	-	-	-	-	-	3	3	-	-	-	3
CO5	3	3	3	3	3	-	-	-	3	3	-	3
CO6	2	-	2	-	3	-	-	3	-	3	2	3
Avg	3	3	3	3	3	-	3	3	2	3	2	2

ARJ : Digital Design Fabrication-VII

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2026-27
Branch:		Semester: VII
1	Course Code	ARJ
2	Course Title	Digital Design Fabrication-VII
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
	Course Status	Compulsory
5	Course Objective	<p>1. To develop understanding of advance data-tree management and concepts in the field of digital fabrication are introduced and analyzed.</p> <p>2. To familiarize students with digital fabrication based on three overlapping perspectives: technology, crafts, and theory. The technological perspective highlights the technologies, concepts and processes that enable digital fabrication (including additive and subtractive manufacturing, CAD/CAM).</p> <p>3. Knowledge of theory-focused perspective implies an appreciative feature of the course in which digital fabrication is discussed in terms of what changes digital fabrication can entail for organizations.</p> <p>4. By the end of the course, every student should have Knowledge and Understanding of digital modeling, fabricating, documenting and assembly of a structure.</p>
6	Course Outcomes	<p>CO1: Develop Understanding of digital fabrication.</p> <p>CO2: Comprehend proficiency and aptitude in digital fabrication.</p> <p>CO3: Demonstrate in groups; carry out design work that is materialized through prototypes based on digital fabrication.</p> <p>CO4: Create prototype and 3D Model using 3D printer.</p> <p>CO5: Evaluates on what type or combinations of types of digital fabrication technologies that are appropriate for the task at hand.</p> <p>CO6: Review the introduction and shift to digital fabrication in manufacturing organizations.</p>
7	Course Description	<p>The course will explore different scales of production of architecture using Digital Fabrication techniques such as: laser cutting, 3D printing, robotic (introduction) design and fabrication. One of the goals is to introduce the thinking around the function, by following the evolution of the design through iterations of production as a workflow.</p> <p>This course is a hands-on exploration and apprenticeship in the art and process of digital fabrication. The course will assist students in nurturing the ability to efficiently translate ideas and concepts into digitally produced physical objects. Students will be given the opportunity to</p> <p>Develop the skills necessary to maintain, calibrate and troubleshoot equipment in a fabrication lab as well as learn what it takes to keep a lab in operation.</p>

8	Outline syllabus		CO Mapping
	Unit 1	Grasshopper	
	A	Advance Data Tree Management	CO1, CO2
	B	Advance Plugins for Designing	
	C	Introduction to Generative Designing	
	Unit 2	Digital Design Fabrication	
	A	Introduction to digital fabrication and different methods	CO1, CO2
	B	Designing Forms for Fabrication	
	C	Introduction to Laser-Cutting	
	Unit 3	Using technology for Digital Design Fabrication in the form of Prototype	
	A	working with Prototypes & fabrication materials	CO2, CO3
	B	working with Script for Prototypes	
	C	working with Prototypes	
	Unit 4	Advance Fabrication Techniques	
	A	3d Printing	CO4, CO5
	B	Introduction to Robotic Fabrication within grasshopper environment	
	C	Different systems types using grasshopper	
	Unit 5	Methods, Techniques and implementation - output Project	
	A	Design exploration for prototype (Group Project)	CO6
	B	Prototype -2	
	C	Final Project	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s*	1. Printing Architecture: Innovative Recipes for 3D Printing 2. Grasshopper: Visual Scripting for Rhinoceros 3D - by David Bachman 3. AAD, Algorithms-aided Design: Parametric Strategies Using 4. Grasshopper - by Arturo Tedeschi and Stefano Andreani	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	1	-	3	-	-	-	-	1	-	3
CO2	2	1	3	2	3	-	-	-	1	1	-	3
CO3	1	1	2	2	2	-	-	-	3	1	-	3
CO4	2	2	2	2	2	-	-	-	3	1	-	3
CO5	2	2	2	2	2	-	-	-	3	1	-	3
CO6	2	2	2	2	2	-	-	-	3	1	-	3
Avg	2	2	2	2	2	-	-	-	3	1	-	3

ARJ - Working Drawing -II

School: SSDAP		Batch : 2023-28
Program: B. Arch		Academic Year: 2026-27
Branch: Architecture		Semester: VII
1	Course Code	ARJ
2	Course Title	Working Drawing-II
3	Credits	4
4	Contact Hours (L-P-S)	0-0-4
	Course Status	Compulsory
5	Course Objective	<p>1. To familiarize the students to the language of representation of working drawings and the methodology of preparing drawings.</p> <p>2. To prepare a basic set of working drawings including site plan , landscape plan, floor plans, elevators, sections.</p> <p>3. Detailed drawings of building compounds (kitchen, toilet, stairs, etc) and construction details as required (doors, windows, electrical, plumbing etc)</p> <p>4. Preparation of schedule of finishes, doors, windows, drainage systems, etc.</p>
6	Course Outcomes	<p>CO1: To prepare detailed dimensioned working drawings of the building.</p> <p>CO2: To understand various footing types and footing details and its coordination with architectural drawings.</p> <p>CO3: To produce a comprehensive and well designed and detailed-out set of working drawings good for execution of the building project.</p> <p>CO4: To design building drawing using CADD software.</p> <p>CO5: To develop the knowledge of construction, finishes and services</p> <p>CO6: To design details and preparing working drawings.</p>
7	Course Description	The students are taught how to generate a well detailed-out set of working drawings of the building project including site plan, floor plans, elevations, sections, details of building components (toilets, stairs, kitchen etc) and all other possible details. The working drawings set should be in such details that it is good for an error free execution of the project.
8	Outline syllabus	
	Unit 1	Review of Plans, Elevations and Sections
	a	Floor Plans
	b	Elevations
		CO1, CO2

	c	Sections	
	Unit 2	Building Components I	
	a	Terrace Plan in detail	CO3
	b	Staircase and Lift details (plan, sections and details)	
	c	Any other details	
	Unit 3	Building Components II	
	a	Kitchen details (plan, wall elevations, sections and details)	CO3, CO4
	b	Toilet details (plan, wall elevations, sections and details)	
	c	Door / Window Schedule and details.	
	Unit 4	Service Drawings	
	a	Electrical layouts (Architectural)	CO5
	b	Plumbing layouts (Architectural) including water supply, sanitation.	
	c	Water harvesting layout	
	Unit 5	Miscellaneous Components	
	a	Detail of Grill	CO6
	b	Detail of Gate	
	c	Detail of Boundary wall	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Other References	1. Model Building Bye Laws 2. National Building Code (NBC)	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11	PO 12
CO1	1	3	3	3	3	-	3	3	3	2	-	3
CO2	-	-	3	-	3	-	-	-	3	3	-	2
CO3	-	-	3	-	3	-	-	-	3	3	-	2
CO4	-	-	3	-	3	-	-	-	3	3	-	2
CO5	-	-	3	-	3	-	-	-	3	3	-	2
CO6	-	-	3	-	3	-	-	-	3	3	-	2
Avg	1	3	3	3	3	-	3	3	3	3	-	2

ARJ : Architectural Design Compilation

School: SSDAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	ARJ	
2	Course Title	Architectural Design Compilation	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
5	Course Status	Compulsory	
6	Course Objective	To document the work done by students in first three years so that their portfolio is ready for internship in 9 th semester.	
7	Course Outcomes	<p>CO1 : To identify the best way to represent architectural work of individual student</p> <p>CO2: To research on digital tools available to make the presentation of their work to make their work stand out.</p> <p>CO3: To demonstrate presentation skills to present themselves and their work to potential employers, clients and universities for higher studies.</p> <p>CO4: To communicate their work visually</p> <p>CO5: To communicate verbally considering all the principles of Architecture</p> <p>CO5: To showcase independent learning from each project.</p>	
8	Course Description	Students are required to find best digital tools to present their three years of architecture work so that they can present their work cohesively to potential employers, clients and universities for higher studies. This course equips the students with different tools to compile their work in a presentable portfolio format.	
9	Outline syllabus		CO Mapping
	Unit 1	Photographing all work	
		a. Documentation of all sheets b. Documentation of all models c. Documentation of all writing samples	CO1
	Unit 2	Exploring different softwares	
		a. Using photoshop to enhance images b. Using illustrator to create missing data and a graphics c. Using Indesign to compile work	CO2
	Unit 3	Portfolio Composition	
		a. A detailed brief of each project to be prepared b. Final composition of all drawings and text c. Verbal communication of the portfolio	CO3

	Unit 4	CV & final upload	
		a. Professional CV writing b. Compiling a cover letter and CV as part of portfolio c. Uploading on sites like ISSU	CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	-	-	2	3	-	1	1	3	-	1
CO2	3	3	-	-	3	1	-	1	1	3	-	2
CO3	3	1	3	-	3	-	-	1	2	3	-	2
CO4	1	-	2	-	3	2	-	1	1	3	-	3
CO5	3	-	-	-	3	2	-	1	1	3	-	3
CO6	3	1	2	-	3	2	-	1	2	3	-	2
Avg	3	2	2	-	3	2	-	1	1	3	-	2

ARJ : Construction Material & Methods-VII

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	ARJ	
2	Course Title	Construction Material & Methods-VII	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-4	
	Course Status	Compulsory	
5	Course Objective	1.To make students understand steel, timber, and prefab structures. 2.To familiarise students with precast and modular construction practices. 3.To cultivate personal observation and self learning in the students, site visits should be conducted to cover the given syllabus. 4.To help students observe, measure, sketch and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation. This shall form part and parcel of the sessional work for internal assessment.	
6	Course Outcomes	CO1: Cultivate personal observation and self-learning in the students using site visits CO2: Document the site study in a communicative form of presentation. CO3: Explain the basic construction of steel, wooden and prefab structures. CO4: Illustrate the applications of prefab construction, steel construction, it's components and details from foundation to roofing. CO5: Apply the modern construction techniques CO6: Prepare building planning and design documentation.	
7	Course Description	This Construction Studio is designed to study precast and modular construction practices. It encourages students to explore modern construction technologies. The students are encouraged to conduct market research of new materials in design and construction.	
8	Outline syllabus		CO Mapping
	Unit 1	Documentation of Construction Site	
	A	Choosing a live construction site and documenting it.	CO1
	B	Choosing a live construction site and documenting it.	
	C	Choosing a live construction site and documenting it.	
	Unit 2	Precast and Modular Construction Practices	
	A	Materials and Building components in small prefab construction	CO2

	B	Prefabrication Material and Systems – open prefab system, large panel prefab system, joints, precasting methods, materials, on-site and off-site prefabrication, components, etc	
	C	Assembly of components, tolerances, modules, reference system, grids, positioning of functional elements – slabs, walls, staircases; Standardization in buildings’ design and their components.	
	Unit 3	Precast and Modular Construction Practices –Pre stressing & Post tensioning	
	A	Pre-stressed Concrete Introduction, methods of pre-stressing and their application to large space structures	CO3
	B	Pre-stressed Concrete-Materials for pre-stressing Classification, Availability, Characteristics and Uses	
	C	Post-tensioned Concrete, their applications & characteristics	
	Unit 4	Modern Building Construction Techniques	
	A	3D volumetric construction, Tunnel FormWork System	CO4
	B	Flat Slabbing technology, PreCast foundations	
	C	Hybrid concrete building technique, injoint masonry	
	Unit 5	Building Planning	
	A	Introduction, site selection and importance, Principles of planning	CO5
	B	Designing Buildings for different climates	
	C	Building Bye laws and their objectives, Submission & Procedure of sanction drawings for local authorities	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Other References	1.McKay, W.B., “Building Construction Volume I, II, III and IV”, Longmans, 1955. 2. Ching, Francis D. K. and Adams, Cassandra, “Building Construction Illustrated”, Wiley and Sons, 2000. 3. The Construction of Buildings – BarryVolume I, II, III and IV 4. Chudley, Roy, “Construction Technology”, Longman, 2005. 5. Building Construction_Mitchell (Elementary and Advanced) 6. Rangwala, S. C., “Building Construction”, Charotar Publishing House, 2007 7. Building Construction-Bindra Arora. 8. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005. 9. Building Materials by SC Rangwala: Charotar Pub. House, Anand	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	-	-	-	2	-	-	1	-	1
CO2	1	-	-	1	1	-	-	-	-	3	1	-
CO3	1	2	1	-	1	2	1	-	1	1	-	1
CO4	1	-	1	2	2	-	2	1	1	-	-	-
CO5	-	-	-	1	1	1	-	1	1	-	1	1
CO6	-	-	-	-	1	-	-	1	-	-	1	1
Avg	1	2	1	1	1	2	2	1	1	2	1	1

AEJ – Disaster Management

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2026-27
Branch:		Semester: VII
1	Course Code	AEJ
2	Course Title	Disaster Management
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	To acquaint the student with fundamental concepts of hazards and disasters and ways and means of mitigating them through architecture
6	Course Outcomes	CO1: Explain basic concepts in Disaster Management in Architectural context CO2: Describe Definitions and Terminologies used in Disaster Management, Types and Categories of Disasters, Challenges posed by Disasters and Impacts of Disaster CO2: Describe various disasters that India is vulnerable to, and the hazard maps that enable them to visualize their vulnerabilities CO4: Development of understanding of various types of occurrences of disaster and their mitigation through design interventions. CO5: To Indicate post disaster recovery and rehabilitation methods CO6: To identify Disaster Management issues and Awareness related to Disaster issues to be incorporated in Architectural Design.
7	Course Description	Course discusses in detail about disaster and its mitigation techniques.
8	Outline syllabus	CO Mapping
	Unit 1	Introduction to Disasters Hazard

		<p>a) Introduction to Disasters Hazard, Risk, Disaster, Vulnerability,</p> <p>b) Classification of disaster, Man Made & Natural Disasters, High, Medium & Low Impact. Disasters and Factor Causing Disasters, Earthquakes, Tsunami, Landslides, Cyclone, Floods, Fire etc.</p> <p>c) Impact of Disasters Effects of natural and Man-made Disaster, Behaviour of structural and nonstructural members during and after disaster, Standards and Norms for risk reduction for various disasters i.e. Earthquakes, Tsunami, Landslides, Cyclone, Floods & Fire.</p>	CO1, CO2
	Unit 2	Pre-Disaster and Mitigation Measures in Disasters	
		<p>a. Pre-Disaster and Mitigation Measures in Disasters</p> <p>b. Disaster Management Plan, Natural Crisis Management Committee, NDMA (national disaster management authority) Management Guideline, Emergency Support Function,</p> <p>c. Role of Building information systems in Disaster Management.</p>	CO2, CO3
	Unit 3	Design & Planning Solution	
		<p>a. Design Guideline and Construction Techniques for disaster resistant structure in RCC, Steel, Stone, Brick & wood</p> <p>b. Engineering, Architectural, Landscape and site planning solutions for various disasters, Details for foundation, soil stabilization, retaining wall, plinth, plinth fill, flooring, walls, opening, fenestration and other building components.</p> <p>c. Study of non engineered Building practices.</p>	CO4, CO5
	Unit 4	Case Studies- Disasters in India and International	
		<p>a. Damaged Caused, Disaster management, Mitigation, post disaster structural up gradation in Earthquakes, cyclones, landslides, floods,</p>	CO6

		droughts and tsunami in India. b. Case Study India c. Case Study International	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Sharma V.K.; Disaster Management; Indian Institute of Public Administration, United Press, New Delhi 1995 2. Dutta Shekhar Chandra, Mukhopadhyay Parthsarathi ; Improving Earthquake And Cyclone Resistant Structures ; The Energy Resource Institute, New Delhi 2012 3. Tarnath B.S. ; Wind and Earthquake Resistant Buildings Structural Analysis and Design; Marcel Dekkar 2005 4. National Disaster Management Authority; National Disaster Management Guidelines; National Disaster Management Authority Government of India 2009 5. IAEE; Guidelines for Earthquake Resistant non-engineered construction; NPEEE 2004.	
12	Reading Material	1. Govt. of India: Disaster Management Act , Government of India, New Delhi, 2005. 2. Government of India, National Disaster Management Policy,2009.	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2	-	-	-	2	-	-	-	-	1
CO2	1	1	2	-	-	-	3	-	-	-	-	1
CO3	2	-	2	-	-	-	2	-	-	-	-	-
CO4	2	2	3	1	-	-	3	-	-	1	2	1
CO5	-	3	-	2	1	-	3	-	1	1	-	1
CO6	3	3	3	2	1	-	3	-	1	1	-	1
Avg	2	2	2	2	1	-	3	-	1	1	2	1

AEJ – Modular Coordination

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	AEJ	
2	Course Title	Modular Coordination	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	To develop the forms and internal spaces in coordination of various pre-defined modules and proportioning systems and using them in designing of buildings.	
6	Course Outcomes	<p>CO1: Students should be able to Identify the various Terminologies used in modular coordination.</p> <p>CO2: Students should be able to understand and apply techniques of modular coordination in buildings.</p> <p>CO3: The students should be able to understand and analyze the different types of modular coordination systems and their application.</p> <p>CO4: The student should be able to comprehend the skills and knowledge of construction technology in prefabricated structures.</p> <p>CO5: The student should be able to comprehend and evaluate the impact of modular coordination in growth of construction industry.</p> <p>CO6: The student should be able to create a project considering all the practical aspects of modular coordination.</p>	
7	Course Description	The studio is designed to familiarize students with various techniques of modular coordination and producing the forms and internal space of building in coordination of defined modules and use them in synch with prefabricated/modular construction.	
8	Outline syllabus		CO Mapping
	Unit 1	Orientation to Modular coordination	
		a) Defining the concept of Modular coordination. b) Introduction to building systems. c) Production of mechanized products and	CO1

		various types of building size units.	
	Unit 2	Advantages & disadvantages of Modular coordination	
		a) Prefabrication; advantages, disadvantages and relevance in Indian context b) Classification of prefabrication systems developed by CBRI, skeletal system, Brick panel system, non-structural elements, and devotions in prefabrication. c) Manufacturing of modules and their transport to the site.	CO2, CO3
	Unit 3	Modular planning of an interior space	
		a) System of proportions, introduction of various systems. b) comprehensive industrialized building modules their introduction and application c) Case study for understanding impact of modular planning in relationship to time, money and infrastructure.	CO4, CO5
	Unit 4	Application of learning by designing	
		a) Preparing modular coordination drawings according to learned principals b) Judging the modular construction/prefabrication according to various principles and styles along their impact on construction industry. d) Presentation of project	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Scalable and modular architecture: Jonathan Snook. 1994 2. Prefab Architecture: A guide to Modular design and construction: Ryan E. Smith, 2011	
12	Other References	1. Scalable Modular Architecture. A Dinamic Housing for a Changing Society, Joseph Di Pasquale 2. The future of modular architecture, David Wallance	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3	-	2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

AEJ____: Environment Analysis Techniques (RBL-II)

School: SSDAP		Batch: 2023-28	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VII	
1	Course Code	AEJ____	
2	Course Title	Environment Analysis Techniques (RBL-II)	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
5	Course Status	Professional Elective	
6	Course Objective	The program offers a comprehensive learning and problem-solving forum for those who want to learn the various built-form environment assessment techniques.	
7	Course Outcomes	<p>CO1: To identify the need and define building environment assessment.</p> <p>CO2: To classify and define various methods of building environment assessment.</p> <p>CO3: To describe and understand the components of building environmental assessment techniques.</p> <p>CO4: To analyse the various building assessment systems.</p> <p>CO5: To compare the various building assessment systems.</p> <p>CO6: To apply the knowledge of building environmental assessment techniques to an existing built form.</p>	
8	Course Description	<p>This course is primarily concerned with the understanding and application of building environmental assessment techniques. Claims of sustainability are to be substantiated with acceptable documentary evidence and what gets measured gets managed. These are the two foundational mantras for the development of an assessment system. Building environment assessment systems assess a building based on its predicted performance over its entire life cycle — conception through operation. This results in the development of buildings that consume fewer natural resources without sacrificing the acoustic, thermal, and visual comfort of its occupants. Green ratings serve as the ideal tool for validating the sustainability claims of buildings by mandating regulatory compliances and setting performance benchmarks to promote higher construction and operational resource efficiency.</p>	
9	Outline Syllabus		CO Mapping
	Unit 1	Introduction and Need for Building Environment Assessment	
		1. Introduction to the course 2. Need for Building Environment Assessment 3. Brief on Building Environment Assessment Techniques.	CO1, CO2
	Unit 2	Global Building Environment Assessment Techniques	

		1. LEED 2. BREEAM 3. Others	CO3, CO4, CO5
	Unit 3	Indian Building Environment Assessment Techniques	
		1. IGBC 2. GRIHA 3. Others	CO3, CO4, CO5
	Unit 4	Live Project Assessment	
		1. Identification of a project 2. Assessment of the project based on the assessment systems learnt. 3. Review and comparison of the achieved ratings.	CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA 50%	ETE 50%
12	Text book/s*	<ul style="list-style-type: none"> • Building Evaluation Techniques by John Gray (Author), Nigel Isaacs (Author), David Kernohan (Author), Graeme McIndoe (Author), George Baird (Editor) • Manual for LEED • Manual for IGBC • Manual for GRIHA • Manual for BREEAM 	
13	Other References	<ul style="list-style-type: none"> • https://www.sciencedirect.com/topics/engineering/environmental-assessment-method • EPA Web site for Sustainable Development • IGBC https://igbc.in/igbc/ • Griha India https://www.grihaindia.org/#&home • Sustainability assessment methodologies • https://www.oecd.org/greengrowth/39925248.pdf 	

CO- PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	3	-	3	1	-	3	-	-	-	-	1
CO6	-	-	3	2	-	-	3	1	2	-	2	-
Avg	3	2	3	2	1	3	3	1	2	-	2	2

AEJ___ : Tactical Urbanism (RBL-II)

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VIII	
1	Course Code	AEJ	
2	Course Title	Tactical Urbanism (RBL-II)	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	The course offers a comprehensive learning using an international, interdisciplinary, and intersectional approach, this course will examine the practice and process of creative placemaking and community based-art planning.	
6	Course Outcomes	Students will be able to: CO1: Define the concept of Tactical Urbanism CO2: Create awareness on various contemporary positions and lenses for reading the built environment. CO3: Develop a basic understanding of the material palette for Tactical Urbanism CO4: Develop a framework for action. CO5: Engage in basic tactical urbanism exercises that analyze conditions towards proposing transformation and change. CO6: Design , and present a proposal for a community-based project that communicates effectively and aesthetically.	
7	Course Description	This course analyzes the drivers of local urbanism and the need for a strategy and tactics approach and addresses the necessary conditions for tactical urbanism to succeed. Key case studies are also presented to explain the movement.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		d) Introduction to course e) Key Definitions and Concepts f) Benefits & Limitation of the Tactical	CO1, CO2

		Urbanism approach	
	Unit 2	Case Study	
		d) National Case Study e) International Case Study f) Synthesis & Inference.	CO3
	Unit 3	Site Selection & Study	
		d) Site Selection & Reason e) Site Study & Survey f) Existing Conditions on Scale	CO4
	Unit 4	Design Proposal	
		d) Site Plan & Relevant Drawings e) 3D representation of proposal a) Narrative on the main idea of proposal,.	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	4. A Tactical Urbanism Guidebook 5. Tactical Urbanism: Short-term Action for Long-term Change, Anthony Garcia and Mike Lydon 6. Tactical Urbanism Vol. 1 by The Street Plans Collaborative	
12	Other References	2. http://tacticalurbanismguide.com/	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-	-	3	1	2	-	2	-
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

School: SSDAP		Batch : 2023-2028	
Branch: B. Arch		Academic Year: 2023-2024	
		Semester: VII	
1	Course Code	ARP 505	Course Name : Critical Thinking & Leadership Skills
2	Course Title	Critical Thinking & Leadership Skills	
3	Credits	0 Credit	
4	Contact Hours (L-T-P)	0-0-4	
	Course Status	Active	
5	Course Objective	To enhance holistic development of students and improve their elements of Leadership Skills, Leadership Traits, and Leadership Attributes in conjunction with Critical thinking and problem solving abilities. To up skill and upgrade students' across Aptitude and Reasoning Skills. By the end of this semester, a student will have entered the threshold of his/her employability enhancement and skill building activity exercise.	
6	Course Outcomes	<p>After completion of this course, students will be able to:</p> <p>CO1: Identify the critical factors that influence a students' performance and Improving their planning and management of teams and tasks</p> <p>CO2: Describe your own interpersonal relationship style and its impact on those they lead</p> <p>CO3: Be better able to lead the variety of people they manage and control resources</p> <p>CO4: Understand the communication processes necessary to develop an effective team</p> <p>CO5: Develop higher level strategic critical thinking and problem solving skills</p> <p>CO6: Demonstrate higher level of quantitative aptitude and reasoning tools for making business decisions</p>	
7	Course Description	This course bundle allows students to acquire and build a rudimentary level of leadership vision, mission and strategy along with acquiring critical thinking and problem solving capabilities. Students will also acquire advanced Quantitative Aptitude and Reasoning skills	
8	Outline syllabus – ARP		CO MAPPI NG
	Unit 1	Introduction to Leadership Theories	
	A	Define Leadership – Understanding the Concepts of Leadership and learn to define and interpret Leadership	CO1
	B	Leadership Philosophies – Understand and interpret Leadership Philosophies and learn to apply them in their lives	CO2
	C	Behaviour Studies of Leaders – Understand, assimilate, imbibe and learn the	CO3

		behavioural patterns and attributes of different leaders	
	D	Leaders and their styles of Leadership – Know about some of the distinguished leaders across domains and get acquainted with their leadership styles	CO3
	Unit 2	Introduction to APTITUDE TRAINING- Reasoning- Logical/ Analytical	
	A	Coding Decoding , Ranking & Their Comparison Level-2	CO4
	B	Series, Blood Relations & Number Puzzle	CO5
	Unit 3	Critical Thinking & Problem Solving	
	A	Identify the assumptions needed to analyse the case or problem	CO2
	B	Identify the relevant information presented in the case or problem	CO2
	C	Identify the alternative solutions to the problem or case	CO2
	D	Solve problems effectively and creatively	CO2
	Unit 4	Team Building & Team Synergy	
	A	Introduction to and Understanding of Teams	CO2
	B	Team Building & Team Synergy Activities and Games	CO2
	Weightage Distribution	CA – 25 % VIVA 25% ETE 50%	
	Text book/s*	<i>Wiley's Quantitative Aptitude-P Anand / Quantum CAT – Arihant Publications / Quicker Maths- M. Tyra / Dare to Lead – Brene Brown / Leaders eat Last – Simon Sinek/ Critical Thinking Skills – Stella Cottrell</i>	

COs	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
ARP204.1	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP204.2	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP204.3	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP204.4	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP204.5	1	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP204.6	1	-	-	-	-	-	-	-	1	2	1	2	-	-	-

Semester VIII

ART - Construction Project Management

School: SSDAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2026-27	
Branch:		Semester: VIII	
1	Course Code	ART	
2	Course Title	Construction Project Management	
3	Credits	2	
4	Contact Hours (L-T-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	<p>To make them understand the concepts of Project Management for planning and execution of projects.</p> <p>-To make them understand the feasibility analysis in Project Management and network analysis tools for cost and time estimation.</p> <p>- To enable them to comprehend the fundamentals of Contract Administration, Costing and Budgeting.</p>	
6	Course Outcomes	<p>CO1: Understand project characteristics and various stages of a project.</p> <p>CO2: Understand the conceptual clarity about project organization and feasibility analyses</p> <p>CO3: Analyze the learning and understand techniques for Project planning, scheduling and Execution Control.</p> <p>CO4: Apply the resource management plan and</p> <p>CO5: Analyze the role of stakeholders in value engineering.</p> <p>CO6: Understand the contract and tender management, Project Procurement, Service level Agreements and productivity.</p>	
7	Course Description	<p>This course is designed to equip students with a practical approach to implement building projects, , project management techniques needed for managing and coordinating building projects in a professional manner. It covers all basic topics to understand the subject in its entirety</p>	
8	Outline syllabus		CO Mapping
	Unit 1	Project Planning and Scheduling	
		<p>1a- Introduction to project management, construction industry, stakeholders, roles, responsibilities and functional relationships</p> <p>1b-Inputs for project planning, defining activities and their interdependence, time and resource estimation. Work breakdown structures. Linear Scheduling methods - bar charts, LOB, their limitations.</p> <p>1c-Principles, definitions of network based scheduling methods: CPM, PERT. Network representation, Network analysis – forward and backward passes.</p>	CO1
	Unit 2	Project Monitoring and Control	

		2a-Site layout and organization, Site investigations. Quality tests for construction material and processes 2b- Quality control inspections. Project progress tracking. Crashing Project Schedules, its impact on time, cost and quality. 2c-Project direct and indirect costs. Safety in Construction Projects.	CO2, CO3
	Unit 3	Resources Management and Value Engineering	
		3a-Methods of material/resource estimation and management, Resources scheduling and levelling. 3b-Labour welfare, applicable labour Legislations. Construction equipment types, characteristics & applications. 3c-Value engineering, its application in building design and construction.	CO4, CO5
	Unit 4	Contracts and Tenders	
		4a-Types of building contracts, their merits and de-merits. 4b-Types of building tenders, contents of tender documents, tendering process. 4c-General conditions of contract, security deposits, interim certificates, defect liability periods, retention amounts, mobilization money and virtual completion.	CO6
9	Mode of examination	Theory	
10	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
11	References	Callahan, M. T., Quackenbush, D. G., & Rowings, J. E. (1992). Construction Project Scheduling. McGraw-Hill. 2. Chitkara, K. K. (2004). Construction Project Management: Planning, Scheduling and Controlling. Tata McGraw-Hill Education. 3. O'Brien, J. J., and Plotnick, F. L. (2009). CPM in Construction Management. McGraw-Hill Professional.	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	1	-	-	3	2	-	1	1	-	2
CO2	-	1	-	1	-	3	-	-	1	3	1	-
CO3	-	2	1	1	1	2	1	-	1	1	-	1
CO4	1	-	-	2	2	1	2	1	-	-	-	2
CO5	-	-	-	1	-	1	-	-	-	-	-	-
CO6	-	1	-	-	-	3	-	-	-	-	-	-
Avg	1	1	1	1	1	3	2	1	1	1	1	2

ARJ :Architectural Design-VIII

School: SUSAP		Batch : 2023-2028
Program: B.Arch		Academic Year: 2026-27
Branch:		Semester: VIII
1	Course Code	ARJ
2	Course Title	Architectural Design-VIII
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
	Course Status	Compulsory
5	Course Objective	<ul style="list-style-type: none"> -To classify and explain the Urban design process through various methodology -To generate and implement the language of city spaces, plazas, public buildings, contextual impact in Urban design -To recognize, design and develop the area selected through different Urban design elements -To differentiate between the architecture and urban level interventions
6	Course Outcomes	<p>CO1: To demonstrate the knowledge of Urban design an policies India</p> <p>CO2: To identify the zoning plans, urban complexes and resolve t issues pertaining to built environment</p> <p>CO3: To analyze and communicate the contextual impact of t urban design through design development on city scale</p> <p>CO4: To demonstrate advance urban design fundamentals building massing, public space formulation, streets/transport design and landscape through design project</p> <p>CO5: To understand the interconnectivity and interdependency the various elements of urban design through design tools</p> <p>CO6: To Develop an illustrative architectural portfolio</p>

7	Course Description	<p>The studio syllabus is designed on diagonal learning: The students apply the skills and knowledge of varied subjects they learnt in the previous semesters in the current design project. The studio deals with the city level urban design/development to enable the students to relate to city level design. It deals with designing and developing for an urban space and interrelation and scales. It is focused around assessing city level issues, creation of public spaces, identifying movement patterns, etc. An ongoing industry project is preferred</p> <p>Problem 1: Minor Design projects related to revitalisation/reuse of old structure</p> <p>Problem 2: Major -The design problem of Urban design scale is to be introduced, example; Redesigning of existing Urban area by studying and identifying the problems associated with it. -The project would be a medium sized urban design intervention. -The design solution would address issues like demography, market value, land use patterns etc. Other design issues are the detailing of open and built areas after studying human and vehicular traffic movement patterns. -The project should be substantiated by detailed site surveys and reading about urban design principles. Study models must accompany every stage.</p>	
8	Outline syllabus		CO Mapping
	Unit 1	Design Problem	
		1a-Introduction to Project 1b-Form and material based investigation 1c-Understanding spatial aspects based on activity, space, form and human scale.	CO1
	Unit 2	Literature & Case Study	
		2a-Pre design study-Case study 2b-Pre design study -Literature Study, Site Analysis. 2c-Functional standards.	CO2
	Unit 3	Concept Development	
		3a-Concept formulation and idea investigation 3b-Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns. 3c-Concept Formulation, Bubble Diagram and activity zoning.	CO3
	Unit 4	Design Development	

		4a-Design development- site development 4b-Design development- floor Plans 4c-Design development- sections and elevations	CO4
	Unit 5	Design Presentation	
		5a-Design sheets presentation. 5b-Model making on appropriate scale 5c-Final portfolio submission	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

COS/POS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	-	3	1	-	3	-	2	3	-	2
CO2	3	3	-	3	3	-	-	-	3	3	-	3
CO3	1	3	1	3	1	-	3	-	2	3	-	1
CO4	3	1	3	1	2	-	-	-	3	3	-	-
CO5	3	-	3	-	3	-	3	-	3	3	-	3
CO6	3	1	3	1	2	-	-	-	3	3	-	-
Avg	3	2	3	3	2	-	3	-	3	3	-	2

ARJ : Digital Design Fabrication -VIII

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2026-27
Branch:		Semester: VIII
1	Course Code	ARJ
2	Course Title	Digital Design Fabrication-VIII
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
	Course Status	Compulsory
5	Course Objective	<p>1. To develop understanding of advance data-tree management and concepts in the field of digital fabrication are introduced and analyzed.</p> <p>2. To familiarize students with digital fabrication based on three overlapping perspectives: technology, crafts, and theory.</p> <p>3. Knowledge of theory-focused perspective</p> <p>4. By the end of the course, every student should have Knowledge and Understanding of digital modeling, fabricating, documenting and assembly of a structure.</p>
6	Course Outcomes	<p>CO1: Develop Understanding of what characterizes central technologies in digital fabrication.</p> <p>CO2: Comprehends proficiency and aptitude, the student is, after the course, expected to be able to: Independently translate an idea into a tangible prototype using techniques and methods in digital fabrication.</p> <p>CO3: Demonstrate in groups; carry out design work that is materialized through prototypes based on digital fabrication.</p> <p>CO4: Create prototype and 3D Model using 3D printer.</p> <p>CO5: Evaluates on what type or combinations of types of digital fabrication technologies that are appropriate for the task at hand.</p> <p>CO6: Students will adapt the Digital Fabrication skills.</p>
7	Course Description	<p>The course will explore different scales of production of architecture using Digital Fabrication techniques such as: laser cutting, 3D printing, robotic (introduction) design and fabrication. One of the goals is to introduce the thinking around the function, by following the evolution of the design through iterations of production as a workflow.</p> <p>This course is a hands-on exploration and apprenticeship in the art and process of digital fabrication. The course will assist students in nurturing the ability to efficiently translate ideas and concepts into digitally produced physical objects. Students will be given the opportunity to</p> <p>Develop the skills necessary to maintain, calibrate and troubleshoot equipment in a fabrication lab as well as learn what it takes to keep</p>

		a lab in operation.	
8	Outline syllabus		CO Mapping
	Unit 1	Grasshopper	
	A	Advance Data Tree Management	CO1, CO2
	B	Advance Plugins for Designing	
	C	Introduction to Generative Designing	
	Unit 2	Digital Design Fabrication	
	A	Introduction to digital fabrication and different methods	CO1, CO2
	B	Designing Forms for Fabrication	
	C	Introduction to Laser-Cutting	
	Unit 3	Using technology for Digital Design Fabrication in the form of Prototype	
	A	working with Prototypes & fabrication materials	CO2, CO3
	B	working with Script for Prototypes	
	C	working with Prototypes	
	Unit 4	Advance Fabrication Techniques	
	A	3d Printing	CO4, CO5
	B	Introduction to Robotic Fabrication within grasshopper environment	
	C	Different systems types using grasshopper	
	Unit 5	Methods, Techniques and implementation - output Project	
	A	Design exploration for prototype (Group Project)	CO4, CO5, CO6
	B	Prototype -2	
	C	Final Project	
9	Mode of examination	Jury	
10	Weightage Distribution	CA 50%	ETE 50%
11	Text book/s*	1. Printing Architecture: Innovative Recipes for 3D Printing 2. Grasshopper: Visual Scripting for Rhinoceros 3D - by David Bachman 3. AAD, Algorithms-aided Design: Parametric Strategies Using Grasshopper - by Arturo Tedeschi and Stefano Andreani	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	P O 12
CO1	3	-	1	-	3	-	-	-	-	1	-	3
CO2	2	1	3	2	3	-	-	-	1	1	-	3
CO3	1	1	2	2	2	-	-	-	3	1	-	3
CO4	2	2	2	2	2	-	-	-	3	1	-	3
CO5	2	2	2	2	2	-	-	-	3	1	-	3
CO6	2	2	2	2	2	-	-	-	3	1	-	3
Avg	2	2	2	2	2	-	-	-	3	1	-	3

ARJ : Research Methodology (RBL-III)

School: SSDAP		Batch : 2023-2028	
Program: B.Arch		Academic Year: 2026-27	
Branch:		Semester VIII	
1	Course Code	ARJ	
2	Course Title	Research Methodology (RBL-III)	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Compulsory	
5	Course Objective	-This course introduces students to the research process, through critical exploration of published research, relevant to their field of interest. -The course provides the understanding and use of the research terminology and integrates the elements of the research process within quantitative, qualitative, and mixed scientific methods approaches.	
6	Course Outcomes	CO1-To employ qualitative, quantitative, and mixed research methodologies to conduct research in architecture CO2-To apply the research process to problems in architectural design and planning CO3-To master the literature in students’ particular area of interest CO4-To design a research study using relevant approach and methods. CO5-To critically read and interpret research proposals CO6 – To evaluate research proposals and publications	
7	Course Description	This course is taught in the eighth semester. It is a logically laid out curriculum which aims at one of the important aspects of the research methodology in architecture. It aims at introducing to the students the method of conducting research. The students are taught the basics of Research through lectures and hands-on assignments. Further the course elaborates on research methodology in architecture.	
8	Outline syllabus		CO Mapping
	Unit 1	Overview of Research & Scientific Thinking	
	A	Meaning, purpose, significance of ethical conduct in research	CO1, CO2
	B	Classification of Research based on its purpose (Basic, Applied, Evaluation and Action Research)	
	C	Types of Reasoning & Critical Thinking	
	Unit 2	Writing a Critical Review	
	A	What is Academic Writing?	CO1, CO3
	B	How to conduct an extensive Literature review	
	C	Structure of a Critical Review	
	Unit 3	Elements of Research	
	A	Developing the Research Problem Statement	CO4, CO5
	B	Elaboration of Topic-Question-Working Hypothesis	

	C	Elaboration of Research Statement - Research Questions and Hypotheses		
	Unit 4	Methods in Scientific Research		
	A	Quantitative Methods		CO6
	B	Qualitative Methods		
	C	Tools and Techniques		
9	Mode of examination	Jury		
10	Weightage Distribution	CA		ETE
		50%		50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2	3	1	2	-	-	1	2	-	3
CO2	3	2	-	2	-	1	-	-	1	1	-	3
CO3	1	2	-	3	1	1	-	1	1	2	-	3
CO4	2	2	-	3	1	-	-	-	1	1	-	3
CO5	3	2	-	2	-	1	-	1	1	2	-	3
CO6	3	2	-	-	-	-	-	-	-	-	-	-
Avg	3	2	2	2	1	1	-	1	1	2	-	3

ARJ ____ : Project Documentation Studio

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Current Academic Year: 2026-27
Branch:		Semester: VIII
1	Course Code	ARJ
2	Course Title	Project Documentation Studio
3	Credits	4
4	Contact Hours (L-P-S)	0-0-4
5	Course Status	Compulsory
6	Course Objective	<p>-To interpret and analyze the problem formulation for the design project</p> <p>-To evaluate and create methodology for the proposal</p> <p>-To recognize and implement the previous learning of the course to the project</p> <p>-To experiment and design considering various factors of sustainability, environment, user need, adaptability, requirements etc.</p>
7	Course Outcomes	<p>CO1: To identify a socio-economic environment context and formulate as well analyze the problem pertaining to the project</p> <p>CO2: To research on the project and create methodology for the application of the knowledge to the project</p> <p>CO3: To demonstrate the knowledge and understanding of the professional principles.</p> <p>CO4: To investigate design-integrated solutions for the project considering the environment and sustainability impact of the design, which they may apply in their final year thesis project.</p> <p>CO5: To communicate the research project both visually and verbally considering all the ethical principles of Architecture</p> <p>CO6: To showcase independent learning and inferences by applying modern appropriate tools</p>
8	Course Description	Students are required to formulate a cohesive design argument/and project using supportive research and case studies and should demonstrate his ability and skills to do a critical enquiry through project documentation. The nature of the work must be an original research or documentation project that involves additional learning of a substantive nature which they may apply in their final year thesis project. The final documentation and proposal to be presented in the form of Report. The work must be documented to Institute
9	Outline syllabus	CO Mapping
	Unit 1	Identification of the project, preparation of Synopsis

		a. Introduction/Background b. Aims & Objective, Rationale of the topic c. Problem Identification and justification	CO1
	Unit 2	Literature Study	
		a. Identify and group together common areas. b. Compare, contrast and evaluate issues. c. Demonstrate why the topic and research is relevant to your field of study.	CO2
	Unit 3	Field Study & Case study	
		a. On field observation and study b. User research c. Quality and Quantitative data generation	CO2,CO3
	Unit 4	Inferences	
		a. Defining parameters b. Comparing the research on the bases of parameters c. Writing inferences	CO4, CO5
	Unit 5	Design Proposal and Report	
		a. Detailed design proposal b. Supporting literature study c. All Drawings & Report	CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	-	3	2	3	2	-	3	2	-	-
CO2	3	3	-	3	3	1	3	-	3	3	-	2
CO3	3	1	3	3	3	-	3	-	3	2	3	2
CO4	1	-	2	-	3	-	-	3	3	3	1	3
CO5	3	-	-	-	3	-	-	-	3	3	-	3
CO6	3	1	2	-	3	1	-	3	3	3	-	2
Avg	3	3	2	3	3	2	3	3	3	3	3	2

ARJ – Construction Material & Methods-VIII

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VIII	
1	Course Code	ARJ	
2	Course Title	Construction Material & Methods-VIII	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-4	
	Course Status	Compulsory	
5	Course Objective	<p>1.To make students understand the construction techniques used in Large span structures.</p> <p>2.To familiarize the students with structures, services and safety norms for high rise buildings</p> <p>3.To study smart materials and advanced building construction techniques available in Indian context.</p> <p>4.To cultivate personal observation and self learning in the students, site visits should be conducted so as to cover the given syllabus.</p> <p>5.To help students observe, measure, sketch and annotate what they see at site and submit a site visit report to the teachers concerned for evaluation.</p> <p>This shall form part and parcel of the sessional work for internal assessment.</p>	
6	Course Outcomes	<p>CO1:Study large span structures and construction techniques</p> <p>CO2:Analyze case study of large span and high rise structures</p> <p>CO3: Study advanced building materials and smart materials available in market</p> <p>CO4: Study recent advancements in large span structures</p> <p>CO5: Illustrate various structural advancements in high rise.</p> <p>CO6: Apply all related details concerned with the material in the components studied.</p>	
7	Course Description	<p>This Construction Studio is designed to make students aware of smart materials and advanced construction technologies available in India. Also, to study various aspects of large span and high-rise structures. The students are encouraged to conduct market research of new materials in design and construction.</p>	
8	Outline syllabus		CO Mapping
	Unit 1	Large Span Structures	
	A	Conceptual understanding of various large span structures, Geodesic domes, Hyperbolic, parabolic and	CO1

		free form shapes	
	B	Understanding of construction details, sequence of erection, service systems and facilitating maintenance.	
	C	Case study of a large span structure	
	Unit 2	Advanced Building Materials	
	A	Introduction to smart materials	CO2
	B	Various advanced finishes and treatments	
	C	Market Survey	
	Unit 3	High Rise Structures	
	A	Evolution of structural systems	CO3
	B	Environmental Impact of High Rise	
	C	Cast Study of High Rise building	
	Unit 4	Self Healing Materials	
	A	Understanding of self healing Materials	CO4
	B	Self repairing Materials	
	C	Market Survey/Case Study	
	Unit 5	Smart Material	
	A	Smart Concrete	CO5, CO6
	B	Shape shifting metals, transparent metals, aerogels	
	C	Market Survey/Case Study	
9	Mode of examination	Jury	
10	Weightage Distribution	CA 50%	ETE 50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	1	-	1	-	-	1	-	1
CO2	-	1	-	2	-	-	-	-	-	3	2	1
CO3	1	2	-	-	1	3	1	-	1	1	-	1
CO4	1	-	1	2	2	-	2	1	2	-	-	-
CO5	-	1	-	1	-	3	-	1	1	-	1	-
CO6	-	-	1	2	2	3	2	-	-	1	2	-
Avg	2	2	1	2	2	3	2	1	1	2	2	1

AEJ__ : Parametric

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VIII	
1	Course Code	AEJ	
2	Course Title	Parametric	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	The course is an in-depth exploration of the world of digital fabrication and parametric architecture. Students learn the software skills and scripting to create projects by utilizing the Digital Fabrication Lab's advanced facilities (including laser cutting, 3D printing)	
6	Course Outcomes	<p>CO1: Students should be able to Identify the various principles of parametric fabrication and modelling.</p> <p>CO2: Students should be able to understand and apply techniques in design of various scale products.</p> <p>CO3: The students should be able to understand and analyze the development of form and physical model from software.</p> <p>CO4: The student should be able to comprehend the skills and functional knowledge of fabrication lab and equipment's.</p> <p>CO5: The student should be able to comprehend and evaluate the precision required in the production process.</p> <p>CO6: The student should be able to create a project considering all the practical aspects of parametric design.</p>	
7	Course Description	Parametric digital fabrication will be considered in the context of an evolving discussion of the possibilities and limitations of the digitally mediated object, rapid prototyping in contemporary architecture practice.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction to the Basic Principles of parametric design	
		a) Learn to use software skills in regard to parametric form study. b) Become skillful at developing concepts for design.	CO1

		c) Understand conversion of design ideation from software to physical manifestations of form.	
	Unit 2	Techniques in parametric form building	
		a) Develop working processes that involve automated production techniques. b) Integrate technical knowledge with artistic vision. c) Apply research and methodologies from other content areas.	CO2, CO3
	Unit 3	Software's and technical information	
		a) Introduction to the technical processes and requisite software. b) Preliminary experiments in laser cutting, 3D modeling, 3D scanning, and 3D printing from digital files. c) Brief outline to requisite software: Rhino-Grasshopper.	CO4, CO5
	Unit 4	Application of learning by fabrication	
		a) Develop techniques to visualize concepts and communicate them to others. b) Formulate a design project and digitize. c) Translate 3D models into requisite physical manifestations.	CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Parametric Design for Architecture, Wassim Jabi 2. Digital and Parametric Architecture, Carlo Aiell 3. Post-Parametric Automation in Design and Construction, Thomas Spiegelhalte	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	2	2	-	-	3	3	-	-	-	3
CO2	3	-	3	3	-	-	-	-	2	3	-	3
CO3	3	2	2	1	3	3	3		2	-	-	3
CO4	3	1	2	-	-	-	-	-	-	2	-	2
CO5	3	3	3	3	3	-	-	2	3	3	3	3
CO6	3	3	3	2	3	-	2	-	2	3	2	3
Avg	3	2	3	2	3	1	-	1	2	3	2	3

AEJ___ :Place Making

School: SSDAP		Batch: 2023-20278
Program: B. Arch		Academic Year: 2026-27
Branch:		Semester: VIII
1	Course Code	AEJ
2	Course Title	Placemaking
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	The course offers a comprehensive learning using an international, interdisciplinary, and intersectional approach, this course will examine the practice and process of creative placemaking and community based-art planning.
6	Course Outcomes	<p>Students will be able to:</p> <p>CO1: Understand the critiques and challenges related to creative placemaking and arts districts.</p> <p>CO2: Create awareness on various contemporary positions and lenses for reading the built environment.</p> <p>CO3: Develop a basic understanding of the physical components of the urban landscape and their dimensional characteristics – from the scale of the region to that of a street.</p> <p>CO4: Develop a basic understanding of how to represent in two and three- dimensions, the basic physical components of an urban landscape – from trees to building typologies – and how to depict them.</p> <p>CO5: Engage in basic place- making exercises that analyze conditions towards proposing transformation and change.</p> <p>CO6: Design, and present a proposal for a community-based project that communicates effectively and aesthetically.</p>
7	Course Description	This course is aimed at exposing graduate students to the foundational ideas and basic skills of urban design and place-making. Specifically, this course will overview some of the most dominant theories of urban design and their respective interface with various graphic means of representing a designed landscape and/or place. This course will teach students to read the built environment as a physical setting of identifiable elements each

		having specific dimensions and characteristics, and their combination into complex larger wholes. Finally, this course will engage students in design exercises involving strategic thinking on what to preserve, what to change and what to introduce new and why	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		a) Introduction to course b) Key Definitions and Concepts c) The Principles of Community Placemaking	CO1, CO2
	Unit 2	Case Study	
		a) National Case Study b) International Case Study c) Synthesis & Inference.	CO3
	Unit 3	Site Selection & Study	
		a) Site Selection & Reason b) Site Study & Survey c) Existing Conditions on Scale	CO4
	Unit 4	Design Proposal	
		a) Site Plan & Relevant Drawings b) 3D representation of proposal c) Narrative on the main idea of proposal.	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	7. A.E.J. Morris, History of Urban Form before the Industrial Revolution, Prentice Hall 1996 8. Edmund Bacon, Design of Cities, Penguin, 1976 9. Gordon Cullen, The Concise Townscape, The Architectural Press, 1978 10. Kevin Lynch, Image of the City, MIT Press 1960. 11. Jonathan Barnett, An Introduction to Urban Design	

12	Other References	https://www.pps.org
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CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-		3	1	2	--	2	
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

AEJ Conservation

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2026-27
Branch:		Semester: VIII
1	Course Code	AEJ
2	Course Title	Conservation
3	Credits	2
4	Contact Hours (L-P-S)	2-0-0
	Course Status	Professional Elective
5	Course Objective	<ol style="list-style-type: none"> 1. To expose students to the multidisciplinary and interdisciplinary nature of conservation, so as to ensure students develop skills required to function as responsible professionals. 2. To focus on challenging real world conservation issues through site based studio exercises and 'hands on' practical experience in conservation through site visits, workshops. 3. To appraise the students about architectural conservation, sensitize them to the values of heritage and introduce to them processes and materials used in building conservation. 4. Introduce in details the aspects of architectural and area conservation: cultural, socioeconomic, technical, legal, building conservation, area conservation, documentation, maintenance and preservation works and others. 5. To encourage community outreach, and enhance academic interface with civil society and communities for a broader based and rooted participatory approach towards conservation of our heritage assets.
6	Course Outcomes	<p>CO1: Recognize, work on and share knowledge in the policies and strategies of architecture and urban conservation</p> <p>CO2: Understand the techniques of architecture conservation.</p> <p>CO3: Develop relationship between heritage conservation and its allied disciplines, including architecture, urban planning, cultural resource management, real estate development, construction, and materials conservation.</p> <p>CO4: Analyse, discuss and criticize in the architecture and urban conservation issues.</p> <p>CO5: Plan, design and manage architecture conservation projects in all their stages: determination of goals, data collection and analysis, causes of decay, laboratory tests, structural stability, consolidation and all preservation and restoration works for different building elements.</p> <p>CO6: Acquaints the students with national and international normative frameworks for conservation.</p>

7	Course Description	The course curriculum has since evolved to take into account the changing realities of heritage conservation in India and the world. It is our endeavor that the academic programme continues to contribute to the development of the profession and make a qualitative difference in the improvement of the habitat we inhabit. The programme is in consonance with the international guidelines for training of conservation professionals.
8	Outline syllabus	CO Mapping
	Unit 1	Definition & Need of Architectural Conservation
		1a. Defining heritage and its classifications. 1b. Introduction to historic structures; How to document and assess the nature of historic structures - design, construction, structural and material aspects. 1c. Understanding the role of Context; Establishing the need to conserve built heritage.

	Unit 2	Conservation Principles, Philosophies and Practices
		2a. Scope, principles and approaches to conservation: from material based to value based to living heritage approach, Definitions and terminologies: historicity, values, authenticity, preservation, restoration, transformation, conservation etc. including traditional vocabularies for conservation. 2b. International and National approach to conservation: Role of UNESCO, other allied bodies and institutions, ASI, INTACH. World Heritage sites and nomination processes. 2c. Charters and guidelines: relevance of key international charters as codes of practice in conservation: critique and evaluation. Burra charter, INTACH Charter and others.
	Unit 3	Conservation Management
		3a. Definitions and concepts: maintenance and management. Historic building maintenance, management problems and remedial measures. 3b. Management of Conservation projects: Parties and their responsibilities, types of contracts and agreements, tenders, evaluation and award, contract administration, cost control, work plan project monitoring and reporting, quality control and certification. 3c. Preparation of Maintenance programs for historic buildings; Planning, Policy formulation, and standards for maintenance.
	Unit 4	Patterns of decay and use of Traditional Materials for conservation
		4a. Common defects and deterioration patterns in historic structures. 4b. Introduction to traditional building materials – Lime,

		Surkhi, Stones, Lakhori bricks, timber et al, their properties and procurement. 4c. Types of Mortars and Plasters; Ornamental works in Lime and Stucco, traditional paints and paintings.	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Reference	1. An Introduction to Conservation by B. M. Feildan 2. Conservation Handbook- INTACH Publications 3. Why Lime? By Sangeeta Bais- INTACH Publications. 4. Stone Glossary by ICOMOS Publications. 5. The Conservation of Historic Buildings by B. M. Feildan 6. Manual on Systems of Inventorying Immovable Cultural Property, UNESCO, 1984	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	-	2	-	1	-	-	-	-	-	-	1
Avg	3	2	2	1	1	-	2	-	-	1	-	1

AEJ: Vaastu Shastra

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2026-27	
Branch:		Semester: VIII	
1	Course Code	AEJ	
2	Course Title	Vaastu Shastra	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
5	Course Status	Professional Elective	
6	Course Objective	The main intention of the course is to -To understand and analyze elements, principles, space, and human relationship of the design and composition with vaastu Shastra. - To understand the commercial and residential vaastu	
7	Course Outcomes	CO1: To demonstrate the appropriate skills basic vastu Shastra. CO2: To interpret concepts of principles of vastu Shastra and vaastu purusha mandla. CO3: To understand the effect of vastu in residential and commercial buildings.. CO4: To comprehend the skills and knowledge to design space solutions CO5: To communicate effectively through documentation, graphical and verbal presentations. CO6: To create an illustrative architectural portfolio	
8	Course Description	This course provide knowledge of Vaastu Shastra is collectively understood as the concept of instrumental understanding, sense understanding, theoretical and scientific understanding elaborating its own philosophical study. Over the centuries, Vaastu Shastra has been neglected and hasn't received enough recognition. This paper is an attempt to list down various principles used in Vaastu Shastra along with modern techniques used in Architecture.	
9	Outline syllabus		CO Mapping
	Unit 1	Vaastu Shastra-A Vedic approach	
		1a- Vaastu – its meaning origin, purpose, utility. 1b- Vaastu Purusha Mandala – description, 5 elements, directions, cosmic energy, 9 planets, Adhipathies, Dik pathies/ Dik palakas, influence. 1c. Vaastu Purusha – description, importance, importance of architect Vaastu expert.	CO1, CO2
	Unit 2	Vaastu Shastra-An Introduction to Architecture	

		2a. Principal of Vaastu Shastra 2b. Selection of land /site/plot surroundings 3c. Vaastu and you, effect of vaastu in body	CO2, CO3
	Unit 3	Vastu Shastra- Commercial Vaastu	
		3a. Vaastu for institute buildings 3b. Vaastu for office, shops, clinic, studio etc. 3c. Vaastu for temple, restaurant, apartment.	CO4, CO5, CO6
	Unit 4	Vastu Shastra- Residential Vaastu	
		4a- Vaastu for Pooja room, Kitchen, study room 4b- Vaastu for drawing room, bed room, living room, guest room, children room, store room, toilet 4c- Vaastu for door, window, staircase, lift, garage, boring, balcony, vastu plants.	CO4, CO5, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	Maymaytam	
13	Other References	Research papers	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	1	-	-	1	-	-	-	-	1	-	1
CO2	-	1	-	-	1	-	2	-	-	1	-	1
CO3	-	-	-	-	-	-	-	-	-	-	-	1
CO4	-	3	-	1	-	-	2	-	-	-	-	1
CO5	-	-	-	-	-	-	3	-	-	-	-	1
CO6	3	3	2	-	1	3	-	-	3	-	3	1
Avg	3	2	2	1	1	3	2	-	3	1	3	1

Semester IX

ARJ : Practical Training / Internship

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2027-28	
Branch:		Semester: IX	
1	Course Code	ARJ	
2	Course Title	Practical Training / Internship	
3	Credits	15	
4	Contact Hours (L-P-S)	-	
5	Course Status	Compulsory	
6	Course Objective	The main intention of the course is to introduce practical aspects of the Architectural Practice through hands-on experience by working in an Office of an experienced Architect registered with Council of Architecture (COA)	
7	Course Outcomes	<p>Student should be able :</p> <p>CO1: To relate the knowledge of the academic exercises with practical projects</p> <p>CO2: To interpret and use observation-based knowledge and methods to implement conceptualization to execution of projects.</p> <p>CO3: To develop different processes and methodologies related to materials, details, working drawings.</p> <p>CO4: To apply the communication and presentation skills in delivering of the projects.</p> <p>CO5: To classify advance skills of drawings and representation, also assimilate learning of visualizations.</p> <p>CO6: To justify project in context to requirements and practical application.</p>	
8	Course Description	The course aims to train a student to understand the various responsibilities and designations associated with an Architectural office. It should imbibe the idea of different tangential discipline ranging from idea generation, preparation of drawings and final execution of project on site along with the knowledge of other inter-related fields such as structure, services, contractors, vendors etc.	
9	Outline syllabus		CO Mapping
	Unit 1	Preparation of Drawings	
		1a- Working drawings and details 1b- Conceptual and presentation drawings 1c- Municipal drawings as per Byelaws	CO1,CO2, CO5
	Unit 2	Business Communication	
		2a- Discussions with clients 2b- Follow-ups with Consultants 2c- Networking with Vendors	CO1,CO4
	Unit 3	Site Coordination	

		3a- Site inspection and supervision 3b- Site management and project delivery 3c- On site discussion with clients, contractors and vendors	CO3
	Unit 4	Administrative Work	
		4a- Preparation of estimates, bill of quantities and specifications 4b- Preparation of charts, reports etc 4c- Preparation of physical or 3d models	CO1,CO3, CO5
	Unit 5	Case Study of Project	
		5a- Documentation of any two projects completed by the office. 5b- Analyzing and appraising the projects with the help of different attributes 5c- Site visit and documentation of the projects.	CO2,CO4, CO6
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	2	-	-	-	3	1	-	-	3
CO2	2	3	3	2	1	-	2	3	2	-	-	3
CO3	-	3	3	3	-	2	2	3	3	-	3	3
CO4	-	-	1	-	3	-	-	2	-	3	-	3
CO5	3	-	3	-	3	-	-	3	-	2	2	3
CO6	3	-	3	2	-	2	3	3	2	-	-	3
Avg	3	3	3	2	3	2	2	3	2	2	2	3

Semester X

ART - Professional Practice

School: SSDAP		Batch : 2023-20278	
Program: B. Arch		Academic Year: 2027-28	
Branch:		Semester: X	
1	Course Code	ART	
2	Course Title	Professional Practice	
3	Credits	2	
4	Contact Hours (L-P-S)	2-0-0	
	Course Status	Compulsory	
5	Course Objective	Introduce aspects of professional conduct, duties and responsibilities and legal rights and procedures of the architectural profession	
6	Course Outcomes	CO1: Identify the importance of Architecture as a profession. CO2: Illustrate the role of architecture as a professional body and in education CO3: Explain the various laws related to Architecture profession CO4: Summarize the various procedures involved in architecture professional practices. CO5: Hypothesize the inter-relationships of different agencies CO6: Relate with the Architecture profession.	
7	Course Description	This course discusses the nature of professional practice for architects. It examines the roles of participants in the delivery of architectural projects, their responsibilities and the dynamic relationship among stakeholders. The course will examine the theoretical framework of the architect's role in society and how this is realized in the practical world of managing a practice and delivering architectural projects.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction, Role of Architectural bodies & Gender Equality in Profession	
	a	Role of COA & IIA as professional body for promotion and regulation of the Architectural profession and assisting its members	CO1
	b	Main provision of Architects Act, AICTE Act, Architects role in society and careers in Architectural Profession.	
	c	Gender specific architecture world over and incentives in India, Gender pay gap.	
	Unit 2	Duties & Responsibilities of Architects and Architectural competitions	
	a	Scale of professional fees, mode of payment, professional conduct and ethics.	CO2

	b	Role of Architect with client, Contractor and Project management services & local authorities.		
	c	Code of Conduct and Architectural Competitions.		
	Unit 3	Tenders , Contract and Office organization & Management		
	a	Tenders		CO3, CO4
	b	Contracts		
	c	Professional organization, setting of practice.		
	Unit 4	Valuation, Easement & Arbitration		
	a	Elements of valuation and factors affecting valuation; Value classification and types of valuation.		CO5, CO6
	b	Easement.		
	c	Arbitration.		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
11	References	1. Architects Act 2. National Building Code 2016 and 2005 3. Contracts and their Management by B.S. Ramaswamy 4. Bids, Tenders & Proposals by Harold Lewis 5. Commercial Contracts Series by Adoranti Frank 6. Construction Management techniques by S. Seetharaman 7. The Architect's Guide to Small Firm Management by Rena M. Klein 8. Professional Practice by Namavati		

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	-	-	-	3	3	3	3	3	-	2
CO2	-	-	-	-	-	3	3	3	3	3	-	3
CO3	3	-	-	-	-	3	-	-	3	3	-	3
CO4	2	-	-	2	-	-	1	3	3	3	-	3
CO5	-	-	-	-	-	-	-	3	3	3	-	3
CO6	-	-	-	-	-	-	-	3	3	3	-	3
Avg	2	-	-	2	-	3	3	3	3	3	-	3

ART ____: Entrepreneurship in Architecture

School: SSDAP		Batch : 2023-2028
Program: B. Arch		Academic Year: 2027-28
Branch:		Semester: X
1	Course Code	ART____
2	Course Title	Entrepreneurship in Architecture
3	Credits	2
4	Contact Hours (L-P-S)	2-0-0
5	Course Status	Compulsory
6	Course Objective	<p>The main intention of the course is</p> <ul style="list-style-type: none"> -To create an awareness on the need and importance of entrepreneurship development. -To develop students with an entrepreneurial and professional mindset. To inculcate the spirit of entrepreneurship among students. -To provide background information about support systems, skillsets, financial and risk covering of startups and business. -To make students aware of the facilitating financial & regulating schemes for MSMEs. -To inculcating entrepreneurial values in students and guiding towards an entrepreneurial career. -To enable student innovators to become entrepreneurs
7	Course Outcomes	<p>CO1: The Students will be able to develop and systematically apply an entrepreneurial thinking that will allow them to identify and create business opportunities that may be commercialized successfully.</p> <p>CO2: Student will inculcate the ability to discern distinct entrepreneurial traits and know the parameters to assess opportunities and constraints for new business ideas.</p> <p>CO3: The students will be able to understand the systematic process to select and screen a business idea and to design strategies for successful implementation of business idea</p> <p>CO4: The students will be able to create business plan and access forward and backward linkage of the proposed project through market research etc</p> <p>CO5: Student will be able to know schemes (both union and state level)/ corporate schemes for establishing startups and running it successfully</p> <p>CO6: Students will be able to utilize various government schemes</p>
8	Course Description	<p>The course provides input on process and practice of entrepreneurship development, communication and inter-personal skills, creativity, problem solving, achievement motivation training, inputs on resource and knowledge industries.</p> <p>The students will be learning to propose and convert a unique business idea into a feasible business plan/ startup. At the end of the course, the</p>

		Potential projects can be taken up in the incubation cell of the university. The course methodology includes case studies, group discussion, games and simulation exercise, field visits and classroom lectures. A student shall be giving a complete project report stating an discussing all parameters of business/ startup as a part of final submission.		
9	Outline syllabus			CO Mapping
	Unit 1	Ecosystem Of Startups And Entrepreneurs		
		1a- Entrepreneurship & the present scenario. 1b- Startups and entrepreneurs (case studies) 1c- Entrepreneurial qualities	CO1	
	Unit 2	Business Opportunity Identification		
		2a- Opportunities and Idea Generation 2b- Design Thinking 2c- Design-Driven Innovation, Systems thinking	CO1,CO2	
	Unit 3	Market Survey and Research		
		3a- User group study 3b- Pre-feasibility of Project through Market Survey 3c- Creating and analyzing project report	CO1,CO3	
	Unit 4	Entrepreneurial Support System & Management		
		4a- Government incentives for entrepreneurship 4b- Incubation, acceleration, Funding new ventures – bootstrapping, crowd sourcing, angel investors, VCs, debt financing (3), due diligence. Legal aspects of business (IPR, GST, Labor law) 4c- Marketing strategies, Negotiation skill, Factors driving success and failure of ventures. Report submission	CO4,CO5	
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
12	Text book/s*	1. Entrepreneurship: Creating and Leading an Entrepreneurial Organization, Arya Kumar, Pearson 2. Handbook on Entrepreneurship Development, BS Rathore and JS Saini, Aapga Publications Panchkula 3. Women Entrepreneurs : Opportunities, Performance, Problems, SK Dhameja, Deep and Deep Publications, Jaipur 4. Entrepreneurship Development in India, CB Gupta and NP Srinivisan.		

		<p>Sultan Chand and Sons, New Delhi</p> <p>5. Entrepreneurial Development, SS Khanka, S Chand and Co. Ltd, New Delhi</p> <p>6. Entrepreneurship Development Small Business Enterprises, Poornima M Charantimath, Pearson</p> <p>Entrepreneurship: Strategies and Resources, Marc J Dollinger, Pearson</p> <p>6. Global Trends in Entrepreneurship, SK Dhameja, Abhishek Publications Chandigarh</p> <p>7. Entrepreneurship in Knowledge Economy, BS Rathore, DD Sharma, SK Dhameja, Abhishek Publications Chandigarh</p> <p>8. Entrepreneurship and Small Business, JS Saini, SK Dhameja, Rawat Publications Jaipur</p>
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	1	2	2	1	2	3	3	1	2	3
CO2	1	3	1	2	1	1	1	3	3	1	3	3
CO3	-	3	3	3	2	1	1	3	3	2	3	2
CO4	-	2	3	3	2	1	1	3	3	3	3	2
CO5	1	2	1	2	2	3	-	3	2	2	3	3
CO6	1	2	3	2	2	3	1	3	2	1	3	2
Avg	1	2	2	2	2	1	1	3	3	2	3	2

ARJ –Thesis (RBL-IV)

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Academic Year: 2027-28	
Branch:		Semester: X	
1	Course Code	ARJ	
2	Course Title	Thesis (RBL-IV)	
3	Credits	18	
4	Contact Hours (L-T-P)	0-0-18	
	Course Status	Compulsory	
5	Course Objective	<p>The main intention of the course is</p> <ul style="list-style-type: none"> -To interpret and analyze the problem formulation for the design project -To evaluate and create methodology for the proposal -To recognize and implement the previous learning of the course to the project -To experiment and design considering various factors of sustainability, environment, user need, adaptability, requirements etc. 	
6	Course Outcomes	<p>CO1: To define a socio economic environment context and analyze the problem pertaining to the project</p> <p>CO2: To infer the research project and create methodology for the application of the knowledge to the project</p> <p>CO3: To develop the knowledge of the professional principles</p> <p>CO4: To discover design integrated solutions for the project considering the environment and sustainability impact of the design</p> <p>CO5: To conclude the project both visually and verbally considering all the ethical principles of Architecture</p> <p>CO6: To build independent learning by applying modern appropriate tools</p>	
7	Course Description	<p>The B. Arch program culminates in a thesis project. Under the guidance of a thesis Mentor. Students are required formulate a cohesive thesis argument and project using supportive research and case studies and should demonstrate his ability and skills to do a critical enquiry through design. The nature of the work must be an original research or design project that involves additional learning of a substantive nature. The final proposal to be presented in appropriately rendered drawings, modules, 3D views and Report. The work must be documented with a written thesis completed to Institute specifications within the final term of the senior year.</p>	
8	Outline syllabus		
	Unit 1	Identification of the project , preparation of Synopsis	
		a) Introduction/Background	CO1, CO2

		b) Aims & Objective, Rationale of the topic	
		c) Site Identification and justification	
	Unit 2	Literature Study, Case study	
		a. Identify and group together common areas.	CO2, CO3
		b. Compare, contrast and evaluate issues.	
		c. Demonstrate why the topic and research is relevant to your field of study.	
	Unit 3	Program formulation	
		a. Detailed Design Program	CO3, CO4
		b. Design Criteria / Approach specific to the topic chosen	
		c. Conceptual Design	
	Unit 4	Design interventions	
		a. Preliminary Design Drawings	CO4, CO5
		b. Service Drawings	
		c. Landscape / Site Details	
	Unit 5	Design Proposal and Report	
		a. Detailed design proposal	CO4,CO5, CO6
		b. Supporting literature study	
		c. All Drawings & Report	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	-	3	2	3	2	-	3	2	-	-
CO2	3	3	-	3	3	1	3	-	3	3	-	2
CO3	3	1	3	3	3	-	3	-	3	2	3	2
CO4	2	1	3	3	2	-	3	-	3	3	1	3
CO5	1	-	2	-	3	-	-	3	3	3	1	3
CO6	3	-	-	-	3	-	-	-	3	3	-	3
Avg	3	3	3	3	3	2	3	3	3	3	2	3

AEJ____ – Design Technology Armature

School: SSDAP		Batch: 2023-2028	
Program: B. Arch		Academic Year: 2027-28	
Branch:		Semester: X	
1	Course Code	AEJ	
2	Course Title	Design Technology Armature	
3	Credits	2	
4	Contact Hours (L-P-S)	0-0-2	
	Course Status	Professional Elective	
5	Course Objective	The course offers a comprehensive learning using an international, interdisciplinary, and intersectional approach, this course will examine design technology armature	
6	Course Outcomes	<p>Students will be able to:</p> <p>CO1: Understand the concept of Technology Armature.</p> <p>CO2: Create awareness on various contemporary solutions.</p> <p>CO3: Develop a basic understanding of the various technology armatures.</p> <p>CO4: Develop a basic understanding of how to represent in two and three- dimensions.</p> <p>CO5: Engage in basic exercises that analyze conditions towards proposing transformation and change.</p> <p>CO6: Design, and present a proposal as a part of the Thesis.</p>	
7	Course Description	The course will be taught in congruence with the Thesis and assignments for the subject will be linked to the design exercises to achieve higher level of learning and understanding the practical application of the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction	
		a) Introduction to course b) Technology armature c) Choose Technology armature relevant to the thesis project.	CO1, CO2
	Unit 2	Case Study	

		a) National Case Study b) International Case Study c) Synthesis & Inference.	CO3
	Unit 3	Finalization of Technology Armature	
		a) Selection & Reason b) Suitability & Clarity of purpose c) Application in Design	CO4
	Unit 4	Design Proposal	
		a) Relevant Drawings b) 3D representation of proposal c) Essay on the technology armature	CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. A façade for a new style of architecture – By Serge Ferrari 2. Façade Engineering & Architectural Design – By Dow Corning 3. Façades: Design, Construction & Technology (Architecture in Focus) – By Lara Menzel	
12	Other References	1. Seven of the Most Innovative Brick Façade Styles in Architecture – Architizer 2. New Façade Book – VMZinc	

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	3	3	-	2	-	-	3
CO2	-	2	-	2	1	-	3	-	-	-	-	-
CO3	-	2	-	2	2	-	3	-	-	-	-	-
CO4	-	3	-	3	1	-	3	-	-	-	-	1
CO5	-	-	3	2	-	-	3	1	2	-	2	-
CO6	-	-	3	-	-	2	3	-	-	3	-	3
Avg	3	2	3	2	1	2	3	1	2	3	2	2

AEJ – Building Service Drawings

School: SSDAP		Batch: 2023-2028
Program: B. Arch		Academic Year: 2027-28
Branch:		Semester: X
1	Course Code	AEJ
2	Course Title	Building Service Drawing
3	Credits	2
4	Contact Hours (L-P-S)	0-0-2
	Course Status	Professional Elective
5	Course Objective	Enable the students to illustrate and prepare the drawings good for construction explaining the building services scheme outside the building envelop but within the site
6	Course Outcomes	CO 1. Recall all building services basics and standards for the application in building design CO 2. Select the appropriate construction details as per the various services CO 3. Illustrate drawings based on the traditional and new materials CO 4. Prepare various details for building services CO 5. Demonstrate the preparation of execution drawings in the process of realization of a designed building and services CO 6. Integrate all the drawings to prepare for the execution purpose.
7	Course Description	The Architectural Drawings needs to be detailed out based on services layouts and other important features to be used in the designed building to be executed and constructed. The building drawings so prepared become part of the contract documents with proper labelling and dimensioning, specifications, detailing.
8	Outline Syllabus	CO Mapping
	Unit 1	Building services drawings Plumbing Services

		a) Plumbing at building level b) Plumbing at site level c) Generation of drawings	CO1, CO2
	Unit 2	Building services drawings (Electrical & Illumination)	
		a. Electrical drawing (Single line diagrams for electrical scheme) b. Electrical drawing at building and site level c. Generation of drawings	CO1, CO2, CO3
	Unit 3	Building services drawings (HVAC , Fire , etc)	
		a. HVAC drawing schematic and detailed b. Fire Service drawing schematic and detailed c. Other services based of specific building use	CO1, CO2, CO3
	Unit 4	Coordination of all services together	
		a. Service coordination drawings study b. Understanding the nuances of all services working together in building c. generation of coordinated drawings	CO4, CO5, CO6
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text/Reference Books	1. Building construction illustrated by Dr. D.K. Ching	

CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2	-	-	-	2	-	-	-	-	1
CO2	1	1	2	-	-	-	2	-	-	-	-	1
CO3	2	2	2	-	-	-	2	-	-	-	-	
CO4	2	2	3	1	-	-	3	-	-	1	2	1
CO5	3	3	3	2	1	--	3	-	1	1	-	1
CO6	3	3	3	2	1		3	-	1	1	-	1
Avg	2	2	2	2	1	-	3	-	1	1	2	1

School: SSDAP		Batch : 2023-2028	
Program: B. Arch		Current Academic Year: 2027-2028	
Branch: B Arch		Semester: X	
1	Course Code	ARP 506	Industrial Preparedness
2	Course Title	Industrial Preparedness	
3	Credits	0	
4	Contact Hours (L-T-P)	0-0-4	
	Course Status	Active	
5	Course Objective	To enhance holistic development of students and improve their employability skills. Provide a 360 degree exposure to learning elements of Business English readiness program, behavioural traits, achieve softer communication levels and a positive self-branding along with augmenting numerical and altitudinal abilities. To up skill and upgrade students’ across varied industry needs to enhance employability skills. By the end of this semester, a will have entered the threshold of his/her 4 th phase of employability enhancement and skill building activity exercise.	
6	Course Outcomes	After completion of this course, students will be able to: CO1: Develop a creative resumes, cover letters, interpret job descriptions and interpret KRA and KPI statements and art of conflict management. CO2: Build negotiation skills to get maximum benefits from deals in practical life scenarios. CO3: Develop skills of personal branding to create a brand image and self-branding CO4: Acquire higher level competency in use of logical and analytical reasoning such as direction sense, strong and weak arguments CO5: Develop higher level strategic thinking and diverse mathematical concepts through building analogies, odd one out CO6: Demonstrate higher level quantitative aptitude such as average, ratio & proportions, mixtures & allegation for making business decisions.	
7	Course Description	This penultimate stage introduces the student to the basics of Human Resources. Allows the student to understand and interpret KRA KPI and understand Job descriptions. A student also understands how to manage conflicts, brand himself/herself, understand relations and empathise others with level-4 of quant, aptitude and logical reasoning	
8			

Outline syllabus – ARP 306			
	Unit 1	Ace the Interview	CO MAPPING
	A	HR Sensitization (Role Clarity KRA KPI Understanding JD) Conflict Management	CO1
	B	Negotiation Skills Personal Branding	CO3, CO4
	C	Uploading & Curating Resumes in Job Portals, getting Your Resumes Noticed Writing Cover Letters Relationship Management	CO1, CO3
	Unit 2	What is Personality? Who Am I ? Creating a positive impression	
	A	Group Discussion, Email writing	CO4
	B	Personal Interviews and Mock PI's followed by personalised feedback	CO4
	C	Story Telling and Analogies	CO5
	Unit 3	Accent neutralization and Power Dressing	
	A	JAM for confidence Building	CO6
	B	MTI reduction - Phonetics (V and A)	CO6
	C		CO6
	Unit 4	Written Communication	
	A	• Writing a Letter of Recommendation for Higher Studies	CO1
	B	Email Etiquettes	CO2
	Unit 5	Problem Solving and Case Studies	
	A	Real time Case Study Solving Exercises	CO4
	B	Intra student Mock Situation Handling Exercises	CO4
	Evaluation Weightage	(CA)Class Assignment/Free Speech Exercises / JAM – 60% / (ETE) Group Presentations/Mock Interviews(MIP's)/GD/ Reasoning, Quant & Aptitude– 40%	
	Text book/s*	Power of Positive Action (English, Paperback, Napoleon Hill) Streets of Attitude (English, Paperback, Cary Fagan, Elizabeth Wilson) The 6 Pillars of self-esteem and awareness – Nathaniel Brandon Goal Setting (English, Paperback, Wilson Dobson	

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ARP3 02.1	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP3 02.2	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP3 02.3	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP3 02.4	1	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP3 02.5	1	-	-	-	-	-	-	-	1	2	1	2	-	-	-
ARP3 02.6	1	-	-	-	-	-	-	-	1	2	1	2	-	-	-