Programme Structure

School of Design, Architecture & Planning (SSDAP)

Bachelor of Architecture

Programme Code: SAP0102

Batch: 2024-29

SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning(SSDAP)

Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: I (2401)
Session: 2024-25

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	12168	ART152	Human Values, Ethics & Constitutional Values	2	0	0	2	PAECC	Old
2	12198	ART 154	Environment, Sustainability and Services-I	2	0	0	2	BS/AE	New
JURY SUBJECT									
3	12200	ARJ 155	Architecture Design-I	0	0	8	8	PC	Old
4	12201	ARJ 156	Architectural Visual Representation and Design-I	0	0	5	5	PC	Old
5	39033	ARJ159	Digital Design Fabrication -I	0	0	2	2	SEC	New
6	12172	ARJ 154	Model Making and Carpentry Workshop	0	0	3	3	PC	Old
7	12229	ARJ 158	Construction Material & Methods-I	0	0	5	5	BS/AE	Old
PRACTICAL SUBJECTS									
8	16342	ARP 102	Communicative English-I	1	2	0	2	SEC	Old
			Total Credits				**29**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture

Term: II,(2402)

Session: 2024-25

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39043	ART 156	History, Theory and Criticism-I	2	0	0	2	PC	New
2	12231	ART 202	Environment, Sustainability and Services-II	2	0	0	2	BS/AE	New
JURY SUBJECT									
3	12200	ARJ 155	Architectural Design-II	0	0	8	8	PC	Old
4	12201	ARJ 156	Architectural Visual Representation and Design-II	0	0	4	4	PC	Old
5	12202	ARJ 157	Digital Design Fabrication -II	0	0	3	3	SEC	Old
6	12229	ARJ 158	Construction Material & Methods-II	0	0	5	5	BS/AE	Old
PRACTICAL SUBJECTS									
7	16342	ARP 102	Communicative English-2	1	2	0	2	SEC	Old
8			University Elective	0	0	2	2		Offered by Design Dept.
9			Value Added Course	N/A	N/A	N/A	N/A		Non CGPA
						Total Credits	**28**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: III (2501)
Session: 2025-26

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39044	ART 210	History, Theory & Criticism –II	2	0	0	2	PC	New
2			Environment, Sustainability & Services-III	2	0	0	2	BS/AE	New
3	37191	ART 226	Architectural Structures-I	2	0	0	2	BS/AE	Old
JURY SUBJECT									
4	37192	ARJ 219	Architectural Design-III	0	0	8	8	PC	Old
5	39045	ARJ 223	Construction Material & Methods-III	0	0	5	5	BS/AE	New
6	37194	ARJ 221	Digital Design Fabrication-III	0	0	3	3	SEC	Old
JURY ELECTIVE SUBJECTS									
7	12249	AEJ 211	Design Trends	0	2	0	2	PE	Old
8	12235	AEJ 204	Visual Representation and Composition						Old
9	12236	AEJ 205	Universal Design	0	2	0	2	PE	Old
10	12237	AEJ 206	Design Investigation						Old
PRACTICAL SUBJECTS									
11			Value Added Course	N/A	N/A	N/A	N/A		Non CGPA
12	33546	CCU 108	Community Connect	0	4	0	0		Audit Course
						Total Credits	**26**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: IV (2502)
Session: 2025-26

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39047	ART 211	History, Theory & Criticism –III	3	0	0	3	PC	New
2	39003	ART311	Environment, Sustainability & Services-IV	2	0	0	2	BS/AE	New
3	37191	ART 226	Architectural Structures-II	2	0	0	2	BS/AE	Old
JURY SUBJECT									
4	37192	ARJ 219	Architectural Design-IV	0	0	8	8	PC	Old
5	39048	ARJ 224	Construction Material & Methods-IV	0	0	5	5	BS/AE	New
6	37194	ARJ 221	Digital Design Fabrication-IV	0	0	3	3	SEC	Old
7	39049	ARJ 225	Site Planning	0	0	3	3	PCC	New
JURY ELECTIVE SUBJECTS									
8	12205	AEJ 203	Product Design	0	2	0	2	PE	Old
9	37196	AEJ 212	Art Appreciation						Old
10	37197	AEJ 213	Photography	0	2	0	2	PE	Old
11	39046	AEJ 214	Measured Drawing						New
			Total Credits				**30**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: V (2601)
Session: 2026-27

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1			Environment, Sustainability and Services -V	2	0	0	2	BS/AE	New
2	39050	ART 321	Theory of Architecture	2	0	0	2	SEC	New
3	39005	ART 313	Human Settlements	2	0	0	2	SEC	Old
JURY SUBJECT									
4	39051	ARJ 309	Architectural Design-V	0	0	9	9	PC	New
5	39023	ARJ 316	Construction Material and Methods - V	0	0	5	5	BS/AE	Old
6	39024	ARJ 317	Digital Design Fabrication –VI	0	0	3	3	SEC	Old
JURY ELECTIVE SUBJECTS									
7	39052	AEJ 317	Architectural Criticism and Journalism	0	0	2	2	PE	New
8	39009	AEJ 310	Allied Study II: (Visual Communication)						Old
9	39015	AEJ 312	Allied Study I: UI, UX & Design Thinking	0	0	2	2	PE	Old (RBL-I)
10	12239	AEJ 305	Façade Articulation						Old (RBL-I)
PRACTICAL SUBJECTS									
11			Value Added Course	N/A	N/A	N/A	N/A		Non CGPA
						Total Credits	**27**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: VI (2602)
Session: 2026-27

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39054	ART 322	Environment, Sustainability and Services -VI	2	0	0	2	BS/AE	New
2	39004	ARJ 312	Building, Estimation & Costing	2	0	0	2	SEC	New
3	39021	ART 320	Housing	2	0	0	2	PAECC	Old
JURY SUBJECT									
4	39055	ARJ 310	Architectural Design-VI	0	0	9	9	PC	New (PBL-I)
5	39056	ARJ 319	Construction Material and Methods - VI	0	0	3	3	PC	New
6	39024	ARJ 317	Digital Design Fabrication –VI	0	0	3	3	SEC	Old
7			Working Drawing –I	0	0	5	5	BS/AE	New
JURY ELECTIVE SUBJECTS									
8	12203	AEJ 201	Vernacular: Architecture without Architect	0	0	2	2	PE	New (RBL-II)
9	39027	AEJ 322	Urban Element Design					PE	Old (RBL-II)
10	39026	AEJ 321	Sustainable Design	0	0	2	2	PE	Old
11	39053	AEJ 225	Ergonomics					PE	Old
			Total Credits				**30**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: VII (2701)
Session: 2027-28

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39034	ART 406	Urban Design	2	0	0	2	SEC	New
2	39035	ART 407	Landscape	2	0	0	2	SEC	New
JURY SUBJECT									
3	39010	ARJ 404	Architectural Design-VII	0	0	10	10	PC	New (PBL-II)
4	39036	AEJ 408	Research Methodology	0	0	3	3		New (RBL-III)
5	39037	ARJ 409	Working Drawing –II	0	0	6	6	PAECC	New
JURY ELECTIVE SUBJECTS									
6	12241	AEJ 401	Disaster Management	0	0	2	2	PE	Old
7	12244	AEJ 404	Tactical Urbanism					PE	Old
8	39038	AEJ 405	Interior Design	0	0	3	3	PE	New
9	39039	AEJ 406	Parametric					PE	New
PRACTICAL SUBJECTS									
10			Value Added Course	N/A	N/A	N/A	N/A		Non CGPA
						Total Credits	**28**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: VIII (2702)
Session: 2027-28

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	12066	ART 405	Professional Practice	2	0	0	2	PAECC	New
2	39040	ART 408	City Planning	2	0	0	2	PC	New
JURY SUBJECT									
3	39058	ARJ 410	Architectural Design-VIII	0	0	12	12	PC	New (PBL-III)
4	39059	ARJ 414	Architectural Video Editing	0	0	3	3	PAECC	New
5	39060	ARJ 415	Dissertation	0	0	5	5	PC	New (RBL-IV)
JURY ELECTIVE SUBJECTS									
6	39061	AEJ 407	Place Making	0	0	2	2	PE	New
7	39062	AEJ 408	Vastu Shastra					PE	New
8	12246	AET 501	Conservation	0	0	2	2	PE	New
9	12017	AEJ 218	Animation & Web Designing					PE	New
			Total Credits				**28**		

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: IX (2801)
Session: 2028-29

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks
JURY SUBJECT								
1	39069	ARJ 514	Practical Training	-	-	-	15	New
PRACTICAL SUBJECTS								
2			Value Added Course	N/A	N/A	N/A	N/A	Non CGPA
						Total Credits	**15**	

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SHARDA UNIVERSITY

Sharda School of Design, Architecture & Planning
Batch: 2024-29

Programme / Branch: Bachelor of Architecture
Term: X (2802)
Session: 2028-29

S.No	Paper ID	Subject Code	Subject Name	L	P	S	Credits	Remarks	
THEORY SUBJECTS									
1	39067	ART 508	Construction Project Management	2	0	0	2	PAECC	New
2	39068	ARJ 509	Green Building Accredited Courses	2	0	0	2	PAECC	New
JURY SUBJECT									
3	39070	ARJ 515	Thesis	0	0	20	20	PC	New (PBL-IV)
JURY ELECTIVE SUBJECTS									
4	39063	AEJ 501	Entrepreneurship in Architecture	0	0	2	2	PE	New
5	39064	AEJ 502	Building Service Drawing					PE	New
6	39065	AEJ 503	Design Technology Armature					PE	New
7	39066	AEJ 504	Narrative Architecture					PE	New
			Total Credits				**26**		

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SEMESTER – I

ART 152: Human Values, Ethics and Constitutional Values

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-2025**
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	-To help students distinguish between values and skills, and understand the need, basic guidelines, content, and process of value education. -To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession -To facilitate the students to understand harmony at all the levels of human living and live accordingly. -To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life -Develop in students' sensitivity to constitutional obligations.
7	Course Outcomes	CO1: To **summarize** the significance of value inputs in a classroom, the need, basic guidelines, content, and process of value education, CO2: To **explore** the meaning of happiness and prosperity in the current scenario in the society CO3: To **distinguish** between ethical and unethical practices and start working out the strategy to actualize a harmonious environment wherever they work. 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 CO5: To **develop** in students' sensitivity to constitutional obligations. CO6: To **adapt** the spirit of secularism and national unity in students.
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			
	Unit 1	**Need, Basic Guidelines, Content and Process for Value Education**		
		a. Continuous Happiness and Prosperity- A look at basic Human Aspirations b. Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority c. 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.		
	Unit 2	**Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship.**		
		a. Understanding the meaning of Vishwas; Difference between intention and competence b. Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship c. Understanding the harmony in the society (society being an extension of family)		
	Unit 3	**Holistic Understanding of Harmony on Professional Ethics**		
		a. Behavior of a person or group in a business environment b. Professional competence with ethical human conduct. c. Honest in one's work and serving the people along with trustworthiness, respecting others, honesty, accountability, abiding by the rules and avoiding harming anyone.		
	Unit 4	**Constitutional Values**		
		a. LIBERTY of thoughts, expression, belief, faith, and worship b. EQUALITY of status and of opportunity and to promote among them all c. FRATERNITY, assuring the dignity of the individual and the unity and integrity of the nation.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
12	Text book/s*	1.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

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

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
Branch:		**Semester: I**
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	To develop the main intention is to equip students with basic study of human behavior and interaction with the environment.
7	Course Outcomes	CO1:**Describe** the elements of behavior and their relationship to the environment. CO2:**Interpret** the traditional built environment in context with community /neighborhood behavioral patterns. CO3:**Distinguish** between built habitats based on community behavior. CO4:**Demonstrate** space design with social aspects (like age, gender, ability, economy. CO5:**Relate** built spaces with human interpretations. CO6**:Illustrate** the differences in social space design with the help of examples.
8	Course Description	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	
	Unit 1	**Introduction**
		a. Psychology and its relation to built space b. Behavioral Science and modern movement c. Elements of behavior
	Unit 2	**Built environment & User group**
		a. Social behavior - Family, gender and group, b. Community behavior patterns , 1c- Behavioral concept in neighborhood and communities

		c. Development of perception, Memory and thinking, mental map , Gestalt theory of Perception – environmental cognition and effect, spatial behaviour,		
	Unit 3	**Environmental perception**		
		a. Environment as interacting system, Environmental perception,• Environmental cognition b. Environment – Behavior: phenomena and design, Behavior Settings: Fits and Misfits, Anthropometrics and ergonomics c. Proxemics and Personal Space, Territoriality and Defensible space		
	Unit 4	**Social design aspects**		
		a. Privacy, Density, Crowding and Stress , Social space b. Safety, equity, Age and built space c. Making space and place		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	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		

ARJ 151: Architectural Design- I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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	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 the form-based design process and thereby successfully ideate a form into design. To enable students to understand and analyze the relation of space and humans by learning various principles of proportions and anthropometry. To develop and implement various communicative presentation skills.
7	Course Outcomes	CO1:**Demonstrate** the appropriate skills of form making and model making. CO2:**Interpret** concepts of composition and basic principles of design, principles of color and texture. CO3:**Develop** an understanding relation of space and human. CO4:**Comprehend** the skills and knowledge to design space solutions. CO5:**Communicate** effectively through documentation, graphical and verbal presentations. CO6:**Create** an illustrative architectural portfolio.
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	
	Unit 1	**2d & 3d Composition**
		a. Visual elements- point, line, plane, and volume. b. Understanding Positive and negatives, solids, and voids c. Principles of Proportion, Scale and balance, rhythm, contrast, harmony, symmetry, focus, order, and chaos
	Unit 2	**Construction/Addition/ Subtraction**

		Model Based Additives Exercise Using: a. Planes And Solids b. Manipulating Planes And Solids c. Color Theory And Application	
	Unit 3	**Form Finding**	
		a. Formal application of methods learnt through the preparatory exercises. b. Exploration of firm materials in developing forms c. Exploration of soft materials in developing forms	
	Unit 4	**Anthropometrics And Basic Space Standards**	
		a. Human Body and anthropometrics b. Human Space relation and basic standards c. Space proportions	
	Unit 5	**Design Development & Model Making**	
		a. Model (Preferably LCJ) based exercises to understand space transformation, spatial relations, and anthropometry. b. Visual composition and drawing development c. Understanding architectural elements and final visualization in terms of model.	
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	

ARJ 156: Architectural Visual Representation and Design - I

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2024-2025**
Branch:		**Semester: I**
1	**Course Code**	**ARJ 156**
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	To introduce and familiarize students with drafting tools and other necessary equipment. 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	CO1:**Comprehend** the drafting tools to produce qualitative work. CO2:**Formulate** and use observation-based knowledge and methods to implement scale, dimension, composition in manual drafting. CO3:**Relate** different process and terminologies in 2d and 3d graphical representations. CO4:**Apply** the knowledge of colors, materials, and textures through hand rendering techniques. CO5:**Develop** basic skills of drawings and representation. CO6:**Combine** learning of visualization of solids to surface developments and vice versa.
8	Course Description	The process of design requires varied techniques of visualization and representation to aid design development. These may be in two or 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 follow 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		
	Unit 1	**Fundamentals of Architectural Drawing**	
		a. Architectural Lettering b. Architectural scales and dimensioning c. Architectural representation of materials and architectural elements through architectural graphic symbols.	
	Unit 2	**Orthographic Projections**	
		a. Principles and projection methods of orthographic projection b. Development of surfaces c. section of solids	
	Unit 3	**Introduction to Architectural Drawings**	
		a. Plans, elevations, sections b. Measure Drawing c. Scaling and compositions of sheets	
	Unit 4	**Isometric and Axonometric Views**	
		a. Solids b. Compositions c. Buildings	
	Unit 5	**Rendering and Visualisation**	
		a. Converting the orthographic projections into Three Dimensional Visualizations. b. Basic Architectural rendering of orthographic projections drawings to develop understanding of materials, proportions and scale. c. Compiling the entire portfolio	
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. (n.d.). *Architectural Graphics Ed. 6*. John Wiley & Sons. Bhatt, N.D. and Panchal, V.M. (1996). *Engineering Drawing – Plane and Solid Geometry*. Charotar Publishing House.	

ARJ 159: Digital Design Fabrication-I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
Branch:		**Semester: I**
1	**Course Code**	**ARJ 159**
2	**Course Title**	**DDF-I (Digital Design Fabrication-I)**
3	**Credits**	**2**
4	**Contact Hours (L-P-S)**	**0-0-2**
5	**Course Status**	**Compulsory**
6	Course Objective	To develop understanding about the basics of 3D forms. To familiarize students with digital presentation techniques using various tools and techniques. To make familiar with Sketchup as a tool and its basic functioning in 3D presentations. To understand and should have the ability to create 3D space design using digital 3D tools.
7	Course Outcomes	CO1:**Understand** Presentation techniques using various digital tools. CO2:**Apply** 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: **Adapt** the Visual rendering and presentation skills.
8	Course Description	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.
9	Outline syllabus	
	Unit 1	**Introduction to digital 3D tools**
		a. Basic Interface and functions b. 3D Modeling tools and techniques c. Material, Texture in 3D Model

	Unit 2	**Modelling Methods and Techniques**
		a. 3D Array b. Working with Follow me, Offset Tools c. Camera Settings
	Unit 3	**Texture & Materials**
		a. Basic texture & materials b. Custom textures c. Complex textures
	Unit 4	**Methods and Techniques – 3D – Demonstration**
		a. To apply more complex tools and methods in 3D Modeling b. Demonstrate presentation output, material application and lighting in 3D view. c. Draw and create a complete set of architectural drawings for a dwelling unit in 3D space design.
10	Mode of examination	Jury
11	Weightage Distribution	CA: 50% / ETE: 50%
12	Text book/s*	1. Fundamentals of Three-Dimensional Computer Graphics by Watt 2. SketchUp For Dummies, Book by Aidan Chopra 3. The SketchUp Workflow for Architecture: Modeling Buildings, Visualizing Design, and Creating Construction Documents with SketchUp Pro and Layout: by Michael Brightman

ART 154: Model Making and Carpentry Workshop

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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	To represent their ideas in a rudimentary model format using simple materials like paper, thermocol, hardwood, Metals, glass fibre etc. To familiarize the students with the ability to operate the carpentry tools to perform wooden jobs which help to understand the nature of wood material. To impart knowledge of the basic production process of Clay, Wood and Metal. To understand the various tools and equipment available for executing these exercises.
7	Course Outcomes	CO1:**Assess** different model materials. CO2: **Demonstrate** various cutting and pasting techniques that are applicable for model making in different materials. CO3: **Create** a basic architectural model. CO4: **Develop** a detailed architectural model. CO5: **Understand** various details of site development, landscaping and human figures in the architectural model. CO6: **Demonstrate** the safe use of the appropriate tools, materials and techniques as required to carry out work on a building project.
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	
	Unit 1	**Introduction of basic materials and tools**

		a. Variety of paper board, sun board, cork sheet, transparent sheet, coloured paper, balsa sheet, mount board, mat sheet, drafting, pasting and cutting tools etc. b. Basic cutting and pasting job related to ivory sheet (cube, cuboid, prism, cylinder, trapezium etc.) c. Basic cutting and pasting job related to sun board sheet (cube, cuboid, prism, cylinder, trapezium etc.)	
	Unit 2	**Introduction of Basic model making workshop 1**	
		a. Introduction: Importance of architectural models in the profession, materials used in making different types of architectural models: their types and selection criteria. b.Techniques for fabrication of basic design modal (any Kiosk) to understand door/ window making techniques with mount board/ivory sheet. c. Preparation of base for model.	
	Unit 3	**Introduction of detailed model making workshop 1I**	
		a. Building blocks at least 02 storey with details like windows, doors, porch, balconies, pergola, terraces, parapet etc. b. 1 or 2 BHK interior model with toilet and kitchen detail. c. Furniture design with different materials.	
	Unit 4	**Preparation of model Base**	
		a. Preparation of wooden base b. Components of site layout like parking, roads, pavements, water body, landscaping, trees, slope/contours etc. c. Boxing, lighting and naming of model.	
	Unit 5	**Carpentry Workshop**	
		a. Introduction of carpentry tools and their use with all safety and introduction of carpentry joints. b. 1st job related to carpentry joint (team work) c. 2nd job related to carpentry joint (team work)	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%

12	Text book/s*	**Reference-Books** • Criss B.Mills, Designing with Models. • Wolfgang Knoll and Martin Hechinger, Architectural Models. • Don A. Watson, Construction Materials and Processes, McGraw Hill Co., 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 Library Cataloguing in Publication Data, London,1990. • S.C. Rangwala, Engineering Materials, Charotar Pub.House, Annand, 1997.

ARJ 150: Construction Material & Methods-I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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**
5	**Course Status**	Compulsory
6	Course Objective	To develop understanding about construction principles. To familiarize students with building elements. To understand basic building materials such as mud, bamboo, stone and bricks and the various construction techniques wherein these materials are used. To understand different types of brick & stone masonries and their applications along with mud & bamboo construction.
7	Course Outcomes	CO1:**Examine** various building elements. CO2:**Understand** the functions and characteristics of common building systems and assemblies. CO3:**Comprehend** the standard nomenclature and classify the various types of bricks, brick masonry bonds & demonstrate the application of the same. CO4:**Develop** an understanding of different types of brick & stone masonries and their application. CO5:**Discuss** mud and bamboo construction techniques. CO6:**Familiarize** students will be able to explain principles of construction in mass building and use of the technical knowledge in project drawings.
8	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.
9	Outline syllabus	

	Unit 1	**Building Elements & Terminology**	
		a. Elements of building Terminology, Nomenclature of various parts of building from foundation to roof. b. Section through building. c. General idea of load transmission in load bearing & frame structures, their advantages, disadvantages and suitability.	
	Unit 2	**Brick and Brick masonry**	
		a. Brick terminology, types of brick and its manufacturing process. b. Types of Bricks : e.g. Bull Nose, Queen Closer, different kinds of bats etc. c. Brick bonds- English bond and Flemish (single and double) bond in brick for up to two brick thick wall.	
	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 b. Laying of brick bonds/ junctions on sites L Junction, T junction, Cross junction, Oblique junction c. Design and construction of brick jalli	
	Unit 4	**Stone Masonry**	
		a. Dressing, laying in Stone Masonry- Tools used, Surface finishes, principles of stone masonry b. Classification of Stone Masonry- Random Rubble, Coursed Rubble, Ashlar, Composite Stones c. Joints of stone masonry	
	Unit 5	**Mud & Bamboo construction**	
		a. Mud Architecture- Introduction and various construction techniques, Properties, Advantages & Disadvantages b. Bamboo Architecture- Construction details & Techniques, Properties, Advantages & Disadvantages c. Case Study of Mud & Bamboo buildings. Site Visit of Kiln	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	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.	

ARP 101: Communicative English-I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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. To 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	CO1:**Learn** and develop overall comprehension ability, interpret it and describe it in writing. CO2:**Developing** positive perception of self to be able to speak confidently in English. CO3:**Ingrain** the spirit of Positive attitude in students. CO4:**Describe** people and situations effectively and make effective conversations. CO5:**Create** and build successful and professional social media handles. Students will also be exposed to multiple Career Opportunities across. CO6:**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 a 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	
	Unit 1	**Sentence Structure**
		a. Subject Verb Agreement b. Parts of speech c. Writing well-formed sentences

	Unit 2	**Vocabulary Building & Punctuation**	
		a. Homonyms/homophones, Synonyms/ Antonyms b. Punctuation/ Spellings (Prefixes-suffixes/Unjumbled Words) c. Conjunctions/Compound Sentences	
	Unit 3	**Writing Skills**	
		a. Picture Description – Student Group Activity b. 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 c. Story Completion Exercise –Building positive attitude - The Man from Earth (Watching a Full length Feature Film). Digital Literacy | Effective Use of social media	
	Unit 4	**Speaking Skill, professional Skills, Leadership & Management**	
		a. Self-introduction/Greeting/Meeting people – Self branding b. Describing people and situations - To Sir With Love (Watching a Full length Feature Film) c. Dialogues/conversations (Situation based Role Plays	
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. *How to Build Better Vocabulary*. London: Bloomsbury Publication 2. Comfort, Jeremy(et.al). *Speaking Effectively*. Cambridge University Press	

SEMESTER – II

ART 156: History, Theory & Criticism-I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
Branch:		**Semester: II**
1	Course Code	**ART 156**
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	
	Unit 1	**Indus Valley civilization, The Aryan civilization**

		a. Introduction to Indus Valley and Aryan civilizations, their social systems, and cultures. b. City of Harappa, Mohanjodaro and Lothal, layout of domestic units & public facilities, building materials and construction technologies used. c. The Vedic civilization; Layouts of Aryan Village, type of dwellings and building materials.		
	Unit 2	**Buddhist and Jain Architecture**		
		a. Evolution of Jain & Buddhist Architecture; Development by Ashoka, Hinayan & Mahayan styles of Buddhist architecture. b. Architectural features of Stupas, Monolithic Pillars, Rock cut architecture (Chaityas & Viharas), Monestries, Rock edicts. c. Jain viharas, Temples of Rajasthan, Gujarat, Central India.		
	Unit 3	**Hindu Architecture – Nagara & Vesara Style**		
		a. The evolution of the temple form, evolution of the shikhara in north India. b. The three schools of architecture - the Gujarat (Sun Temple, Modhera), the Khajuraho (Kandariya Mahadeva Temple), c. The Orissa styles (Lingaraj and Konark Temple). Comparison in spatial attributes scale and detail.		
	Unit 4	**Hindu Architecture - Dravidian Style**		
		a. The evolution of the vimana and the contributions of the Chalukyas (Badami, Aihole & Pattadakal) b. The Pallavas (Shore Temple, Mahabalipuram), the Pandyas and the Cholas (brihadeshwara temple thanjavur) c. The contributions of the Nayaks to the temple cities (Meenakshi Amman Temple).		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	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.,

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

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
Branch:		**Semester II**
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	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. 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.
7	Course Outcomes	CO1: **describe** the climate of a place appropriate for architectural intervention CO2: **demonstrate** an understanding of the concept of thermal comfort in buildings CO3: **assess** level of heat gain in buildings CO4 : **summaries** material properties with respect to. climate CO5: **understand** ways to modify heat gain, day-light and ventilation in buildings CO6: **develop** strategies for modifying/controlling building microclimate in the different climatic zones
8	Course Description	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.
9	Outline syllabus	
	Unit 1	**Basics of Climatology**

		a. Introduction to climatology, climate and weather, importance of climatology in architecture, global climatic factors., Elements of climate such as temperature, wind, humidity, precipitation, solar radiation and various instruments, graphical representations to record climatic data. b. Classification of tropical climates ,its characteristics, , Climatic regions in India. c. 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**		
		a. Principles of heat transfer, heat exchange process of buildings, building heat gain calculations b. Thermal comfort c. Factors, Indices, Bioclimatic Chart, Psychrometric chart		
	Unit 3	**Solar Geometry, DayLight and Ventilation**		
		a. Solar Geometry, Study of passive techniques for heating and cooling, techniques of solar radiation control and heat transfer and insulation. Structural Controls. b. Day Lighting, Daylight factor, etc. c. Natural Ventilation- Wind effect and Air Flow Pattern,Ventilation Techniques, Air movement around the buildings , Stack Effect and Thermally induced air currents		
	Unit 4	**Climate Responsive Building Design**		
		a. Climate Responsive for Hot & Dry Climate and Hot and Humid Climate b. Climate Responsive for Composite Climate, Climate Responsive for Cold Climate c. Climate Responsive for Tropical Moderate Climate		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	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, Priceton Univesity Press 3. Krishan, A., Baker, N., Yannas, S., Szokolay, S.V., (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		

ARJ 155: Architectural Design –II

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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	The main intention of the course is to -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	CO1: To **Select** the appropriate tools -methods of model making, drawings and design presentations- to assess, predict a design project CO2: To **Interpret** the works of renowned architects documented and **Illustrate** various design processes, methods and means deployed to achieve spatial organization. CO3: To **Analyze** research literature and various scales of architectural projects contextually to arrive at substantiated conclusions. CO4: To **Apply** spatial configuration to a small scale project by using their user research based knowledge. CO5: To **Communicate** effectively through documentation, graphical and verbal presentations. CO6: To **Create** an illustrative architectural portfolio
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. Suggested exercise: Residence, Kiosk etc.
9	Outline syllabus	
	Unit 1	**Study of Famous Architects**
		a. Study of renowned architect's buildings through open models. b. Drawings & Documents. c. Context manipulation.

	Unit 2	**Documentation**	
		a. Interpretation of design methods and concepts. b. Interchanging between 2D and 3D representation to understand form generation and scale. c. Reverse design analysis and criticism.	
	Unit 3	**Analysis**	
		Analyzing the architect's project to expose studio to: a. Design process b. Circulation c. Space relation	
	Unit 4	**Design Response**	
		a. Formal application of methods learnt through the preparatory exercises. b. Design exercise of residential dwelling with site constraints, client and context. c. Arriving at design solutions through physical models/block models, drawings and supportive documents.	
	Unit 5	**Portfolio Design**	
		a. Narrating the design process. b. Formulating a complete set of drawings. c. Supporting the project with 3d visualizations/ models.	
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	

ARJ 156: Architectural Visual Representation & Design - II

School: SSDAP		**Batch: 2024-2029**
Program: B. Arcl		**Academic Year: 2024-2025**
Branch:		**Semester: II**
1	**Course Code**	**ARJ 156**
2	**Course Title**	**Architectural, Visual Representation & Design - II**
3	**Credits**	**4**
4	**Contact Hour (L-P-S)**	**0-0-4**
5	**Course Status**	**Compulsory**
6	Course Objective	The main intention of the course is -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	CO1: Student should be able to **comprehend** the drafting tools to produce qualitative work CO2: Student should be able to **formulate** and use observation-based knowledge and methods to implement different view typology CO3: Student should be able to **relate** different process and terminologies in 2d and 3d graphical representations CO4: Student should be able to **apply** the knowledge of colors, materials and textures through hand rendering techniques CO5: Student should be able to **develop** basic skills of drawings and representation, also assimilate learning of visualization of complex solids. CO6: Students should be able to **combine** learning of visualization of solids to surface developments and vice versa
8	Course Description	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.

9	Outline syllabus	
	Unit 1	**Three Dimensional Visualizations: Isometrics and Axonometric**
		a. Isometric views b. oblique three dimensional views

		c. Visualizing Architectural drawings into view	
	Unit 2	**Three Dimensional Visualizations : Perspectives**	
		a. Free hand Perspective Drawings b. Two point and one point pespectives for simple forms and complex. c. Visualizing Architectural drawings into perspective view	
	Unit 3	**Sciography**	
		a. Sciography in architecture. Rendering for sciography, tones,texture, colors, and light. b. Sciography in two dimentional surfaces c. Sciography of simple and complex forms	
	Unit 4	**Architectural Rendering**	
		a. Introduction to various techniques of rendering b. Architectural Entourages (Trees, people, cars, materials) c. Application of skills on architectural drawings	
	Unit 5	**Visualization and Form Development**	
		a. Converting the orthographic projections/ architectural drawings into Three Dimensional Visualizations like Sectional models, views b. Rendering (applying sciography and architectural renders) of orthographic projections drawings to develop deep understanding of proportions and scale. c. Compiling the entire portfolio	
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. (n.d.). *Architectural Graphics Ed. 6*. John Wiley & Sons. Bhatt, N.D. and Panchal, V.M. (1996). *Engineering Drawing – Plane and Solid Geometry*. Charotar Publishing House.	

ARJ 157: Digital Design Fabrication – II

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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	The main intention of the course is: 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	CO1: **Understand** Basics of Computer Aided Drafting CO2: **Apply** computer aided drafting and its parameter as tools and its application in Architecture CO3: **Build** the concepts of CAD drafting methods and techniques in 2D and 3D through various architectural projects of progressive complexity CO4: **Formulate** and apply CAD drafting in their projects CO5: **Develop** CAD techniques for quicker methods and presentation skills CO6: Students will **adapt** the CAD techniques and presentation skills.
8	Course Description	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 Computer Aided Drafting (CAD) with regard to Architecture. Students learn the commands to draft necessary drawings using the latest version of AutoCAD Software.
9	Outline syllabus	
	Unit 1	**Introduction to Computer Aided Drafting**
		a. Introduction to Computer Aided Drafting b. To develop and understand tools and basic set up for computer aided drafting c. Theoretical understanding of CAD

	Unit 2	**Computer Aided Drafting Methods and Techniques – 2D**	
		a. To comprehend tools and systems for 2d drafting b. Develops and draws various architectural plans, elevations and sections through 2D CAD c. Manipulate and alter through various tools and techniques existing architectural drawings in 2D CAD	
	Unit 3	**Computer Aided Drafting methods and techniques – 2D – demonstration**	
		a. To apply more complex tools and methods to edit drawings in 2D CAD b. Demonstrate presentation drawings in 2D Cad c. 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**	
		a. To apply more complex tools and methods to edit drawings in 3D CAD b. Develops and draws various architectural volumes, forms and surfaces through 2D CAD c. Convert and draw 2D architectural drawings to 3D forms	
	Unit 5	**Computer Aided Drafting Methods and Techniques – 3D – Demonstration**	
		a. To apply more complex tools and methods to edit drawings in 3D CAD b. Demonstrate presentation drawings, material application and lighting in 3D CAD c. 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

ARJ 158 - Construction Material & Methods-II

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2024-25**
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 understand basic building materials such cement, sand ,aggregate and concrete
6	Course Outcomes	CO1: To **understand** the basics of arch construction in stone and brick. CO2: To **understand** timber as a basic construction material**.** 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 RCC, PCC as materials. 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 Arches and Timber Doors and windows. 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.
8	Outline syllabus	
	Unit 1	**Brick & Stone Arches**
		a. Elementary principles of Arch construction, Definition of various technical terms, and Components of arch. b. Types of Arch – Flat, Segmental, Semi-circular etc. c. Exposure to site or practicing in construction yard by making examples of Arches and brick masonry.
	Unit 2	**Timber Construction**

		a. Timber used as a building material, Types, advantages and disadvantage of Timber, Manufacturing process of timber, Characteristics, Defects & Preservation methods. b. Technical terms, classification of joints, Joinery details c. Exposure to site or Practicing different types of timber joinery in wood workshops.	
	Unit 3	**Timber Doors**	
		a. Design considerations, Sizes and Location of doors b. Different type of timber doors & their construction details. c. Market Survey of industrial timber products- Veneer, Plywood, Laminates, Block board, particle board, fiber board etc.Market survey of Door Hardware- Hinges, Handles, Knobs, Bolts, L-drops, Locks, Stoppers, Stays, Silencers, Chain guards, Closers, Catchers, Knockers etc. in various materials.	
	Unit 4	**Timber Windows**	
		a. Design considerations , location of windows, fully glazed window, louvered, centrally pivoted, top hung windows, side hung, partly glazed, b. Joinery details of timber frame, style, rails, panels, fixing of glass, double glazing etc. Fixtures and fastenings c. Market Survey of different types of windows and materials available in market like PVC, Metal, Timber etc.	
	Unit 5	**Cement, Sand, Aggregate, PCC,RCC as Materials**	
		a. Cement, Sand, Aggregate, PCC, RCC as a building material. b. Types, advantages and disadvantages c. Manufacturing process and market survey	
	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. 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	

ARP 102: Communicative English-2

School: SSDAP		**Batch : 2022-2027**
Program: B. Arch		**Current Academic Year: 2022-23**
Branch:		**Semester: II**
1	Course Code	**ARP 102**
2	Course Title	Communicative English-2
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	CO1: Acquire Vision, Goals and Strategies through Audio-visual Language Texts CO2: Synthesize complex concepts and present them in creative writing CO3: Develop MTI Reduction/Neutral Accent through Classroom Sessions & Practice. CO4: Determine their role in achieving team success through defining strategies for effective communication with different people CO5: Realize their potentials as human beings and conduct themselves properly in the ways of world. CO6: Acquire satisfactory competency in use of Quantitative aptitude and Logical Reasoning
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**	
	Unit 1	**Acquiring Vision, Goals and Strategies through Audio-visual Language Texts**
		a. Pursuit of Happiness / Goal Setting & Value Proposition in life b. 12 Angry Men / Ethics & Principles c. The King's Speech / Mission statement in life | strategies & Action Plans in Life

	Unit 2	**Creative Writing**		
		a. Story Reconstruction - Positive Thinking b. Theme based Story Writing - Positive attitude c. Learning Diary Learning Log – Self-introspection		
	Unit 3	**Writing Skills 1**		
		a. Precise b. Paraphrasing c. Essays(Simple Essays)		
	Unit 4	**MTI Reduction/Neutral Accent through Classroom Sessions & Practice**		
		a. Vowel, Consonant, sound correction, speech sounds, Monothongs, Dipthongs and Tripthongs b. Vowel Sound drills , Consonant Sound drills, Affricates and Fricative Sounds c. Speech Sounds | Speech Music| Tone | Volume| Diction |Syntax |Intonation | Syllable Stress |		
	Unit 5	**Gauging MTI Reduction Effectiveness through Free Speech**		
		a. Jam sessions b. Extempore c. Situation-based Role Play		
	Unit 6	**Leadership and Management Skills**		
		a. Innovative Leadership and Design Thinking b. Ethics and Integrity		
	Unit 7	**Universal Human Values**		
		a. Love & Compassion, Non-Violence & Truth b. Righteousness, Peace c. Service, Renunciation (Sacrifice)		
	Unit 8	**Introduction to Quantitative aptitude & Logical Reasoning**		
		a. Analytical Reasoning & Puzzle Solving b. Number Systems and its Application in Solving Problems		
	Mode of examination	Class Assignments/Free Speech Exercises / JAM Group Presentations/Problem Solving Scenarios/GD/Simulations (60% CA and 40% ETE		
	Weightage Distribution	CA	MTE	ETE
		20%	30%	50%

	Text book/s*	1..Blum, M. Rosen. *How to Build Better Vocabulary*. London: Bloomsbury Publication 2..Comfort, Jeremy(et.al). *Speaking Effectively*. Cambridge University Press 3..Wren, P.C.&Martin H. *High English Grammar and Composition*, S.Chand& Company Ltd, New Delhi.

SEMESTER – III

ART 210: History, Theory & Criticism – II

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester: III**
1	Course Code	**ART 210**
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 eras 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	
	Unit 1	**Indo-Islamic Architecture - the Sultanate Style**
		a. Introduction and understanding of 'Islam's' philosophy, its consequent rituals, and their interpretation in building types. b. The architecture of early Islamic dynasties that ruled from Delhi like the Slave, Khilji, Tughlaq, Sayyid, Lodhis and Shershah Suri regimes. c. Analysis of Architecture of Qutub Complex
	Unit 2	**Provincial styles**
		a. Bengal b. Gujrat, Malwa c. Deccan, Sasaram
	Unit 3	**Mughal Architecture**

		a. Evolution of Mughal Architecture from the Sultane style of Architecture from Babur to Shahjahan. b. Analysis of Architecture of Humayun's Tomb, Taj Mahal, Fatehpur Sikri, Tomb of Itmad-Ud-Daulah and similar spaces and interpretation in comparative context. c. Analysis of Architecture Red Fort, Jama Masjid and similar spaces and interpretation in comparative context.		
	Unit 4	**Colonial Architecture**		
		a. British Architecture – Private Bungalows and Government Buildings. b. French, Dutch and Portuguese forms of architecture. Comparison with British Architecture. c. Indo-Saracenic architecture		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		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. Volwahsen, 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, Archaelogical 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".		

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

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester III**
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	
	Unit 1	**Introduction to building services**
		a. Introduction to building services , Importance of water supply and sewerage. Historical overview of development of water/ sewerage systems b. 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, c. Water pipe materials, apparatus, joints, fixtures and valves, Guidelines for laying of water mains, distribution., Case study of any building along with

		understanding various terminologies , symbols, legends used in the service drawings, Design of Water Supply at building level	
	Unit 2	**Domestic Water Supply**	
		a. Principles of water supply in domestic buildings. b. Water supply in low-rise and multi-storeyed buildings. Hot-cold water supply network and connections. c. Pipes types and appurtenances, Pipe materials, fixtures, joints, equipment's. Roof top water drainage.	
	Unit 3	**Domestic Sewage System**	
		a. Principles of domestic sewer systems norms and standards, Types of pipe systems. Types of traps, use and water seal. b. 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. c. 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	
	Unit 4	**Alternate sewage disposal and waste**	
		a. Alternative Sewage disposal Systems, Sewage treatment plan, b. Rain Water and Storm Water management, c. Solid Waste management	
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 Blankerbaker 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

ART 203: Architectural Structures-I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
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	
	Unit 1	**Direct Forces & Loads**
		a. Concept of direct force mechanism in structu tension and compression. b. Concept of loads as forces, response deformations. c. Simple stresses and Strains

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

ARJ 208: Architectural Design -III

School: SSDAP		**Batch: 2024-2028**
Program: B. Arch		**Academic Year: 2025-26**
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	The main intention of the course is to • 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	CO1: **Illustrate** systems of site planning and building in a settlement. 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. CO3: **Demonstrate** creative skills for design of small projects along with Inference from critical evaluation of these processes CO4: **Apply** the knowledge of design fundamentals, Basic building sciences, societal issues and humanities and basic environmental sciences in design of project. CO5: **Assimilate** and **Apply** learning of construction, structures and computers to basic design. CO6: **Demonstrate** basic skills of drawings and representation for developing an illustrative architectural portfolio.
8	Course Description	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 designing public buildings, viz. Community Centre, Aangan Wadi, Primary Health

		Centre, Art gallery and Pavilion etc. (500-1500 sq. m), With the focus areas on Site, 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	
	Unit 1	**Minor Project**
		a. Introduction to Minor project. b. Form and material based investigation. c. Understanding spatial aspects based on activity, space, form and human scale.
	Unit 2	**Minor Project Finalization**
		a. Documentation and Analysis. b. Identification of requirements c. Final design presentation
	Unit 3	**Major Project- Conceptual**
		a. Introduction to Major project on a Scale: 1:50/ 1:100 b. Understanding/Insight/Perception – Generating the insight for Context, Purpose, Motivation, End User etc. c. Action Research -Literature Study, Site Analysis, Case Study.
	Unit 4	**Concept Development**
		a. Concept- Understanding and generating the idea, its expression in different methods using manual, digital media etc. b. 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. c. 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.
	Unit 5	**Portfolio Design**
		a. 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.

		b. Expression of the design through 3d Model development on appropriate scale and materials. c. Final portfolio submission (manual or digital output)	
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	

ARJ 223: Construction Material & Methods-III

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester III**
1	Course Code	**ARJ 223**
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	1. To familiarize students about various timber staircases and construction details. 2. To provide complete knowledge on Timber roofing systems, flooring systems & partitions using various materials. 2. To understand various methods of water proofing and fire protection means. 4.To familiarize students about the conventional and new formwork systems, scaffolds, temporary supports, and underpinning 4. To cultivate personal observation and self-learning in students, site visits are conducted so as to cover the given syllabus. 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. This shall form part and parcel of the sessional work for internal assessment.
6	Course Outcomes	CO1: **Understand** different types of Timber Staircase. CO2: **Illustrate** the construction details of various roofing and roof covering systems in Timber. CO3: **Develop** an understanding of various methods of water proofing and damp proofing, and fire protection means. CO4: **Discuss** conventional and new formwork systems, scaffolds, temporary supports, and underpinning CO5**: Analyze** the methods of laying flooring in different materials. 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	This Construction Studio is designed to study timber staircase and roofing. Also, waterproofing, scaffolding and formwork systems are introduced through a series of workshops, site visits and studio work. In addition to this, students will gain basic knowledge of flooring materials.
8	Outline syllabus	
	Unit 1	**Timber Staircase**
		a. Design a timber staircase for a single/two story building (Dog legged, spiral, straight flight)

		b. Joinery details of timber tread riser, baluster, handrail, newel post etc. c. Market survey/case study
	Unit 2	**Timber Roofs**
		a. Classification of roof, technical terms, various forms of roofs for different spans- collar beam roof, pitched roof, single roof, double roof, trussed roof etc. b. Introduction to Timber Portal Frames, Timber trusses and joinery details of tie beam, principal rafter, common rafter etc., fixing of roof tiles. c. Introduction to metal truss and joinery details. Study of contemporary roofing materials
	Unit 3	**Water Proofing, Damp Proofing, Structure Joints, and Fire Protection**
		a.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. b. Fire resistance properties of different materials, Fire Resistance construction techniques, Hollow Protection to Steel Columns and Beams c. Fire protection equipment and requirement for multi-story buildings.
	Unit 4	**Deep Excavation, Scaffolding & Formwork, Shoring, and Underpinning**
		a. 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 b. 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. c. Formwork (Plywood and Steel Formwork), Formwork for Square column, Round Column, Beam, Slab and RCC Staircase, Construction and Removal of Formwork.
	Unit 5	**Flooring**
		a.Types of Floorings, materials, and methods of flooring
		b. Mud flooring, Brick Flooring, Mosaic, Marble, Tiled, Terrazzo, Cement Concrete Flooring c. Timber Floors, RCC Flooring, Ribbed Floor, Pre-Cast Concrete Floor, Steel Structure Flooring

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 – 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	

ARJ 209: Digital Design Fabrication-III

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
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	The main intention of the course is: 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	CO1: **Basic Concepts** & Knowledge of Rendering with Photoshop and other tools CO2: **Understand** new modes of digital presentation like Digital Presentations, 3D Presentations and Virtual Reality presentation. CO3: **Apply** & Demonstrate more efficient modes of production which facilitate group projects, i.e. organization CO4: **Create** rendering for their work presentations CO5: **Develop** render techniques for quicker methods and presentation skills CO6: Students will **adapt** the VR presentation skills.
8	Course Description	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 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.

9	Outline syllabus		
	Unit 1	**Introduction To Advance Render using Photoshop**	
		a. Introduction to Digital & Matte Painting using Photoshop b. To develop and understand tools and basic set up for digital rendering c. Digital composition techniques	
	Unit 2	**Basic 3D render & Photoshop**	
		a. To comprehend tools and systems 3D rendering b. Develops 3D render output using touchup in Photoshop c. Manipulate and alter through various tools and techniques	
	Unit 3	**Introduction to Advance 3D render tools**	
		a. To apply more complex tools and methods for 3D renders b. Demonstrate presentation in 3D render c. Draw and create a complete set of architectural views using 3D render	
	Unit 4	**Advance Renders as Image, Animation & VR**	
		a. Understanding Animation and Walkthrough b. Keyframe & Animation scene setup c. Introduction to Virtual reality (VR)	
	Unit 5	**Final Render output**	
		a. Final Project output in various Image formats b.Final Project output in Walkthrough/Animation/Video format c. 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	

AEJ 211 – Design Trends

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
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 the 19th century till date.
6	Course Outcomes	Students will be able to: CO1: **Define** trends in architecture and their relevance from the 19th century onwards CO2: **Compare** the trends that evolved in architecture since the 19th century CO3: Compare and critically **appraise** various architects and their works. CO4: Apply and **analyse** the case studies concerning defined parameters. CO5: **Assessing** the works of various architects throughout the world and their impact on world architecture CO6: **Building** reasonable arguments on the trends in architecture
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	
	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 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. c) Analysis of Case examples	
	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	
	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	
9	**Mode of examination**	Jury	
10	**Weightage Distribution**	CA	ETE
		50%	50%
11	**Text/Reference Books**	1. 1. Troman, R. (ed.), "History of Architecture, From Classic to Contemporary", Parragon.2009 2. 2. Gossel, P. (2005) Architecture in the 20th century, Vol-1 & Vol 2, Taschen 3. The Phaidon Atlas of Contemporary Architecture, Phaidon Press, 2004 4. 3. 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

AEJ 204: Visual Representation and Composition

School: SSDAP		**Batch: 2022-2027**
Program: B. Arch		**Academic Year: 2023-24**
Branch:		**Semester: III**
1	Course Code	**AEJ 204**
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	Students will be able to: CO1: **Understand** the elements and principles of two-dimensional design and how to apply them deliberately in creating compositions. CO2: **Explore** two-dimensional composition through various mediums. CO3: **Develop** methods for generating ideas and solving problems while composing images. CO4: **Develop** ability to articulate the use of visual elements and their role in how a composition function both visually and conceptually. CO5: **Apply** the principles and elements of two-dimensional composition in your own photographic work CO6: **Design** and present a composition.
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	
	Unit 1	**Introduction**

		a. Understanding of fundamentals of visual composition - space, form, size, shape, line. 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	
	Unit 3	**Medium, Materials And Techniques**	
		a. Introduction to different Medium, Materials and Techniques b. Manual Representation c. Digital Representation	
	Unit 4	**Design Composition**	
		a. 2D representation b. 3D representation c. Final Composition	
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	

AEJ 205: Universal Design (RBL-I)

School: SSDAP		**Batch: 2022-2027**
Program: B. Arch		**Academic Year: 2023-24**
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	To sensitize the students to universal accessibility and its implication on built environment. 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. To identify and promote adoption of universal design and conserve the untapped values and principles in the evolution of new theories for architectural creations.
6	Course Outcomes	CO1: Identify and learn about the various disabilities and highlight the need for universal design. CO2: Discuss the various ways of universal design application for buildings and products CO3: Interpret & discuss the initiatives in planning and design aspects CO4: Describe the universal design practices adopted in countries abroad. CO5: Describe the universal design practices adopted in countries abroad. CO6: Design and demonstrate universal design in buildings.
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	
	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	
	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	
	Unit 4	**Case Studies- India and International**	
		a. Universal Design 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. 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	

AEJ 206 : Design Investigation (RBL-I)

School: SSDAP		**Batch: 2022-2027**
Program: B. Arch		**Academic Year: 2023-24**
Branch:		**Semester: III**
1	**Course Code**	**AEJ 206**
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: CO1:- **understand** the methods of researching a product CO2: **trace** the origin of a product CO3: **study** the evolution of a product over the ages CO4: **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**	
	Unit 1	**Design Investigation**
		a. Understanding research and investigation b. Research types c. Research methodologies
	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	
	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	
	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	
9	**Mode of examination**	Jury	
10	**Weightage Distribution**	CA	ETE
		50%	50%

CCU 303 – Community Connect

SU/SSDAP/B. Arch

School: SSDAP		**Batch : 2021-2026**
Program: B. Arch		**Current Academic Year: 2022-23**
Branch:		**Semester: III**
1	Course Code	**CCU 303**
2	Course Title	**Community Connect**
3	Credits	**2**
4	Contact Hours (L-T-P)	**0-0-4**
	Course Status	**Compulsory**
5	Course Objective	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. 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. 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.
6	Course Outcomes	CO1: **Sensitize** to the living challenges of disadvantaged communities and **appreciate** societal realities beyond textbooks and classrooms CO2: **Acquire** knowledge and skills which will help them **understand**, project and **perceive** rural setup. CO3 : **Expose** the students to **understand** different current issues, **analyse** them from a rural perspective CO4 : **Learn** to do research, **apply** their knowledge via research, and training for community benefit CO5 : **Suggest** or design solutions to the social issues, **work** on socio-economic projects with teamwork and timely delivery and **engage** with communities for meaningful contribution to society. **C06: Students are able to document and present** their community project findings in an academically robust manner
7	Course Description	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 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	
	Unit 1	**Introduction to the Research problem**
		a. Statement of the problem. b. Purpose of the study c. Significance of the study.
	Unit 2	**Literature/ On site review**

		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.		
	Unit 3	**Methodology**		
		a. Sample b. Data collection c. Data analysis		
	Unit 4	**Implications and Limitations of study**		
		a. Identifying the limitations and how important each limitation is. b. Explaining the nature of limitations. c. Suggesting how such limitation could be overcome		
	Unit 5	**Implications and Recommendations**		
		a. Specific measures or directions that can be taken b. Critical suggestion regarding the best course of action in a certain situation c. Guide to resolve issues and result in a beneficial outcome		
	Mode of examination	Jury		
	Weightage Distribution	CA	MTE	ETE
		-	-	100 %
	Text book/s*			
	Other References			

SEMESTER – IV

ART 211: History, Theory & Criticism - III

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester IV**
1	Course Code	**ART 211**
2	Course Title	**History, Theory & Criticism – III**
3	Credits	**3**
4	Contact Hours (L-P-S)	**3-0-0**
	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	
	Unit 1	**Mesopotamia & Egypt**

		a. Introduction to Mesopotamian civilizations, their social systems and cultures. Ziggurats and their development – White Temple, Ziggurat of Ur, and Khorsabad city. Generic Temple Layout - Temple Oval . b. Introduction to Egyptian civilization, their social systems and cultures. Monumentality tomb architecture: Evolution of the pyramid from the mastaba – Great Pyramid of Cheops, Gizeh etc. c. Temple architecture: mortuary temples and cult temples - Temple of Ammon Ra, Karnak, Khons - Temple of Abu Simbel (Rock Cut) etc.
	Unit 2	**Greece**
		a. Introduction to Greek civilization, their social systems, and cultures b. Classical Order – Doric, Ionic, Corinthian. Temple types on basis of column layout – case example of Acropolis, Athens. c. Public Buildings and Square – Agora, Stoa, Prytaneum, Bouleuterion, Tholos, Gymnasium, Theatre
	Unit 3	**Rome**
		a. Introduction to Roman civilization, their social systems and cultures. b. 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. c. Forum Romanum and other Imperial forums, Pantheon, Public buildings: Colloseum, Circus Maximus, Thermae of Caraculla.
	Unit 4	**Early Christian, Byzantine & Romanesque Architecture**
		a. Introduction to society and culture of 400 -1150 AD in Europe. Contribution of Byzantine architecture in the development of structural system – dome construction over square plan. b. Adoption of Greek cross in church layout. Use of mosaic and mural in interior. c. Development of Early Christian Church from Roman Basilica. Development of Romanesque architecture from Early Christian architecture, Pisa Cathedral Complex.
	Unit 5	**Gothic, Renaissance, Baroque, Rococo & Neo-Classical Architecture**

		a. Development of Gothic church and its new elements. Significant buildings: Cathedrals of Chartres, Cathedrals of Notre Dame (Paris) b. Early Renaissance – Florence Cathedral, High Renaissance – Tempietto, Rome, Late Renaissance /Mannerism – Villa Rotunda c. Introduction to society and culture, Baroque; Rococo – Piazza of St. Peter & Neoclassicism		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		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. Volwahsen, 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, Archaelogical 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”.		

ART 311: Environment , Sustainability & Services-IV (Electrical, Illumination & Fire Services)

School: SUSAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2025-26**
Branch:		**Semester: IV**
1	Course Code	**ART 311**
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	CO1- To **summarise** the active and passive components of Electrical system and various principles. CO2- To **explain** the techniques and standards that are used in electrical services in small and medium scale architectural projects. CO3- **interpret** illumination services for various typologies of buildings CO4- To **demonstrate** an understanding for firefighting services and its various components CO5- To **design** Electrical, Illumination and Firefighting services for domestic building CO6- To **apply** of learning to design of Electrical, Firefighting, illumination and vertical transportation system in buildings (except detail design calculation)
8	Course Description	-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. -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. -This module of ESS focuses on building services namely, electrical, Illumination and fire fighting
9	Outline syllabus	
	Unit 1	**Introduction**

		a. Importance of Electrical, illumination and Firefighting, Historical overview of these services b. 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 c. Types of distribution networks at site level and building level, Planning electrical wiring for building – Main and distribution boards		
	Unit 2	**Electrical Services details**		
		a. Types of wires, wiring systems and conduit, Fixing of electrical fixtures and switches b. Materials, apparatus, joints, fixtures and breakers –Market survey, Low voltage supply (data and telephone) c. Electrical service drawings, nomenclatures used in drawings, design of electrical layouts.		
	Unit 3	**Illumination**		
		a. Basics of illumination, Glare, Factors affecting visual tasks b. Classification of lighting – Artificial light sources – Spectral energy distribution – Luminous efficiency –Colour temperature – Colour rendering, Choice of luminaries c. 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		
	Unit 4	**Fire Fighting System**		
		a. Causes and spread of fire, Combustibility of materials and safety norms, Fire resistant materials Passive Fire Protection Strategies. b. Active Fire Protection Systems. ,Fire Detection Systems, Alarm Systems Fire Extinguishing Systems , Smoke Control. c. Designing Fire Escapes for Life Safety, Code Provisions		
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

ART 226 : Architectural Structures- II

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
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: I**dentify** 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	
	Unit 1	**Determinacy, Energy Principles & Elastic Strain**
		a. Determinacy and Indeterminacy: Determinate and Indetermina structures . b. Energy Principles Introduction: Virtual work, Betti' and Maxwe laws of reciprocal deflection. Application of Virtual wo Castigliano's theorems. c. Introduction, forms of Elastic Strain Energy
	Unit 2	**Slope Deflection, Analysis of Beams & Yeild**
		a. Slope Deflection method b. Analysis of fixed and continuous beams c.Yielding of supports.

	Unit 3	**Design of Sections**		
		a. Analysis and design of sections b. Singly and doubly reinforced sections c. Introduction and use of design aids (IS 456:2007)		
	Unit 4	**Strength & Stress**		
		a. Strength and Serviceability requirements, Design methods, Working stress ,ultimate strength and limit state b. Introduction to One-Way slab., Two way slab & detailing of Reinforcement c. Introduction. Shear stress, Diagonal tension. shear reinforcement , Development 1ength, 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		

ARJ 219 : Architectural Design- IV

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
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	The main intention of the course is to -To understand and comprehend design considerations in regional, religional, 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	CO1: To **Illustrate** the learning from climatic study to the designed modules. CO2: To **Translate** research and environmental strategies to incorporate in the design process. CO3: To **Analyze** the different variables while using light as a major source of design element. CO4: To **Apply** the knowledge of local materials, sustainability and climatic impact on design project. CO5: To **Implement** the structural design in the design project. CO6: To **Demonstrate** basic skills of drawings and representation with modern tool usage for developing illustrative architectural portfolio.
8	Course Description	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 religional/ 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 (School, Hostel, Motels etc.) would induce students to experiment with built and open spaces/ light and 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.
9	Outline syllabus	
	Unit 1	**Minor Project**
		a. Introduction to Minor project. b. Form and material based investigation. c. Understanding spatial aspects based on activity, space, form and human scale.
	Unit 2	**Minor Project Finalization**
		a. Pre design study-Case study and functional standards b. Concept formulation and idea investigation c. Final design presentation
	Unit 3	**Major Project- Conceptual**
		a. Introduction to Major project (Scale: 1:100 , 1:200) b. 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. c. Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns.
	Unit 4	**Concept Development**
		a. Concept- Understanding and generating the idea, its expression in different methods using manual, digital media etc. b. 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. c. 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.
	Unit 5	**Portfolio Design**

		a. 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. b. Expression of the design through 3d Model development on appropriate scale and materials. c. Final portfolio submission (manual or digital output)	
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	

ARJ 224 - Construction Material & Methods-IV

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester IV**
1	Course Code	**ARJ 224**
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	1. To introduce Various kind of foundations. 2. To introduce them to RCC staircase. 3. To familiarize students about various RCC, beams and slabs. 4. To cultivate personal observation and self-learning in students, site visits are conducted so as to cover the given syllabus. 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.
6	Course Outcomes	CO1: To **classify** various kinds of foundation CO2: To **understand** details of RCC foundations. CO3: To **illustrate** details of various kinds of RCC staircases CO4: To **develop** an understanding of various details of RCC framed structure. CO5: To **develop** an understanding of Glass as a construction material. CO6: To **familiarize** students with the principles of construction in mass building and use of the technical knowledge in project drawings.
7	Course Description	This Construction Studio is designed to study various kinds of construction details in RCC. Also conducting Market survey and case study of different types of glass. These components are taught through workshops, studio work and site exposure.
8	Outline syllabus	
	Unit 1	**Types of Foundations and Shallow Foundations**
		a. Different Type of Foundations b.Isolated and Combined Footing c. Raft Foundation
	Unit 2	**Deep Foundations**
		a. Type of Pile Foundations in different materials b. Pile Foundation details c. Caisson Foundation

	Unit 3	**RCC Staircase**	
		a. Design a RCC staircase for a single/two story building b. Construction details of waist slab & folded slab c. Market survey/case study	
	Unit 4	**RCC Framed Structure**	
		a. RCC Constructions and details of laying columns, beams and projections. b. RCC slab constructions – Simply supported c. Continuous beam.	
	Unit 5	**Glass and Fiber Glass**	
		a. Properties of Glass for building purposes and structural uses, glass processing's- Sheet, Float, Plate and Toughened. b. Fiber Glass types. c. Properties and applications	
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 – 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	

ARJ 221: Digital Design Fabrication-IV

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
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	The main intention of the course is: 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	**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.
8	Course Description	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. 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.	
9	Outline syllabus		
	Unit 1	**Introduction to Vector Based tools using Adobe Illustrator**	
		a. Introduction to Adobe illustrator	
		b. To develop and understand tools and basic set up for digital Illustration	
		c. Digital composition techniques	
	Unit 2	**Use of type (and typography) as a design element**	
		a. To comprehend tools and systems for character settings b. Paragraph settings c. Composition & Layout in Illustrator	
	Unit 3	**Introduction to Adobe InDesign**	
		a. Introduction to Adobe InDesign b. Demonstrate presentation & types of projects should be built in InDesign c. Use of frames, content management, and links	
	Unit 4	**Document setup, multiple pages, project management**	
		a. Working with Document setup and its preferences b. Type: Kerning, tracking, leading, paragraph styles c. Hyperlinks & Settings for web output	
	Unit 5	**Final project output**	
		a. Final Project output using Adobe Illustrator b. Final Project output with single page layouts c. 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	

ARJ 225: Site Planning

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester IV**
1	Course Code	**ARJ 225**
2	Course Title	**Site Planning**
3	Credits	**3**
4	Contact Hours (L-P-S)	**0-0-3**
	Course Status	**Compulsory**
5	Course Objective	1. Understand the effects of local codes, ordinances and site plan review practices on the structure and function of the built environment. 2. Develop awareness in the physical context about implications of limited sources in design decision-making. 3. To develop understanding about site planning principles of developing private and public areas. 4. Communicate site analysis and planning recommendations effectively and professionally through report, presentation and graphics. 5. To develop the knowledge of designing of any site/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 focuses at the site or parcel scale on three issues: 1. The site planning process, 2. The site plan and the architectural design review process, 3. The site planning design principles and best practices.

8	Outline syllabus		
	Unit 1	**Basic introduction of site planning, types, and methodology**	
		a. and understanding of the site planning/definition of site planning. b.Factors influencing the site plan, prepare a checklist for collection of climatic data. c.Elements of site planning (Natural & Man made)	
	Unit 2	**Site planning and design considerations**	
		a.Understanding the site planning principles; Discussion about programming, problem statement, objectives and program analysis	
		b.Approaches of site planning; Site inventory and its characteristics. c.Land-Use consideration and zoning; Site and building design, conceptual plan and master plan	
	Unit 3	**Evaluating building controls and building regulations**	
		a.Introduction to building bye-laws b.Objectives and scope of building bye-laws. c.Identification of site-specific bye-laws and their application.	
	Unit 4	**Live case study discussion**	
		a.Visit to a live site for a better understanding of various site planning principles. b.Discussing features of the site analysis c.Preparation of overall report of the live case study	
	Unit 5	**Redesigning the Case Study**	
		a.Concept formulation and idea investigation b.Preparation of design requirements, area requirements based on standards and their interrelation with society and context and circulation patterns. c.Final design presentation	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s	1. LaGro, James A. Site Analysis: Informing Context-Sensitive and Sustainable Land Use Planning and Design. 2013. Third ed. Hoboken, NJ: John Wiley and Sons, Inc. 2. Kevin, Lynch. Site Planning. Third Edition 3. Thomas, H. Russ. Site Planning & Designing 4. Environmental Science – Earth as a living planet second Ed. University of California, Santa Barbara 5. Cerver Francisco A: World of Landscape Architects: World of Environmental Design 6. Cever Francisco A: Elements of Landscape, World of Environment. Printed In Spain	

AEJ 310: Allied Study -II (Visual Communication)

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-26**
Branch:		**Semester: IV**
1	**Course Code**	**AEJ 310**
2	**Course Title**	**Allied Study -II (Visual Communication)**
3	**Credits**	**2**
4	**Contact Hours (L-P-S)**	**0-0-2**
	Course Status	**Professional Elective**
5	**Course Objective**	To use industry-standard software to design graphical images. To understand the difference between different graphics and image file formats. To apply the concepts found within elements and principles of design. To incorporate theories and concepts when discussing visual communication. To use theory when considering different mediums in visual communication. To create a brand identity such as business cards, packaging, and advertising. To design logos, especially as related to brand identity.

6	**Course Outcomes**	CO1:**Articulate** the role of visual communication within society, and implement the creative process to solve diverse visual communication problems. CO2:**Conceive** a visually unified and balanced design using various two and three-dimensional media that communicates a clear message. CO3:**Articulate** the fundamental elements and principles of formalist design that enable a visual message. CO4:**Test** one's skill and knowledge for a better workflow. CO5:**Select** best output and what works for a particular given project. CO6:**Develop** ideas and various app designs and website pages.
7	**Course Description**	This course introduces students to a practice-based, hands-on approach to visual communication design. Students will learn 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	
	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
	Unit 2	**Elements and Principles of Design**
		a. a. Color, shape, texture, space, form b. Unity/harmony, balance, hierarchy, scale/proportion, emphasis, similarity, contrast , Design Theory: 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
	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
	Unit 4	**Skeleton and Surface**

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

AEJ 206: Art Appreciation

School: SSDAP		**Batch: 2022-2027**
Program: B. Arch		**Academic Year: 2023-24**
Branch:		**Semester: IV**
1	**Course Code**	**AEJ 206**
2	**Course Title**	**Art Appreciation**
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 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. 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. To aid in developing an ability to read and analyse different art works. .
6	**Course Outcomes**	Students will be able to: CO 1: **understand** the basic principles, materials and techniques used in developing an artwork. CO2:- **understand** art works through history CO3: **analyse art** works and differentiate between various art practices. CO4: access and articulate their **comprehension** of various works of art. CO 5: They will be able to **assess** visual art forms CO6: **explore** various ideologies and their relationship with visual art.

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		
	Unit 1	**Art**	
		a. Principles and Elements of Art b. Material, medium and Techniques c. "Ways of Seeing"	
	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	
	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	
	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	
9	**Mode of examination**	Jury	
10	**Weightage Distribution**	CA	ETE
		50%	50%
11	**Text/Reference Books**	- 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: 1. Conceptual Art Book
12	**Other References**	- Fred S. Kleiner – Gardner's Art Through the Ages_ A Concise History of Western Art-Cengage Learning (2013)

AEJ 213 : Architecture Photography

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: VI**
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.	
	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.	
	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.	
	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.	
9	**Mode of examination**	Jury	
10	**Weightage Distribution**	CA	ETE
		50%	50%
11	**Text/Reference Books**	1. Architectural Photography: Composition, Capture and Digital 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	

AEJ 214: MEASURED DRAWING

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2025-2026**
Branch: Architecture		**Semester: IV**
1	Course Code	**AEJ 214**
2	Course Title	**Measured Drawing**
3	Credits	**2**
4	Contact Hours (L-P-S)	**0-0-2**
	Course Status	**Professional Elective**
5	Course Objective	To measure, survey, document and interpret building/s and their settings in socio-economic and environmental context.
6	Course Outcomes	CO1: **Understand** the need to measure, analyse and represent buildings and their elements. CO2: **Understand** techniques involved in -- measurement, surveying, documentation, etc CO3: To **Understand** the scale and proportion need to be observed carefully, as a method of understanding buildings. CO4: To **appreciate** the detailing involved in Buildings /Historic monuments etc. CO5: To **develop** work collaboratively by hand the expertise to Observe and Measure. CO6: To **prepare drawings** an existing structure to scale and represent it in the form of a Document
7	Course Description	The idea behind this module is to enable the students to learn how to measure and then draw an Existing building / Structure / Interior space / Landscape etc. as much near to the actual. This measurement work is done in a group / team. It mainly involves basic Surveying, Sketching, obtaining available all information from site for proper documentation. This measure drawing is indeed use full for the students of architecture to learn various aspects of Historical or old buildings. Study their architectural features and then draw the same to scale and prepare a drawing / document for record. Mostly in practice this technology is effectively used to reconstruct dilapidated or old /historic structures including their repairs , reconstruction or addition / alterations etc. It would help them work in a team and produce work in a coordinated manner as is often required in the field.
8	Outline syllabus	
	Unit 1	**Introduction to the Measured Drawings**
		a. Introduction to measured drawings_ its importance . b. Study of various tools. c. Measured drawings of selected Interior space for example classroom, Studio, etc
	Unit 2	**Measured Drawings- I**

		a. Walking tour, Field notes, Sketches and measurements. b. Small space structures such as Kiosks/Small shops, Milk booths, Bus shelters, Petrol pumps, Gazebo, Florists shop, c. Entrance gates, Exhibition stalls, ATMs, Chowkidar's hut etc.	
	Unit 3	**Measured Drawings- II**	
		a. Socio-economic and cultural studies will be undertaken using field notes and measurements. b. Measured drawings of selected heritage buildings. c. Vernacular buildings/settlements, utilizing various tools and techniques.	
	Unit 4	**Preparation of the Documentation**	
		a. .Preparation of hand drafted to the scale drawings referring all the above. b. Detailed measured drawings and documentation of the building . c. Preparation of maps, plans, elevations, sections, views etc.	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	References	1. Rasmusson, S.E. , "Experience Architecture ", Chapman and Hall (1964). 2. Burns J.A., ed., "Recording Historic Structures", AIA Press (1989). 3. Ching, F. D. K., "A Visual Dictionary of Architecture", John Wiley & Sons. 4. Neufert, P., "Architects' Data", 3rd Ed., Blackwell Science (2000) 5. Agkathidis, A., Hudert, M. and Schillig, G., "Form Defining Strategies: Experimental Architectural Design", Wasmuth. 6. Henkin D, "City Reading", Columbia University Press (1998).	

SEMESTER – V

ART 318 : Environment, Sustainability & Services -V (HVAC, Vertical & Horizontal Transportation)

School: SUSAP		**Batch: 2024-2029**
Program: B.Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	Course Code	**ART 318**
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	CO1 - **Discuss** the active and passive components of HVAC and their underlying principles. CO2- **Explain** different types of air conditioning systems. Also, identify the design / execution time considerations specific to each of them. CO3- **Apply** the knowledge of air conditioning systems in their current design exercise CO4- To **develop** understanding for vertical transportation system for Low rise and high-rise buildings CO5- **Identify** the various interventions / innovations to make these systems energy efficient. CO6- To **develop** understanding for coordination and integration of various building services namely, water supply, electrical, HVAC, Firefighting etc. in architectural design
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	
	Unit 1	**Introduction to HVAC**

		a - Principles of Air conditioning, Humidification & Dehumidification, Evaporative cooling systems of air conditioning, Mechanical ventilation systems, b - Refrigeration cycle, Applications of refrigerationPsychometric chart and comfort zone. c - Refrigerant Cycle (Vapour Compression System), Types of Air Conditioning Systems, Non centralized air conditioner systems		
	Unit 2	**Centralised Air conditioning**		
		a- Centralised air conditioning systems, Various terminologies associated, Selection criteria, design / structural considerations and energy requirements b- Components of Central Air conditioning systems, Air distribution system-fans, filters, ductwork, outlets, dampers, HVAC layout of a room showing Air distribution system c- Emerging Technologies in HVAC– VRV, VRF, Heat Recovery Systems, etc.		
	Unit 3	**Vertical & Horizontal Transportation System**		
		a- Fundamentals of lift services System Design. Types, control, arrangements and operation, Building Plans, Drawings and Schematics. Standard space requirements and architectural implications. b- 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. c - Escalators, Trav-o-lators and Conveyor system, its components, arrangements and functioning, space requirements, construction details.		
	Unit 4	**Service Coordination in Architectural Layouts**		
		a- Importance of service coordination with architectural, interior and structural layouts. b- Coordination layouts of all services, HVAC, Electrical, Plumbing, Firefighting, Lighting and other miscellaneous services c – Drawing references of various scales of projects		
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.

ART 321 : Theory of Architecture

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch: Architecture		**Semester: V**
1	Course Code	**ART 321**
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 -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 and review the condition of development/status of urbanization C05: **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	
	Unit 1	**Introduction to Modern Architecture**
		a. Industrial Revolution ; Precursors to Modernism: Art Nouveau, Art Deco and The Stijl b. Chicago School and the Rise of Skyscrapers; European Modernism: Adolf Loos, Otto Wagner, and Vienna Secession c. Definition and Characteristics of Modern Architecture; Key Figures of Early Modernism: Frank Lloyd Wright and the Prairie School
	Unit 2	**International Style and Interwar Period**
		a. The International Style: Principles and Influences; Le Corbusier and the Five Points of Architecture. b. Bauhaus and Functionalism; Postwar Reconstruction in Europe.

		c. American Modernism: Case Study Houses and Mies van der Rohe.		
	Unit 3	**Emergence of Postmodernism and Contemporary Trends**		
		a. Critiques of Modernism and the Rise of Postmodernism b. Deconstructivism and Late Postmodernism c. Critical Regionalism		
	Unit 4	**Indian Architecture**		
		a. Post-independence modernist architecture b. Architectural works and philosophies of modern Indian architects. c. Contemporary Trends in Architecture		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	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		

ART 313 : Human Settlements

School: SSDAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	Course Code	**ART 313**
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	
	Unit 1	**Importance and Evolution of Human Settlement**
		a- Beginning of settlements. b- Social choices and ecological determinants. c- Ekistics - Elements of science in study of human settlement – C A Doxiadis
	Unit 2	**Analytical account of historical context**
		a- Classification of settlements based on evolution – Ancient, Medieval and Modern cities b- Cities in history (Indian sub-continent) – Chandigarh, Mumbai, New Delhi c- Cities in history (Europe and other countries) – Barcelona, Brasilia
	Unit 3	**Industrial Revolution**
		a- Introduction to 'Industrial Revolution'. b- Characteristics of industrial towns. c- Evolution of cities of Manchester and London

	Unit 4	**Human Settlement as Political Expression**		
		a- 'Neighbourhood City Concept' by Clarence Perry; 'Linear City' by Arturio Soria y Mata. b- 'Radburn City' by Clarence Stein & Henry Wright; Contribution of Ebenezer Howard – Garden City. c- 'Ville Radieuse: Radiant City' by Le Corbusier.		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	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		

ARJ 309 : Architectural Design – V

School: SSDAP		**Batch: 2024-29**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	Course Code	**ARJ 309**
2	Course Title	**Architectural Design – V**
3	Credits	**10**
4	Contact Hours (L-P-S)	**0-0-10**
	Course Status	**Compulsory**
5	Course Objective	1.The aim of the studio is to introduce students to Idea Embodiment. 2.To sensitize them to observing their environment and incorporating the learning's into their design. 3.The objective is to focus on design evolution with respect to passive design strategies and site context.
6	Course Outcomes	CO1: **Illustrate** the learning from historic/ vernacular/ ecological heritage study to the designed modules. CO2: **Translate** research and the understanding of the built environment into the design project. CO3: **Build** design strategies to incorporate in the design process for designing in Vernacular/Historical or heritage context. CO4: **Apply** the knowledge of passive design strategies and site context in design of project CO5: **Integrate** learning of construction, structures and computers to apply to design. CO6: **Demonstrate** advanced skills of drawings and representation with modern tool usage for developing 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 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. Introduction to other role players in the Architectural process viz; the client and the user. Suggested exercise: Museum, Cultural Centre, Exhibition Hall etc.
8	Outline syllabus	
	Unit 1	**Minor Project**
		a. Introduction to Minor project b. Form and material based investigation c. Understanding spatial aspects based on activity, space, form and human scale.

	Unit 2	**Minor Project- finalization**	
		a. Pre design study-Case study and functional standards b. Concept formulation and idea investigation c. Final design presentation	
	Unit 3	**Major Project- Conceptual**	
		a. Introduction to Major project b. Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns. c. Pre design study -Literature Study, Site Analysis, Case Study. Site- 8000 sqm (appx)	
	Unit 4	**Concept Development**	
		a. Concept Formulation, Bubble Diagram and activity zoning. b. Design development- site development c. Design development- floor Plans	
	Unit 5	**Finalisation**	
		a. Design development- sections and elevations b. Model making on appropriate scale c. Final portfolio submission	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Other References	1. Ernst and Peter Neufert. Architects' Data 2. Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition.	

ARJ 307: Construction Material & Methods-V

School: SSDAP	**Batch: 2024-2029**
Program: B. Arch	**Academic Year: 2026-27**
Branch:	**Semester: V**

1	Course Code	**ARJ 307**
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	1.To generate a basic understanding of the prefab construction 2.To familiarize the students with the constructional details of Prefab construction including open prefab systems, large panel prefab system, joints, precast methods, on-site and off-site prefabrication, components. 3.To help them understand the methods of pre-stressing and post-tensioning of concrete, their application in large space structures today. 4.To familiarize the students with the components of Steel structures, their application, joinery, construction details of multistoried steel structures, forms and materials for speedy construction from foundation to roofing, from walls to slabs, from structure to facade. 5.To cultivate personal observation and self-learning in the students, site visits should be conducted so as to cover the given syllabus. 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.
6	Course Outcomes	CO1: **Understand** the basic construction of steel and prefab structures. CO2: **llustrate** the applications of prefab construction, steel construction CO3: **Discuss** components of prefab construction, steel construction from foundation to roofing. CO4: **Analyse** details of prefab construction, steel construction from foundation to roofing with roof coverings. CO5: **Apply** all related details concerned with the material in the components studied. 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	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		
	Unit 1	**Precast and Modular Construction Practices**	
		a- Materials and Building components in small prefab construction 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 –Pre-stressing & Post tensioning**	
		a- Pre-stressed Concrete Introduction, methods of pre-stressing and their application to large space structures 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. 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 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	**Steel Staircase**	
		a- Introduction to steel staircase and its application b- Different details of steel staircase c- Site exposure	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
12	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. 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

ARJ 308 : Digital Design Fabrication – V

School: SSDAP		**Batch : 2024-29**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	Course Code	**ARJ: 308**
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	·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	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. CO2: **Comprehends & Create** CAD/BIM-based tools to solve technical issues (fabrication, energy efficiency, lighting, structural etc.) during the planning process. CO3: **Demonstrate** BIM based Project Design. CO4: **Create** BIM project and documentation. CO5: **Evaluates** on understanding of BIM project and techniques for quicker methods and presentation skills. CO6: Students will **adapt** the BIM presentation skills.

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		
	Unit 1	**Introduction to BIM and BIM tools**	
		a- Introduction to Autodesk Revit 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 b-Working with Floor and Slabs with finishes c-Working with Roof and Roof Types	
	Unit 3	**Building modelling using BIM tool**	
		a- Stairs and Railings 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 b-3D Texturing and Materials c- 3D Components & 3D massing	
	Unit 5	**Methods, Techniques and implementation**	
		a -Sheets & layout 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

AEJ 317 - Architectural Criticism and Journalism

School: SSDAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	**Course Code**	**AEJ 317**
2	**Course Title**	**Architectural Criticism and Journalism**
3	**Credits**	**2**
4	**Contact Hours (L-P-S)**	**2-0-0**
	Course Status	**Elective**
5	**Course Objective**	Identify the twentieth century architectural works & Styles Explain and discuss the methods of evaluation of architectural works Analyze the methods of Criticism Develop a writing skills to evaluate and critic architecture work
6	**Course Outcomes**	CO1: Recognize different architectural concepts clearly, concisely, and effectively in both speech and writing. CO2: Demonstrate the main theoretical trends of the twentieth century in architecture. CO3: Interpret critical reading and writing skills. CO4: Prepare language with graphics in professional communications, the relationship between image and text. Learning the skills to refine, revise and edit communication projects to meet professional standards.
7	**Course Description**	This course is designed to help you see the way writing and theory can serve you as tool in the design process, professional practice, and the way you engage in the world around you. Writing can make you a more valuable and effective member of an architectural design team. This course introduces theory and architectural criticism and demonstrates their application to both communication in the field or with other practitioners and clients, and to the development of your personal philosophy as an architect.
8	**Outline syllabus**	

	Unit 1	**Introduction to Architectural Criticism**		
		a- Introduction to Architectural criticism. b- Evaluate architectural work, ideologies and approaches. c- Review, interpret and criticize different presentational media in architecture.		
	Unit 2	**Understanding of Theoretical Framework**		
		a- Explore theoretical concepts and their application in design work. b-Terminology for the discussion of architecture, both among professionals and the public. c-Examine architectural theories in relation to practice.		
	Unit 3	**Analysis of Theoretical Framework**		
		a- Evaluate Presentations, drawings, reports, articles, documentaries, etc. b- Analyse theoretical texts and architectural examples. c-Recognize modern and contemporary issues in the theory and criticism of architecture.		
	Unit 4	**Application of concepts and development of project proposal**		
		a- Formulate their future thesis proposal by introducing contemporary discourses. b.Formulate a final paper on a self-defined topic. c-Oral Presentation of final paper.		
	Mode of examination	**Jury**		
	Weightage Distribution	**CA**	**MTE**	**ETE**
		50%	**0%**	**50%**

	Text book/s*	1. Hays, K. M. (ed.) (2000) Architectural Theory Since 1968. Cambridge, Mass.: MIT Press. 2. Le Corbusier. Towards a New Architecture. Mineola: Dover Publications, Inc. 1986. 3. Mallgrave, H. and Christina Contandrioupoulos, C. (2008) Architectural Theory, Volume II, An Anthology from 1871-2005. Malden, MA: Blackwell Publishing. 4. Ada Louise Huxtable. The Unreal America: Architecture and Illusion. New York: The New Press, 1997 5. Kliment, S. (1998) Writing: For Design Professionals. New York City: W. W. Norton & Company. 6. Kruft, Hanno-Walter. A History of Architectural Theory: from Vitruvius to the Present, London: Zwemmer; New York: Princeton Architectural Press, 1994.

AEJ 312– Allied Study - I (UI-UX) (RBL-I)

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: V**
1	**Course Code**	**AEJ 312**
2	**Course Title**	**Allied Study -I (UI UX)**
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	
	Unit 2	**Elements of UX**	
		a-UX process b-User needs c-Business goals	
	Unit 3	**Scope and Structure**	
		a. Feature functionality b. Information architecture c. Interaction design.	
	Unit 4	**Skeleton and Surface**	
		a. Navigation design b. Interface design c. Information design.	
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)	

AEJ 305 – Façade Articulation (RBL-I)

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
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	
	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.	
	Unit 2	**Elements of Façade and Design Principles**	
		a.Basics of Façade Drawing, Arrangement and Orientation, Scale and Detail . b.Representing Materials, Spatial Depth Cues - Continuity of Outline, Texture, Light and Shade. c.Advanced Façade Design Principles	
	Unit 3	**Design of Intelligent Façades**	
		a. Types of facades; facade materials; control of heat, air, and moisture. b. Emerging technologies such as smart materials, double-skin facades . c. Facades as energy generators, and control systems in Intelligent facades.	
	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.	
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	

SEMESTER – VI

ART 322 : Environment , Sustainability & Services -VI (Acoustics, Communication Systems, Renewable Energy and Intelligent services)

School: SUSAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2026-27**
Branch:		**Semester: VI**
1	Course Code	**ART322**
2	Course Title	**Environment , Sustainability & Services -VI (Acoustics, Communication Systems 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	CO1-To **explain** different phenomena and principles related to sound propagation and their implications on building design. CO2- To **summarize** the common acoustical defects in various types of architectural projects and the ways to avoid / correct them. CO3- To **describe** the different types of noise, their transmission, and the measures to isolate / control them. CO4- To **develop** understanding for domestic gas piping system for Low rise and high-rise buildings CO5-To **explain** the concept of renewable energy systems and elaborate on its various technologies CO6-To **elaborate** the concept, working and application of building automation system
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	
	Unit 1	**Acoustics -I**
		a - Basic introduction of Acoustics, Origin of sound, propagation of sound, Behavior of sound. Inverse square law. Reverberation of sound, b- Sabins formula and reverberation time calculations. Acoustical defects & their remedies. Noise (Structural Borne noise & Air borne noise).

		c- Use of Various Acoustic Calculating instruments to achieve RT with applied material. (For ex. Sound intensity Caliberator, Impedance tube, RT analyser or RT analysis application etc.)		
	Unit 2	**Acoustics -II**		
		a- Acoustical materials, Surface treatment, Sound absorbing materials & their properties. b- Constructional and planning measures for good acoustical design of building in general, Acoustical treatment of Auditorium / Lecture Halls / Conference hall / Recording Studio / Broadcasting Studio c- 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.		
	Unit 3	**Building automation**		
		a- Building automation and control and Best management practices- Fundamentals of control systems. b- Types of control systems, The impact of automation, Application and components of building automation systems c - Case studies, market surveys and design drawings		
	Unit 4	**Gas Piping, Communication systems**		
		a- A brief study of Centralized Domestic Gas Piping system, Introduction function, utility and its importance, Working principles and its application, merits and de-merits. 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. b- Communication systems in buildings, Video conferencing, Security and Surveillance system, Computer networks. Trenches and conduits to accommodate the systems c- Systems of DTH, Introduction, Its classification with respect to Single and multi-user. DTH layout and its Architectural implications.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%

ART 312 : Building, Estimation & Costing

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026 -27**
Branch:		**Semester: V I**
1	Course Code	**ART 312**
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** on various processes of Estimating and Rate Analysis. CO3: To **implement** the appropriate methods for preparing the estimates reports CO4: To **examine** the specification types for different categories of building works and draft reports CO5: To **compare,** the building typologies for preparing an estimate and conduct analysis of rates. C06: To **create** a detailed building Estimation report for a small-scale project using the acquired knowledge
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.
8	Outline syllabus	
	Unit 1	**Classification of Areas & Types of Estimates**
		a.Introduction to relevance and need of Estimation. 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) 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 b.Writing general Specifications of work. c.Writing detailed Specifications for Building work.		
	Unit 4	**Analysis of Rates**		
		a.I ntroduction to Schedule of Rates , Importance of Rate Analysis, Considerations done while doing the Rate Analysis b. Calculating the various quantities of materials required per unit. c. Calculations for basic building materials like RCC, Brick work, etc.		
	Mode of examination	Theory		
	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
	Books/ References	1. Estimating Building Costs Calin by M. Popescu 2. Estimating Building Costs For The Residential And Light Commercial Construction 3. Professional 3Rd Edition by Wayne Del Pico, John Wiley 4. Textbook Of Estimating And Costing (Civil) by R C Kohli, S Chand 5. Estimating And Costing In Civil Engineering Theory And Practice 28Ed (RevisedEdition) (Pb 2021) by DUTTA B. N., CBS Publishers & Distributors Pvt Ltd 6. PWD Data Book 7. CPWD Schedule of rate. 8. TN schedule of rates		

ART 320 : Housing

School: SSDAP	**Batch : 2024-2029**

Program: B. Arch		**Academic Year: 2026-27**
Branch: Architecture		**Semester: VI**
1	Course Code	**ART 320**
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	
	Unit 1	**Introduction& Terminology Housing Need and Demand in India**
		a. Present and Future. House, Housing and Settlement. 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 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 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. 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)		

ARJ 310 : Architectural Design –VI (PBL-I)

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: VI**
1	Course Code	**ARJ 310**
2	Course Title	**Architectural Design VI**
3	Credits	09
4	Contact Hours (L-P-S)	**0-0-9**
	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- Habitat Centre, Mix Use etc. • 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		
	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.	
	Unit 2	**Literature & Case Study**	
		a. Pre design study-Case study b. Pre design study -Literature Study, Site Analysis. c. Functional standards.	
	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.	
	Unit 4	**Design Development**	
		a. Design development- site development b. Design development- floor Plans c.Design development- sections and elevations	
	Unit 5	**Design Presentation**	
		a. Design sheets presentation. b. Model making on appropriate scale c. Final portfolio submission	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
	Other References	3. Ernst and Peter Neufert. Architects' Data Donald Watson, Michael J. Crosbie (Time-Saver Standards for Architectural Design, Eighth edition	

ARJ 319 : Construction Material & Methods-VI

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: VI**
1	Course Code	**ARJ 319**
2	Course Title	**Construction Material & Methods-VI**
3	Credits	**3**
4	Contact Hours (L-P-S)	**0-0-3**
	Course Status	**Compulsory**
5	Course Objective	1. To make students understand the composite materials, curtain walling and structural glazing systems used in facade. 2. To familiarize the students with different conventional wall finishes, cladding. 3. To make students understand the concept of partitions and their details. 4. To introduce students with different types of false ceilings, gypsum false ceilings, it's construction details and incorporation of services. 5. To help students to apply the details with the material in the components studied 6. To cultivate personal observation and self-learning in the students, site visits should be conducted so as to cover the given syllabus.
6	Course Outcomes	CO1: To **Understand** and comprehend the facade systems including composite, cladding materials and glazing systems. CO2: To Illustrate the construction of interior finishes, wall finishes and, interior partitioning, false ceiling and furniture details. CO3: To **Apply** all related details concerned with the material in the components studied. 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. CO5: To c**ultivate** personal observation and self-learning in the students, site visits should be conducted so as to cover the given syllabus. 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	This Construction Studio is designed to study the Internal 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 glazing, characteristics of glass as a building material.

		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.	
8	Outline syllabus		
	Unit 1	**Curtain walling/ structural glazing**	
		a. Curtain walling- Conventional Stick System, Semi unitized system, Unitized system, etc. 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 Finishes and Paneling**	
		a.Wall Finishes- Gypsum Plaster, Components and Accessories, Jointing and Finishing. Paints and Plaster b.Wall Paneling- Different types c.Materials and Details of Cladding -wet and dry in different materials, market research	
	Unit 3	**Internal Partitions**	
		a.Construction details of Metal Partition b.Construction details of Wooden Partition c.Construction details of Glass Partition	
	Unit 4	**False Ceiling**	
		a -Introduction to different types of False ceilings and their construction details. b -Gypsum Products Introduction - Gypsum Board, Suspended Ceiling (Board & Tiles), Construction details of false ceiling in different materials c-Market Survey/Case Study of false ceiling products available in market	
	Unit 5	**Composite materials**	
		a.Definition and Introduction to composite materials b.Application of Composite Material c.Advantages & disadvantages of the composite materials	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
12	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. 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

ARJ 317: Digital Design Fabrication-VI

School: SUSAP		**Batch: 2024-2029**
Program: B. Arch		**Current Academic Year: 2026-27**
Branch:		**Semester: 6**
1	Course Code	ARJ317
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	The main intention of the course is: 1. To develop greater perception of complex Architectural forms and buildings, The use of BIM and its effect on professional practice. 2. To develop the skill of making perspectives of complex buildings and Rendering them in different media. 3. Knowledge and Understanding of functional and aesthetic requirements of architecture and the application of those in virtual environments. 4. Knowledge of advanced BIM principles: Interoperability, software extensions, scripting/automation, texturing/rendering, workflow methods. As an important tool for drafting, designing, analyzing and representation of the drawings in a desired manner.
7	Course Outcomes	CO1: **Develop** Understanding of an overall understanding of Building Information Modeling (BIM) concepts throughout the lifecycle of a building, from planning, design, construction and operations. CO2: **Comprehends & Create** BIM-based tools to solve technical issues (fabrication, energy efficiency, lighting, structural etc.) during the planning process. CO3: **Demonstrate Advance** BIM based project design with working drawing of a project. CO4: **Create** BIM project with required documentation for project. CO5: **Evaluates** on understanding of BIM project and techniques for quicker methods and presentation skills. CO6: Students will **adapt** the BIM presentation skills.
8	Course Description	This course focuses on the skills and information needed to effectively use an existing Advance Building Information Model (BIM) in plan execution for a building construction project. This is a project-based course where students gain knowledge on the implementation of BIM concepts throughout the lifecycle of a building, from planning and design, to construction and operations.
9	Outline syllabus	
	Unit 1	**Starting a structural project based on a linked architectural model**
		a - Adding structural columns and walls b - Adding foundations and structural slabs c - Structural reinforcement :Beams, trusses, and framing systems
	Unit 2	**Design development process in BIM**
		a - Advance wall Finishes, wall sweep and wall revel b - Working with Curtain wall

		c -Space planning & area analysis	
	Unit 3	**2D documentation – visual information management & basic design documents**	
		a - Site Design & modifying Toposurfaces b - Annotating construction documents c - Adding tags and working with schedules	
	Unit 4	**3D & parametric modeling from generic massing through building assemblies**	
		a - Adding furniture and fixtures to a project b - Create Family using Forms c - Massing studies	
	Unit 5	**Methods, Techniques and implementation of visualization, perspectives & creating Walkthroughs**	
		a - Camera and View Settings b – Animation c - Final Project.	
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	
13	Other Reference		

ARJ 320: Working Drawing – I

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-2027**
Branch: Architecture		**Semester: VI**
1	Course Code	**ARJ 320**
2	Course Title	**Working Drawing - I**
3	Credits	**5**
4	Contact Hours (L-P-S)	**0-0-5**
	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	
	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
	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.	
	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	
	Unit 4	**Elevations and Sections**	
		4a- Elevations 4b- Sections 4c- Skin/ Facade sections and details.	
	Unit 5	**Preparation of Municipal Drawings**	
		5a- Contents of Municipal drawing 5b- Plans, Elevation, Sections etc. in 1: 100 scale 5c- Area calculation	
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	

AEJ 201: Vernacular: Architecture without Architects (RBL-II)

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2026-27**
Branch:		**Semester: VI**
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**	• To expose the students to traditional architecture of the various parts of the country and Abroad. • To expose the students to a wide variety of examples that teach them to appreciate architecture as an outcome of various social and economic values of society. • To identify and conserve the untapped values and principles in the evolution of new theories for architectural creations.
6	**Course Outcomes**	The students will be able to : CO1: **Define** Vernacular Architecture CO2: **Outline** the needs and types of vernacular building research, analysis, presentation of findings and its application to contemporary buildings. CO3: **Identify** and learn the main characteristics of the planning aspects, construction materials and construction techniques. CO4: **Compare** & learn the settlement planning of the settlements in various parts of the country and abroad. CO5: **Interpret** & discuss the factors influencing vernacular architecture of various places. CO6: The student should be able to **create** a project considering all the practical aspects of vernacular architecture.
7	**Course Description**	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. It provides powerful insights into fundamental issues of architecture. Its study provides insights into architectural form 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.

		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.
8	Outline syllabus	
	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
	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
	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
	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.
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 MadhaoAchwal 2. Hassan Fathy- Architectural Monographs, By James Steele	

AEJ 322 : Urban Element Design (RBL-II)

School: SSDAP		**Batch: 2022-2027**
Program: B. Arch		**Academic Year: 2024-25**
Branch:		**Semester: VI**
1	**Course Code**	**AEJ 322**
2	**Course Title**	**Urban Element Design (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 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	
	Unit 1	**Introduction**

		a. Introduction to course b.Key Definitions and Concepts c.Street Furniture & Hardware	
	Unit 2	**Case Study**	
		a. National Case Study b. International Case Study c. Synthesis & Inference.	
	Unit 3	**Site Selection & Study**	
		a.Site Selection & Reason b.Site Study & Survey c.Existing Conditions on Scale	
	Unit 4	**Design Proposal**	
		a. Site Plan & Relevant Drawings b. 3D representation of proposal c. Narrative on the main idea of proposal,.	
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	

AEJ 321: Sustainable Design

School: SSDAP		**Batch: 2024-29**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VI**
1	Course Code	**AEJ 321**
2	Course Title	**Sustainable Design**
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	CO1: To **identify** and **define** the basics of Sustainability CO2: To **classify** and define various concepts in sustainable design. CO3: To **describe and understand** various strategies and technologies used in sustainable design. CO4: To **analyse** the traditional and contemporary examples of sustainable design. CO5: To **compare and evaluate** an existing project on the basis of elements of sustainable design. CO6: To **apply** the knowledge of elements of sustainability and rating system in designing a built form.
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	
	Unit 1	**Introduction and Concepts of Sustainable Architecture**
		a. Sustainability and its various dimensions (economic, social and ecological); Sustainable development goals of UN b. Sustainable development of built environment; Global Warming and Climate Change c. Concepts in sustainable architecture- sustainable buildings, green buildings, climate-responsive buildings, ecological buildings.
	Unit 2	**Elements of Sustainable Architecture-I**

		a.Sustainable Sites: Site Specific Design; Development Density and Community Connectivity, Alternative Transportation, Site Development, Storm water Design and Heat Island Effect. b.Water Efficiency: Innovative Wastewater Treatment and Reuse and Water Use Reduction and Re-use factors. c.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	
	Unit 3	**Elements of Sustainable Architecture-II**	
		3a. Materials and Resources: Building Reuse: Maintain Existing Walls, Floors, and Roof, Construction Waste Management, Materials Reuse, Recycled Content, Regional Materials and Certified Wood. 3b.Indoor Environmental Quality: Construction Indoor Air Quality Management Plan and Daylight and Views 3c.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.	
	Unit 4	**Review and Design of a Sustainable Project**	
		4a.Examples of sustainable architecture- traditional and contemporary 4b.Review of a design project considering various factors of green building design Design of a small building with an objective to integrate elements of green design.	
10	**Mode of examination**	Jury	
11	**Weightage Distribution**	CA	ETE
		50%	50%
12	**Text book/s***	• National Building Code • Energy Conservation Building Code • CPWD Sustainability Handbook • TERI Sustainable building manual	
13	**Other References**	1. Leon Glicksman, and Andrew Scott. *4.183 Sustainable Design anFstrcd Technology Research Workshop.* Spring 2004. Massachusetts Institute of Technology: MIT OpenCourseWare, https://ocw.mit.edu. License: Creative Commons BY-NC-SA. 2. A.H. Hu, M.Matsumoto, T.C.Kuo, S.Smith (2019)Technologies and Eco-innovation towards Sustainability II: Ecodesign Assessment and Management, Springer, Singapore 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 IDeashttps://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/

AEJ 225 - Ergonomics

School: SSDAP		**Batch: 2024-29**
Program: B.Arch		**Academic Year: 2027-28**
Branch:		**Semester: VI**
1	Course Code	**AEJ 225**
2	Course Title	**Ergonomics**
3	Credits	**2**
4	Contact Hours (L-P-S)	**0-0-2**
5	Course Status	**Professional Elective**
6	Course Objective	1. To develop the knowledge base that will enrich approaches to, and understanding of the field 2. To pursue specialised skills, techniques of practice and areas of knowledge that will expand awareness of the field of ergonomics
7	Course Outcomes	CO1: Student should be able to research on the project and create methodology for the application of the knowledge to the project CO2: The students should be able to understand and analyze relation of space and human. CO3: Student will be able to empathic end develop skills to investigate the passive elements important in designing fo users CO4: Students should be able to apply spatial configuration to a small scale project by using their Use research based knowledge CO5: Students should be able to comprehend and communicate effectively through documentation, graphical and verbal presentations.
8	Course Description	A project based course on the application of knowledge about human capabilities and limitations to the design of workplaces, work methods and jobs for optimal safety, efficiency, productivity and comfort. The course provides necessary knowledge essential for the psychological and anthropometrical development leading to good design. The course includes study of anthropometry, study physical and psychological behavior of a user in a task, Design for comfort and safety, design for efficiency.
9	Outline syllabus	
	Unit 1	**Ergonomics**
		a. Introduction to Ergonomics b. Its scope and significance. c. Brief introduction to various areas of ergonomics and various terminologies associated with it.
	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. Study basic ergonomics, user, lifestyles and create mood boards.	
	Unit 3	**Human physical dimension concern**	
		a. Anthropometry data collection b. Posture and movement c. Space standards. Product design in field – study various brands and their design language.	
	Unit 4	**User Experience in Design**	
		a. Study what is User Experience Design and its scope. b. Understanding human interface and interaction with products, psychological and behavioral characteristics. c. Assignment that applying skills to understand user experience in design. Designing/ styling a product (lifestyle).	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s	• *The complete book of colour*, Suzi Chiazzari. • *Dynamic color Painting,* Diane Edison. • *Indian anthropometric dimensions for ergonomic design practice*, Debkumar Chakrabarti, National Institute of Design. *Materials and Design,* M. F. Ashby, Kara Johnson.	

SEMESTER – VII

ART 406: Urban Design

School: SUSAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2027-28**
Branch:		**Semester: VII**
1	Course Code	**ART 406**
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	
	Unit 1	**Introduction**
		a. Emergence of urban design as a discipline b. Definitions and its ambiguities. c. Scope of urban design and its relationship with architecture and planning:
	Unit 2	**Urban Space Study**
		a. Historical examples of urban space.

		b. Contemporary example of urban space. c. Indian cases, particularly towns on bazars & streets.		
	Unit 3	**Urban design Parameters**		
		a. Space and place, Urban morphology b. Urban form and structure, fabric, texture, grain, c. Enclosure, human scale, complexity, etc.		
	Unit 4	**Basic Principles and Theories of Urban Design**		
		a.Theories related to visual or perception aspect (Gorden Cullen) b. Theories related to physical aspect (Kevin lynch) c. Theories related to social aspect (Jane Jacob)		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		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		

ART 407: Landscape Architecture

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Current Academic Year: 2027-28**
Branch:		**Semester: VII**
1	**Course Code**	**ART 407**
2	**Course Title**	**Landscape Architecture**
3	**Credits**	**2**
4	**Contact Hours (L-T-P)**	**2-0-0**
5	**Course Status**	**Compulsory**
6	Course Objective	To describe the role and scope of landscape architecture. To differentiate between garden styles in landscape architecture and its evolution through history. To demonstrate the methods of representations in landscape architecture designs. To prepare landscape and site planning drawings.
7	Course Outcomes	CO1:**Identify** the relationship of landscape architecture with nature. CO2:**Distinguish** between the different garden styles and its evolution through time. CO3:**Analyze** and evaluate landscape drawings to make site plan exercises. CO4:**Prepare** landscape design drawings using appropriate representational graphics. CO5:**Summarize** the problems and issues. Identify possible solutions for different typologies. CO6:**Create** related drawings of the site.
8	Course Description	This course is designed to develop an understanding about landscape architecture and its relationship with nature. The course looks into various garden styles. The idea of site planning and landscape design is introduced in theory and drawings to develop a personal graphic presentation style.
9	Outline syllabus	
	Unit 1	**Introduction**

		a. Role and scope of landscape architecture. b. Elements of Landscape - Natural elements c. Elements of Landscape - Design elements		
	Unit 2	**History**		
		a. Evolution of Landscape Architecture: Historic times to present day b. Hindu Garden styles and philosophy c. Mughal Garden styles and philosophy		
	Unit 3	**Graphical Representation**		
		a. Principles of Landscape Design - Illustration with suitable examples. b. Graphics Techniques for making landscape drawings – representation of landscape architecture. c. Conventional symbols in landscape presentations.Understanding the process of conceptual design, design development and construction documentation.Preparation of schematic design set.		
	Unit 4	**Plant Selection**		
		a. Understanding and identification of species. b. Selection criteria of plants on the basis of visual, functional, micro climate and ecological aspects. c. Planting Design with Classification of plants.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
12	Text book/s*	Design With Nature - Ian L. McHarg Landscape Architectural Graphic Standards - Leonard J. Hopper The Planting Design Handbook- by Nick Robinson Landscape Graphics - Grant Reid Trees of Delhi - Pradip Krishen		

ARJ 404 – Architectural Design –VII (PBL-II)

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VII**
1	Course Code	**ARJ 404**
2	Course Title	**Architectural Design-VII**
3	Credits	**10**
4	Contact Hours (L-T-P)	**0-0-10**
	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. Suggested Exercise: Housing.
8	Outline syllabus	
	Unit 1	**Minor Project**
		a. Introduction to Minor project b. Form and material-based investigation c. Understanding spatial aspects based on activity, space, form and human scale.
	Unit 2	**Minor Project- finalization**
		a. Predesign study-Case study and functional standards b. Concept formulation and idea investigation c. Final design presentation
	Unit 3	**Major Project- Conceptual**

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

ARJ 408 : Research Methodology (RBL-III)

School: SSDAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2027-28**
Branch:		**Semester VII**
1	Course Code	**ARJ 408**
2	Course Title	**Research Methodology (RBL)**
3	Credits	**3**
4	Contact Hours (L-P-S)	**0-0-3**
	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	
	Unit 1	**Overview of Research & Scientific Thinking**
		a. Meaning, purpose, significance of ethical conduct in research 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? 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 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 b. Qualitative Methods c. Tools and Techniques	
	Unit 5	**Review Paper Writing**	
		a. Pre-Writing Preparation b. Writing the Review Paper c. Revision, Finalization and Publishing	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

ARJ 409- Working Drawing -II

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-2028**
Branch: Architecture		**Semester: VII**
1	**Course Code**	**ARJ 409**
2	**Course Title**	**Working Drawing-II**
3	**Credits**	6
4	**Contact Hours (L-P-S)**	**0-0-6**
	Course Status	**Compulsory**
5	Course Objective	1. To familiarize the students to the language of representation of working drawings and the methodology of preparing drawings. 2. To prepare a basic set of working drawings including site plan , landscape plan, floor plans, elevators, sections. 3. Detailed drawings of building compounds (kitchen, toilet, stairs, etc) and construction details as required (doors, windows, electrical, plumbing etc) 4. Preparation of schedule of finishes, doors, windows, drainage systems, etc.
6	Course Outcomes	CO1: To **prepare** detailed dimensioned working drawings of the building. CO2: To **understand** various footing types and footing details and its coordination with architectural drawings. CO3: To **produce** a comprehensive and well designed and detailed-out set of working drawings good for execution of the building project. CO4: To **design** building drawing using CADD software. CO5: To **develop** the knowledge of construction, finishes and services CO6: To **design** details and preparing working drawings.
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 c .Sections

	Unit 2	**Building Components I**	
		a .Terrace Plan in detail	
		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) b .Toilet details (plan, wall elevations, sections and details) c .Door / Window Schedule and details.	
	Unit 4	**Service Drawings**	
		a .Electrical layouts (Architectural) b .Plumbing layouts (Architectural) including water supply, sanitation. c .Water harvesting layout	
	Unit 5	**Miscellaneous Components**	
		a .Detail of Grill 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)	

AEJ 405– Interior Design

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VI**
1	**Course Code**	**AEJ 405**
2	**Course Title**	**Interior Design**
3	**Credits**	**3**
4	**Contact Hours (L-P-S)**	**0-0-3**
	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**	CO1: Students should be able to **Identify** the appropriate skills of interior Design and its history. 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. CO3: The students should be able to understand and **analyze** the material availability and application for different projects. CO4: The student should be able to **comprehend** the skills and knowledge from different case studies. CO5: The student should be able to comprehend and **Design** effectively through documentation, graphical and verbal presentations. CO6: The student should be able to **create** a project considering all the practical aspects of interior design.
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	
	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 well as the Indian Context) c. Introduction on features & elements of Interior design.	
	Unit 2	**Concept of Interior Designing**	
		a. Principals 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	
	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)	
	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	
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 DiterSchaal, Wiley, 1995 **5.** "International Interiors", Lucy Bullivant,Laurence King Publishing, 1993	

12	**Other References**	**1.** The Psychology Of Interior Design, Tapanwita Saha, 2021 **2.** The Interior Design Reference & Specification Book, Chris Grimley, 2018 3. Branding Interior Design: Visibilty and Business Strategy for Interior Designers, Kuhteubl Kim, 2021

ARJ 406 – Parametric Design

School: SUSAP		**Batch : 2024-2029**
Program: B. Arch		**Current Academic Year: 2027-28**
Branch:		**Semester: 7**
1	Course Code	ARJ 406
2	Course Title	**Parametric Design**
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
	Course Status	Compulsory
5	Course Objective	1. To provide a detailed **Knowledge** of "parametric design" and embedded logic behind it through series of tutorials of design exploration using Rhinoceros and Grasshopper. 2. To **develop** understanding of key phenomena and concepts in the field of form finding are introduced and analyzed. 3. The subject has been structured to **familiarize** students with effective and efficient use of Rhinoceros and Grasshopper as a Parametric designing tool. 4. The aim of the course is to develop a **Knowledge and Understanding** of computational design beyond the specifics of techniques and tools, and a critical, self-awareness of our own approaches and metaphors for computation and design.
6	Course Outcomes	CO1: **Develop** Understanding of what characterizes central technologies in parametric designing. Also, understand theories behind computational thinking. CO2: Student will be able to classify the forms of computational thinking and **Comprehend** their use in the field of design. Student will be able to experience parametric and relational thinking in design. CO3: Student will be able to gather information about various digital tools used in architectural design. Student will be able to **Demonstrate** necessary fundamental skills for digital design tools and practices. CO4: **Create** prototype using fabrication material. CO5: **Evaluates** on understanding of various computational design applications.
7	Course Description	This course is a hands-on exploration and apprenticeship in the art and process of parametric designing. The course will provide students with the knowledge to use computational tools like Rhino and Grasshopper in a more effective manner for designing. The course will assist students in developing of computational thinking and logic. The future is present in the now. It is a magical time that we must take advantage of.
8	Outline syllabus	
	Unit 1	**Introduction to Advance 3D Modeling using Rhino**

		a. Introduction to Rhino b.User Interface and basic working c. Nurbs transformational tools	
	Unit 2	**Design development process**	
		a. Modifiers b. Creating 3D Model using Advance Modifiers c. Texture & Light	
	Unit 3	**Introduction to Grasshopper**	
		a. Basics of Grasshopper b. Grasshopper-2 c. Grasshopper with Rhino	
	Unit 4	**Using Grasshopper for the Form Finding**	
		a. Understanding of Data-Tree b. Working with Plugins within grasshopper environment for design exploration c. Introduction to Kangaroo and Different systems types using grasshopper.	
	Unit 5	**Advance Grasshopper and Rendering**	
		a. Digital Fabrication Introduction b. Working with Prototypes & fabrication materials c. Final Project	
	Mode of examination	Jury	
	Weightage Distribution	CA	ETE
		50%	50%
	Text book/s*	1. Simplified Complexity. Method for Advanced NURBS Modeling - by Giancarlo Di Marco 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 4. Inside Rhinoceros 6 - by Ron K.C. Cheng	
	Other Reference		

AEJ 401 – Disaster Management

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VII**
1	**Course Code**	**AEJ 401**
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	
	Unit 1	**Introduction to Disasters Hazard**

		a. Introduction to Disasters Hazard, Risk, Disaster, Vulnerability, b. Classification of disaster, Man Made & Natural Disasters, High, Medium & Low Impact. Disasters and Factor Causing Disasters, Earthquakes, Tsunami, Landslides, Cyclone, Floods, Fire etc. 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.	
	Unit 2	**Pre-Disaster and Mitigation Measures in Disasters**	
		a. Pre-Disaster and Mitigation Measures in Disasters b. Disaster Management Plan, Natural Crisis Management Committee, NDMA (national disaster management authority) Management Guideline, Emergency Support Function, c. Role of Building information systems in Disaster Management.	
	Unit 3	**Design & Planning Solution**	
		a. Design Guideline and Construction Techniques for disaster resistant structure in RCC, Steel, Stone, Brick & wood 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. c. Study of non engineered Building practices.	
	Unit 4	**Case Studies- Disasters in India and International**	
		a. Damaged Caused, Disaster management, Mitigation, post disaster structural up gradation in Earthquakes, cyclones, landslides, floods, 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.

AEJ 404: Tactical Urbanism

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	**Course Code**	**AEJ 404**
2	**Course Title**	**Tactical Urbanism**
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	
	Unit 1	**Introduction**
		a. Introduction to course b. Key Definitions and Concepts c. Benefits & Limitation of the Tactical Urbanism approach

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

AEJ 405– Interior Design

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VII**
1	Course Code	**AEJ 405**
2	Course Title	**Interior Design**
3	Credits	**3**
4	Contact Hours (L-P-S)	**0-0-3**
	Course Status	**Professional Elective**
5	Course Objective	To understand and analyse 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	CO1: Students should be able to **Identify** the appropriate skills of interior Design and its history. 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. CO3: The students should be able to understand and **analyze** the material availability and application for different projects. CO4: The student should be able to **comprehend** the skills and knowledge from different case studies. CO5: The student should be able to comprehend and **Design** effectively through documentation, graphical and verbal presentations. CO6: The student should be able to **create** a project considering all the practical aspects of interior design.
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	
	Unit 1	**Theory of Interiors**
		1a-Interior design with historic reference, timeline (Global History as well as the Indian Context) 1b-Evolution in interiors. (Global History as well as the Indian Context) 1c-Introduction on features & elements of Interior design.

	Unit 2	**Concept of Interior Designing**	
		2a-Principals of Interior design analyse the aesthetic and functionality of a design. 2b-Role and application of lighting in Interiors 2c-Role and principal of colours in Interior design	
	Unit 3	**Space Standards**	
		3a-The study of space standards and anthropometrics related to each problem. 3b-Anthropometry as related to physically handicapped and elderly persons is required to be studied. 3c-Different Techniques shall be used for presentation.	
	Unit 4	**Role of Materials & Case Studies**	
		4a-Market Survey of the various flooring material , Cost, specifications & application 4b-Market Survey of the various wall & ceiling material , Cost, specifications & application 4c-Case study of different typology and scale of buildings (Restaurant, Residence & Office)	
	Unit 5	**Application of learning by designing**	
		5a-Preparing interior layouts according to learned principals 5b-Judging the Interior design according to Art principles 5c-Presentation of Interior layouts	
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 DiterSchaal, Wiley, 1995 5. "International Interiors", Lucy Bullivant, Laurence King Publishing, 1993	
12	**Other References**	1. The Psychology Of Interior Design, Tapanwita Saha, 2021 2. The Interior Design Reference & Specification Book, Chris Grimley, 2018	

		3. Branding Interior Design: Visibility and Business Strategy for Interior Designers, Kuhteubl Kim, 2021

AEJ 406 – Parametric Design

School: SUSAP		**Batch : 2024-2029**
Program: B. Arch		**Current Academic Year: 2027-28**
Branch:		**Semester: 7**
1	Course Code	AEJ 406
2	Course Title	**Parametric Design**
3	Credits	3
4	Contact Hours (L-P-S)	0-0-3
	Course Status	Compulsory
5	Course Objective	1. To provide a detailed **Knowledge** of "parametric design" and embedded logic behind it through series of tutorials of design exploration using Rhinoceros and Grasshopper. 2. To **develop** understanding of key phenomena and concepts in the field of form finding are introduced and analyzed. 3. The subject has been structured to **familiarize** students with effective and efficient use of Rhinoceros and Grasshopper as a Parametric designing tool. 4. The aim of the course is to develop a **Knowledge and Understanding** of computational design beyond the specifics of techniques and tools, and a critical, self-awareness of our own approaches and metaphors for computation and design.
6	Course Outcomes	CO1: **Develop** Understanding of what characterizes central technologies in parametric designing. Also, understand theories behind computational thinking. CO2: Student will be able to classify the forms of computational thinking and **Comprehend** their use in the field of design. Student will be able to experience parametric and relational thinking in design. CO3: Student will be able to gather information about various digital tools used in architectural design. Student will be able to **Demonstrate** necessary fundamental skills for digital design tools and practices. CO4: **Create** prototype using fabrication material. CO5: **Evaluates** on understanding of various computational design applications.
7	Course Description	This course is a hands-on exploration and apprenticeship in the art and process of parametric designing. The course will provide students with the knowledge to use computational tools like Rhino and Grasshopper in a more effective manner for designing. The course will assist students in developing of computational thinking and logic. The future is present in the now. It is a magical time that we must take advantage of.

8	Outline syllabus		
	Unit 1	**Introduction to Advance 3D Modeling using Rhino**	
		a.Introduction to Rhino b. User Interface and basic working c. Nurbs transformational tools	
	Unit 2	**Design development process**	
		a. Modifiers b. Creating 3D Model using Advance Modifiers c. Texture & Light	
	Unit 3	**Introduction to Grasshopper**	
		a.Basics of Grasshopper b.Grasshopper-2 c.Grasshopper with Rhino	
	Unit 4	**Using Grasshopper for the Form Finding**	
		a.Understanding of Data-Tree b.Working with Plugins within grasshopper environment for design exploration c.Introduction to Kangaroo and Different systems types using grasshopper	
	Unit 5	**Advance Grasshopper and Rendering**	
		a.Digital Fabrication Introduction b.working with Prototypes & fabrication materials c.Final Project	
	Mode of examination	Jury	
	Weightage Distribution	CA	ETE
		50%	50%
	Text book/s*	5. Simplified Complexity. Method for Advanced NURBS Modeling - by Giancarlo Di Marco 6. Grasshopper: Visual Scripting for Rhinoceros 3D - by David Bachman 7. AAD, Algorithms-aided Design: Parametric Strategies Using Grasshopper - by Arturo Tedeschi and Stefano Andreani 8. Inside Rhinoceros 6 - by Ron K.C. Cheng	
	Other Reference		

SEMESTER – VIII

ART 405- Professional Practice

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
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	
	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 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. 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 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. 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		

ART 408: City Planning

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	Course Code	**ART 408**
2	Course Title	City Planning
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: **Define** planning, objectives, and forms. CO2: **Explain** different theories of urbanization**.** CO3: **Identify** the various issues associated with urban areas. CO4: **Identify** the various development plans. CO5: **Distinguish** the various development plans. CO6: **Propose** Development control guidelines.
7	Course Description	This Course introduces the basic concepts and rationales of planning, plan making processes, planning organizations, and theories of urbanization.
8	Outline syllabus	
	Unit 1	**Introduction**
		a. Introduction to planning discipline. Defining planning as a discipline; Goals, needs and objectives of planning, and components of planning. Urban and Rural Planning. b. Benefits of planning; Role of planners. Arguments for and against planning. Basic Terminology in Planning – Landuse, Demography, Physical and Social Infrastructure, Housing etc. c. Benefits of planning; Role of planners. Arguments for and against planning. Basic Terminology in Planning – Landuse, Demography, Physical and Social Infrastructure, Housing etc.
	Unit 2	**Urban Areas & Theories of Urbanization**

		a. Definition and characteristics of urban areas; Landuse classification; Meanings and forms of globalization; Characteristics of a global city. b. Identification of planning problems of land use distribution and change, communication system, overcrowding, slums, sporadic growth and conurbation. c. Theories of urbanization including Concentric Zone Theory; Sector Theory; Multiple Nuclei Theory and other latest theories; Land Use and Land Value Theory of William Alonso; City as an organism: a physical entity, social entity, and political entity,		
	Unit 3	**Development Plans and Planning Organizations**		
		a. Introduction to types of development plans: master plan, city development plan, structure plan, district plan, action area plan, subject plan, comprehensive planning, zonal plans etc. b. Hierarchy of plans and its significance - regional plan, sub-regional plan, sector plans and spatial plans, town planning schemes. Participatory and inclusive planning. c. District Planning Committees and Metropolitan Planning Committees; Different development authorities and other organizations like improvement trusts.		
	Unit 4	**Development Regulations**		
		a. Defining growth and development; Defining development control regulations, need and objectives. b. Types of development control; Implications of violations of development control regulations. c. Conforming and Nonconforming land uses; Compatible and non-compatible land uses, Locally Unwanted Land Use (LULU) and Not in my Backyard (NIMBY).		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
11	Reference	1. The Seven Lamps of Planning [with Comments] by Cliff Hague, Glyn Roberts and Lesley Punter, Town Planning Review, Vol. 73, No. 1, pp. 1-15, Roberts, T. , 2002 2. Comprehensive City Planning: Introduction and Explanation, Routledge, Branch, M.C., 2018 3. URDPFI Guidelines (Volume I and II), Ministry of Urban Development, Government of India, 2015 4. Fundamentals of Town Planning , G.K. Hiraskar, Dhanpat Rai Publications, 2012		

ARJ 410 :Architectural Design-VIII (PBL-III)

School: SUSAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	Course Code	**ARJ 410**
2	Course Title	**Architectural Design-VIII**
3	Credits	**12**
4	Contact Hours (L-P-S)	**0-0-12**
	Course Status	**Compulsory**
5	Course Objective	-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	CO1: **Demonstrate** the knowledge of Urban design an policies in India CO2: **Identify** the zoning plans, urban complexes and resolve the issues pertaining to built environment CO3: **Analyze** and communicate the contextual impact of the urban design through design development on city scale CO4: **Demonstrate** advance urban design fundamentals of building massing, public space formulation, streets/transport design and landscape through design project CO5: **Understand** the interconnectivity and interdependency of the various elements of urban design through design tools CO6: **Develop** an illustrative architectural portfolio

7	Course Description	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 Problem 1: Minor Design projects related to revitalisation/reuse of old structure Problem 2: Major -The design problem of Urban design scale is to be introduced, example; Redesigning of existing Urban areas 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.
8	Outline syllabus	
	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.
	Unit 2	**Literature & Case Study**
		a. Pre design study-Case study b. Pre design study -Literature Study, Site Analysis. c. Functional standards.
	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.
	Unit 4	**Design Development**
		a. Design development- site development b.Design development- floor Plans

		c. Design development- sections and elevations	
	Unit 5	**Design Presentation**	
		a. Design sheets presentation. b. Model making on appropriate scale c. Final portfolio submission	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

AEJ 414 : Architecture Video Editing

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	Course Code	**AEJ 414**
2	Course Title	**Architecture Video Editing -VIII**
3	Credits	**3**
4	Contact Hours (L-P-S)	**0-0-3**
	Course Status	**Elective**
5	Course Objective	To learn video editing techniques. Demonstrate understanding of the development process for making explainer videos. Apply knowledge of production techniques of making a Architectural film/animation
6	Course Outcomes	CO1: Student will **recognize** video editing with adobe tools. CO2: Student will **compute** the methods of vector animation using adobe tools. CO3: Student will **demonstrate** basic clips of vector animation using adobe tools. CO4: Students will **apply** storyboard and animation principle to achieve this. CO5:Student will **analyze** to create an objective based infographics, corporate animation and explainer videos for Architecture. CO6: Students will **create** Architectural clips for presentation.
7	Course Description	Motion graphics or info graphics is considered as a tool for clarifying ideas, making observations, and experimentation. Creating explainer videos is about concept, storyboarding, motion, color, and graphics. And beyond all that, it's all about psychology. This course will train students to prepare for digital video, upload digital video to a computer, edit the video and audio, and then produce a final film which is made with a purpose and for a particular target audience and product.
8	Outline syllabus	
	Unit 1	Introduction to video editing
		a. Grammar of Video Editing b. Video Editing with Tools c. Timeline animation and understanding various layer attributes
	Unit 2	**Creating vector animation**

		a. Basic animation attributes b. Creating animated clips using vectors c. Composting images and text with vectors	
	Unit 3	**Principles of Animation**	
		a. Understanding laws of animation b. Practicing clips with principles c. Compiling with text and exporting to rendered clip	
	Unit 4	**Preproduction- Conceptualizing an idea and creating a storyboard for animation.**	
		a. Creating a storyboard b. Creating required characters and props c. Adding colour and texture	
	Unit 5	**Production- Creating animated graphics based on some narratives and music.**	
		a.Creating animation. b.Adding sound, camera and light c.Final rendering with titles	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%
11	Text book/s*	1. *Guide to Video Production* 2. *Video Prodn Hand Book*	

ARJ 415 – DISSERTATION (RBL-IV)

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Current Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	Course Code	ARJ 415
2	Course Title	Dissertation
3	Credits	5
4	Contact Hours (L-T-P)	0-0-5
	Course Status	Compulsory
5	Course Objective	1. To facilitate Independent study and 2. To initiate systematic documentation 3. To prepare the students for thesis
6	Course Outcomes	**CO1:** Define and Recognise the importance of planning and preparation of data required to undertake a research project**.(L1)** **CO2 :** Develop a thorough understanding of the chosen subject area. Identify the critical data and material required to carry out the project. **(L3)** **CO3 :** Demonstrate the ability to collate and critically assess/interpret data. To be performed either individually or as a teamwork. **(L2)** **CO4 :** Develop an ability to effectively examine and communicate knowledge in a scientific manner. **(L3)** **CO5 :** Formulate the study and the inputs based on research findings. **(L6)** **CO6 :** Compare the findings, assess the research as per the comments and discussions and finally submitting a complete research report/design. **(L5)**
7	Course Description	The idea behind this module is to enable the student to research and document on any topic of their choice relevant to the built environment. The students have the choice of the topic. This would prepare them to undertake their thesis work.
8	Outline syllabus	
	Unit 1	**Introduction to Dissertation**

		a. Statement of the problem. b. Purpose of the study c. Significance of the study.		
	Unit 2	**Literature Review**		
		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.		
	Unit 3	**Methodology**		
		a. Sample **b.** Data collection **c.** Data analysis		
	Unit 4	**Implications and Limitations of study**		
		a. Identifying the limitations and how important each limitation is. **b.** Explaining the nature of limitations. **c.** Suggesting how such limitation could be overcome		
	Unit 5	**Implications and Recommendations**		
		a.Specific measures or directions that can be taken b.Critical suggestion regarding the best course of action in a certain situation c. Guide to resolve issues and result in a beneficial outcome.		
	Mode of examination	Jury		
	Weightage Distribution	CA	MTE	ETE
		50%	-	50%
	Text book/s*			
	Other References			

AEJ 407 :Place Making

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	**Course Code**	**AEJ 407**
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**	Students will be able to: CO1: **Understand** the critiques and challenges related to creative placemaking and arts districts. CO2: **Create** awareness on various contemporary positions and lenses for reading the built environment. 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. 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. CO5: **Engage** in basic place-making 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 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		
	Unit 1	**Introduction**	
		a. Introduction to course b. Key Definitions and Concepts c. The Principles of Community Placemaking	
	Unit 2	**Case Study**	
		a. National Case Study b. International Case Study c. Synthesis & Inference.	
	Unit 3	**Site Selection & Study**	
		a. Site Selection & Reason b. Site Study & Survey c. Existing Conditions on Scale	
	Unit 4	**Design Proposal**	
		a. Site Plan & Relevant Drawings b. 3D representation of proposal c. Narrative on the main idea of proposal.	
9	**Mode of examination**	Jury	
10	**Weightage Distribution**	CA	ETE
		50%	50%
11	**Text/Reference Books**	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.** Jonathan Barnett, An Introduction to Urban Design	
12	**Other References**	https://www.pps.org	

AEJ 408 : Vaastu Shastra

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2027-28**
Branch:		**Semester: VIII**
1	Course Code	**AEJ 408**
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	
	Unit 1	**Vaastu Shastra-A Vedic approach**
		a. Vaastu – its meaning origin, purpose, utility. b. Vaastu Purusha Mandala – description, 5 elements, directions, cosmic energy, 9 planets, Adhipathies, Dik pathies/ Dik palakas, influence. c. Vaastu Purusha – description, importance, importance of architect Vaastu expert.
	Unit 2	**Vaastu Shastra-An Introduction to Architecture**

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

AEJ 409 : Conservation

School: SSDAP		**Batch : 2024-29**
Program: B. Arch		**Current Academic Year: 2027-28**
Branch: Architecture		**Semester: 8**
1	Course Code	**AEJ 409**
2	Course Title	**Conservation**
3	Credits	2
4	Contact Hours (L-P-S)	2-0-0
	Course Status	**Elective**
5	Course Objective	To expose students to the multidisciplinary and interdisciplinary nature of sustainable integrated conservation as well as to stimulate and encourage intellectual enquiry and research of cultural heritage so as to ensure students develop basic knowledge on heritage protection required to function as responsible architects and urban planners in the historic environments.
6	Course Outcomes	CO1: **Demonstrate** an understanding of the history of the development the idea of conservation. **(L2)** CO2: To **understand** all the terminologies of conservation. **(L2)** CO3: **Understanding** of Terms associated with Conservation like Degrees of Intervention and site protection. **(L2)** CO4**: Understanding** International Practices and Charters. **(L2)** CO5: **Identify** the divergent approaches for managing and rehabilitating heritage properties. **(L4)** CO6: Obtain information from objects by means of **investigation** and through policies. **(L5)**
7	Course Description	India is a country with its civilization dating back to thousands of years, and what is even more remarkable is that it has a vast repository of living heritage. Though the fast pace of urbanization is posing an unprecedented threat to this rare assemblage of built heritage that we have inherited. Our cities are losing their identities with this kind of development that shows no respect to the heritage. Architects as the designers and builders of the society could play a crucial role in bringing a change in the current situation.
8	Outline syllabus	
	Unit 1	**Introduction**
		a .Introduction to Conservation b.Understanding the concept of Conservation c.History of Conservation
	Unit 2	**Evolution of Conservation**
		a .Evolution of Conservation with respect to the Global practices b .Evolution of Conservation with respect to Indian Context c .Introduction to various terminologies in Conservation Practice.
	Unit 3	**Divergent approaches for managing heritage properties**
		a .Understanding of Terms associated with Conservation like Degrees of Intervention.

		b .Understanding the significance of Adaptive Reuse for Conservation
		c .Site protection during process of conservation.

	Unit 4	**International Practices and Charters**		
		a .Role of UNESCO and other international agencies b .Study of International Charters such Venice charter, Burra charter etc. c .Understanding Listings in the field of Conservation		
	Unit 5	**Understanding Policies**		
		a .National policy for conservation, best practices in the field of Conservation b .Review of existing bylaws and conservation laws in India c .Review of role of ASI, Various Agencies and their role in conservation		
	Mode of examination	Internal and External Jury		
	Weightage Distribution	CA	MTE	ETE
		50%	-	50%
	Text book/s*	1: An introduction to conservation by Feildon B. M. 2: Conservation of Building by I. H. Harvey. 3: A Critical Bibliography of Building Conservation By Smith I. H.		
	Other References	Internet		

AEJ 218 - Animation & Web Designing/Visual Representation

School: SSDAP		**Batch : 2024-25**
Program: B.ARCH		**Academic Year: 2027-28**
Branch: B.ARCH		**Semester: VIII**
1	Course Code	AEJ 218
2	Course Title	Animation & Web Designing/Visual Representation
3	Credits	2
4	Contact Hours (L-T-P)	0-0-2
	Course Status	Elective
5	Course Objective	The course aims to introduce students to the world of graphics, media and animation. The course utilises the sketching, rendering, imagination, verbal as well as sound skills of the students.
6	Course Outcomes	CO1:To **identify** and interpret various principles and elements of design in varied fields of graphics and animation. CO2:To **understand** and illustrate various modes of presentation of ideas with respect to the topic in question. CO3:To **design** and create compositions through various mediums of design. CO4: To **analyse** and work with various industry-standard graphic design softwares CO5: To **evaluate** different web designing principles CO6: To **create** a video animation of designed project
7	Course Description	The course aims to introduce students to the world of graphics, media and animation. The course utilises the sketching, rendering, imagination, verbal as well as sound skills of the students.
8	Outline syllabus	
	Unit 1	**STORYBOARDING**
		a. Understanding the character , building a character and interest b. The concept of storyboarding c. Application of storyboarding
	Unit 2	**STOP MOTION ANIMATION**
		a. The world of Animation and types b. Stop Motion Animation c. Application of skills.
	Unit 3	**VIRTUAL ANIMATION**
		a. Introduction to animation principles.
		b. Soft skill development c. Application.
	Unit 4	**WEB DESIGN**
		a. Effective Web Designing Principles b. Elements of Web Designing c. Application of skills.

	Mode of examination	Jury/Practical/Viva		
	Weightage Distribution	CA	MTE	ETE
		50%	0%	50%
	Text book/s*	- Principles of Graphic Design, D.K Ching		
	Other References	1. Timing for Animation, Harold Whitaker and John halas. 2. The Essential Principles Of Graphic Design, 2008, Debbie Millman. 3. The Animator's Survival Kit, 2009, Richard Williams 4. Animation 1, *How to Animate cartoons step by step,*2013,Preston Blair		

SEMESTER – IX

ARJ 505 : Practical Training / Internship

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: IX**
1	**Course Code**	**ARJ 505**
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	Student should be able : CO1: To **relate** the knowledge of the academic exercises with practical projects CO2: To **interpret** and use observation-based knowledge and methods to implement conceptualization to execution of projects. CO3: To **develop** different processes and methodologies related to materials, details, working drawings. CO4: To **apply** the communication and presentation skills in delivering of the projects. CO5: To **classify** advance skills of drawings and representation, also assimilate learning of visualizations. CO6: To **justify** project in context to requirements and practical application.
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	
	Unit 1	**Preparation of Drawings**
		a. Working drawings and details b. Conceptual and presentation drawings c. Municipal drawings as per Byelaws
	Unit 2	**Business Communication**
		a. Discussions with clients b. Follow-ups with Consultants

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

SEMESTER – X

ART 508 - Construction Project Management

School: SSDAP		**Batch : 2024-2029**
Program: B.Arch		**Academic Year: 2028-2029**
Branch:		**Semester: X**
1	Course Code	**ART 508**
2	Course Title	**Construction Project Management**
3	Credits	**2**
4	Contact Hours (L-T-S)	**2-0-0**
	Course Status	**Compulsory**
5	Course Objective	To make them understand the concepts of Project Management for planning and execution of projects. -To make them understand the feasibility analysis in Project Management and network analysis tools for cost and time estimation. - To enable them to comprehend the fundamentals of Contract Administration, Costing and Budgeting.
6	Course Outcomes	CO1: **Understand** project characteristics and various stages of a project. CO2: **Understand** the conceptual clarity about project organization and feasibility analyses CO3: **Analyze** the learning and understand techniques for Project planning, scheduling and Execution Control. CO4: **Apply** the resource management plan and CO5: **Analyse** the role of stakeholders in value engineering. CO6: **Understand** the contract and tender management, Project Procurement, Service level Agreements and productivity.
7	Course Description	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
8	Outline syllabus	
	Unit 1	**Project Planning and Scheduling**
		a. Introduction to project management, construction industry, stakeholders, roles, responsibilities and functional relationships
		b. Inputs for project planning, defining activities and their interdependence, time and resource estimation. Work breakdown structures. Linear Scheduling methods - bar charts, LOB, their limitations.

		c. Principles, definitions of network based scheduling methods: CPM, PERT. Network representation, Network analysis – forward and backward passes.		
	Unit 2	**Project Monitoring and Control**		
		a.Site layout and organization, Site investigations. Quality tests for construction material and processes b. Quality control inspections. Project progress tracking. Crashing Project Schedules, its impact on time, cost and quality. c. Project direct and indirect costs. Safety in Construction Projects.		
	Unit 3	**Resources Management and Value Engineering**		
		a. Methods of material/resource estimation and management, Resources scheduling and levelling. b. Labour welfare, applicable labour Legislations. Construction equipment types, characteristics & applications. c. Value engineering, its application in building design and construction.		
	Unit 4	**Contracts and Tenders**		
		a. Types of building contracts, their merits and de-merits. b. Types of building tenders, contents of tender documents, tendering process. c. General conditions of contract, security deposits, interim certificates, defect liability periods, retention amounts, mobilization money and virtual completion.		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		25%	25%	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.		

ART 509 : Green Building Accredited Course

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: X**
1	Course Code	**ART 509**
2	Course Title	**Green Building Accredited Course**
3	Credits	**2**
4	Contact Hours (L-P-S)	**2-0-0**
5	Course Status	**Compulsory**
6	Course Objective	To get a complete overview of various kinds of green building rating systems, prepare students to qualify for the Green Certified Professional Exam and how they are used in the industry.
7	Course Outcomes	CO1: To **Understand** of the various green rating systems and practices across the globe and Indian Context CO2: Critically inquire the merits and demerits of Green rating Systems and their necessity CO3: To **Understand** Green Rating Systems application in projects and analytical knowledge of various green points required for projects towards achieving Green Rating CO4: **Appraising** the role of a green building consultant and the process of Green accreditation examination. CO5: To **analyze** the basics of energy auditing. CO6: **Outlining** the consultancy scope and services for green rating systems.
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	
	Unit 1	**Introduction to Green Rating Systems**
		a. History of green Rating systems - LEED, GRIHA, BREEAM, IGBC,GEM - Need and use of green rating systems . b. Structure of the rating systems - Market response to various rating systems.

		c. Selection of the appropriate rating system.		
	Unit 2	**Green Rating Systems in India**		
		a. In-depth study of the requirements of IGBC and GRIHA rating systems.Understand all the Criteria of Griha. b. Understand all the Criteria of IGBC. c. Calculations involved in the rating system and role of Green building consultant.		
	Unit 3	**Application of rating system requirements**		
		a. Applying the Green rating systems in a project (IGBC or Griha)-Determining the various green points. b. Green Accreditation examination and the procedure to apply. c. Green Accreditation examination and the procedure to apply		
	Unit 4	**Comprehensive Learning**		
		a. Exploring and documenting the Project. b. Design on Green Buildings highlighting various techniques. c. Strategies adopted to achieve credits for IGBC and GRIHA-rated buildings.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		25%	25%	50%
12	Text book/s*	1. National Building Code 2. IGBC Manual 3. Griha Manual **4.** CPWD Sustainability Handbook 5. TERI Sustainable building manual 6. Energy Conservation Building Code		

ARJ 506 –Thesis (PBL-IV)

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: X**
1	Course Code	**ARJ 506**
2	Course Title	**Thesis (PBL-IV)**
3	Credits	**20**
4	Contact Hours (L-T-P)	**0-0-20**
	Course Status	**Compulsory**
5	Course Objective	The main intention of the course is -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	CO1: To **define** a socio economic environment context and analyze the problem pertaining to the project CO2: To **infer** the research project and create methodology for the application of the knowledge to the project CO3: To **develop** the knowledge of the professional principles CO4: To **discover** design integrated solutions for the project considering the environment and sustainability impact of the design CO5: To **conclude** the project both visually and verbally considering all the ethical principles of Architecture CO6: To **build** independent learning by applying modern appropriate tools
7	Course Description	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.
8	Outline syllabus	
	Unit 1	**Identification of the project , preparation of Synopsis**

		a. Introduction/Background 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. 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 b. Design Criteria / Approach specific to the topic chosen c. Conceptual Design	
	Unit 4	**Design interventions**	
		a. Preliminary Design Drawings b. Service Drawings c. Landscape / Site Details	
	Unit 5	**Design Proposal and Report**	
		a. Detailed design proposal b. Supporting literature study c. All Drawings & Report	
9	Mode of examination	Jury	
10	Weightage Distribution	CA	ETE
		50%	50%

AEJ 501: Entrepreneurship in Architecture

School: SSDAP		**Batch : 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: X**
1	Course Code	AEJ 501
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	The main intention of the course is -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	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. CO2: Student will inculcate the ability to discern distinct entrepreneurial traits and know the parameters to assess opportunities and constraints for new business ideas. 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 CO4: The students will be able to create business plan and access forward and backward linkage of the proposed project through market research etc CO5: Student will be able to know schemes (both union and state level)/ corporate schemes for establishing startups and running it successfully CO6: Students will be able to utilize various government schemes
8	Course Description	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. 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 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	
	Unit 1	**Ecosystem Of Startups And Entrepreneurs**
		a. Entrepreneurship & the present scenario. b. Startups and entrepreneurs (case studies) c. Entrepreneurial qualities
	Unit 2	**Business Opportunity Identification**
		a. Opportunities and Idea Generation b. Design Thinking c. Design-Driven Innovation, Systems thinking
	Unit 3	**Market Survey and Research**
		a. User group study b. Pre-feasibility of Project through Market Survey c. Creating and analyzing project report
	Unit 4	**Entrepreneurial Support System & Management**
		a. Government incentives for entrepreneurship b. Incubation, acceleration, Funding new ventures – bootstrapping, crowd sourcing, angel investors, VCs, debt financing (3), due diligence. Legal aspects of business (IPR, GST, Labor law) c. Marketing strategies, Negotiation skill, Factors driving success and failure of ventures. Report submission
10	Mode of examination	Theory
11	Weightage Distribution	CA: 25% | MTE: 25% | ETE: 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, Sultan Chand and Sons, New Delhi 5. Entrepreneurial Development, SS Khanka, S Chand and Co. Ltd, New Delhi 6. Entrepreneurship Development Small Business Enterprises, Poornima M Charantimath, Pearson Entrepreneurship: Strategies and Resources, Marc J Dollinger, Pearson 6. Global Trends in Entrepreneurship, SK Dhameja, Abhishek Publications Chandigarh 7. Entrepreneurship in Knowledge Economy, BS Rathore, DD Sharma, SK Dhameja, Abhishek Publications Chandigarh 8. Entrepreneurship and Small Business, JS Saini, SK Dhameja, Rawat Publications Jaipur

AEJ 502– Building Service Drawings

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2028-2029**
Branch:		**Semester: X**
1	**Course Code**	**AEJ 502**
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	
	Unit 1	**Building services drawings Plumbing Services**
		a. Plumbing at building level b. Plumbing at site level c. Placement of STP etc in the site.Generation of drawings
	Unit 2	**Building services drawings (Electrical & Illumination)**

		a. Electrical drawing (Single line diagrams for electrical scheme b. Calculation of the illumination -Flux, intensity etc. c. Electrical drawing at building and site level.Generation of drawings	
	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	
	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	
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 2. NBC 2016, Volume 1 and 2. 3. ECBC 4. BEE- Bureau of Energy Efficiency	

AEJ 503 – Design Technology Armature

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: X**
1	**Course Code**	**AEJ 503**
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**	Students will be able to: CO1: **Understand** the concept of Technology Armature. CO2: **Create** awareness on various contemporary solutions. CO3: **Develop** a basic understanding of the various technology armatures. CO4: **Develop** a basic understanding of how to represent in two and three-dimensions. CO5: **Engage** in basic exercises that analyze conditions towards proposing transformation and change. CO6: **Design**, and present a proposal as a part of the Thesis.
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	
	Unit 1	**Introduction**
		a. Introduction to course b. Technology armature c. Choose Technology armature relevant to the thesis project.
	Unit 2	**Case Study**

		a. National Case Study b. International Case Study c. Synthesis & Inference.	
	Unit 3	**Finalization of Technology Armature**	
		a. Selection & Reason b. Suitability & Clarity of purpose c. Application in Design	
	Unit 4	**Design Proposal**	
		a. Relevant Drawings b. 3D representation of proposal c. Essay on the technology armature	
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	

AEJ 504 : Narrative Architecture

School: SSDAP		**Batch: 2024-2029**
Program: B. Arch		**Academic Year: 2028-29**
Branch:		**Semester: X**
1	Course Code	
2	Course Title	**Narrative Architecture**
3	Credits	**2**
4	Contact Hours (L-P-S)	**0-0-2**
5	Course Status	**Professional Elective**
6	Course Objective	To attain in-depth comprehension of narrative architecture, encompassing its theoretical fundamentals, methodologies, and practical applications, enabling the seamless integration of narrative elements throughout the progressive phases of architectural design, thus cultivating an evocative built environment.
7	Course Outcomes	Students will be able to: CO1: **Outline** and display a comprehensive understanding of the historical evolution of narrative in architecture. CO2: **Explain** the relevance of narrative in contemporary projects to evaluate its role in the design process. CO3: **Apply** the foundational knowledge to analyze case studies in narrative architecture, identifying elements and assessing their impact. CO4: **Analyse** architectural narratives using a range of theoretical frameworks and methodologies, and critically evaluate their impact on user experiences and the built environment. CO5: **Evaluate** and critique different narrative types, analyze examples, and appraise scenarios to apply suitable narrative types for specific architectural projects, incorporating cultural and contextual narratives. CO6: **Formulate** architectural narratives, integrating personal, societal, and ethical concerns, to enhance narrative experiences and create digitally driven design representations.
8	Course Description	This course, navigates students through the foundational frameworks of narrative architecture, emphasizing its impact on contemporary design. Key elements include understanding theoretical outlines, analyzing case studies, and applying creative tools in crafting narrative-rich designs. The course culminates in exploring the integration of technology and preparing students for the dynamic challenges of narrative-driven architecture in the contemporary world.

9	Outline syllabus		
	Unit 1	**Introduction to Narrative Architecture**	
		a. Evolution of Narrative in Architecture - historical evolution and development over different periods, Role of storytelling in shaping the perception and interpretation of architectural spaces b. Relevance in Contemporary Design Practices using case examples. c. Case Studies in Narrative Architecture	
	Unit 2	**Understanding Narrative Foundations in Architecture**	
		a. Defining Architectural Narrative: fundamental concepts, theoretical frameworks, Narrative elements, and communication b. Exploring Design, Spatial, and Architectural Narratives c. Incorporation of Cultural and Contextual Narratives.	
	Unit 3	**Analysis and Interpretation of Narrative in Built Forms**	
		a. Reading Architectural Narratives b. Identify types of Narratives built forms c. Project-Based Analysis; Integrating Personal, Environmental and Societal Concerns	
	Unit 4	**Crafting Architectural Narratives**	
		a. Creative Tools and Techniques, Technology Integration b. Multimedia-integrated storytelling methods c. Final Project exhibition	
10	Mode of examination	Jury	
11	Weightage Distribution	CA	ETE
		50%	50%
12	Text book/s*	1. Coates, N. (2012, March 26). Narrative Architecture. John Wiley & Sons. 2. De Bleeckere, S., & Gerards, S. (2017, February 24). Narrative Architecture. Taylor & Francis. 3. Psarra, S. (2009, January 6). Architecture and Narrative. Routledge.	
13	Other References	Emmons, P., Feuerstein, M. F., & Dayer, C. (2016, December 19). Confabulations : Storytelling in Architecture. Taylor & Francis. Corbellini, G. (2018, January 1). *Telling Spaces*.	