



**KARNATAK LAW SOCIETY'S GOGTE  
INSTITUTE OF TECHNOLOGY  
"JNANA GANGA" UDYAMBAG, BELAGAVI-590008,  
KARNATAKA, INDIA.**



**Approved by AICTE & UGC  
Permanently Affiliated and Autonomous Institution Under  
Visvesvaraya Technological University, Belagavi  
[www.git.edu](http://www.git.edu)**



## **2023 Scheme**

**Department: Architecture**

**Programme: B.Arch**

**1<sup>st</sup> to 10<sup>th</sup> Semester Scheme of Teaching and Examination**

**3<sup>rd</sup> and 4<sup>th</sup> Semester Syllabus**

## INSTITUTION VISION

Gogte Institute of Technology shall stand out as an institution of excellence in technical education and in training individuals for outstanding caliber, character coupled with creativity and entrepreneurial skills.

## INSTITUTION MISSION

To train the students to become Quality Engineers with High Standards of Professionalism and Ethics who have Positive Attitude, a Perfect blend of Techno-Managerial Skills and Problem solving ability with an analytical and innovative mindset.

## QUALITY POLICY

- Imparting value added technical education with state-of-the-art technology in a congenial, disciplined and a research oriented environment.
- Fostering cultural, ethical, moral and social values in the human resources of the institution.
- Reinforcing our bonds with the Parents, Industry, Alumni, and to seek their suggestions for innovating and excelling in every sphere of quality education.

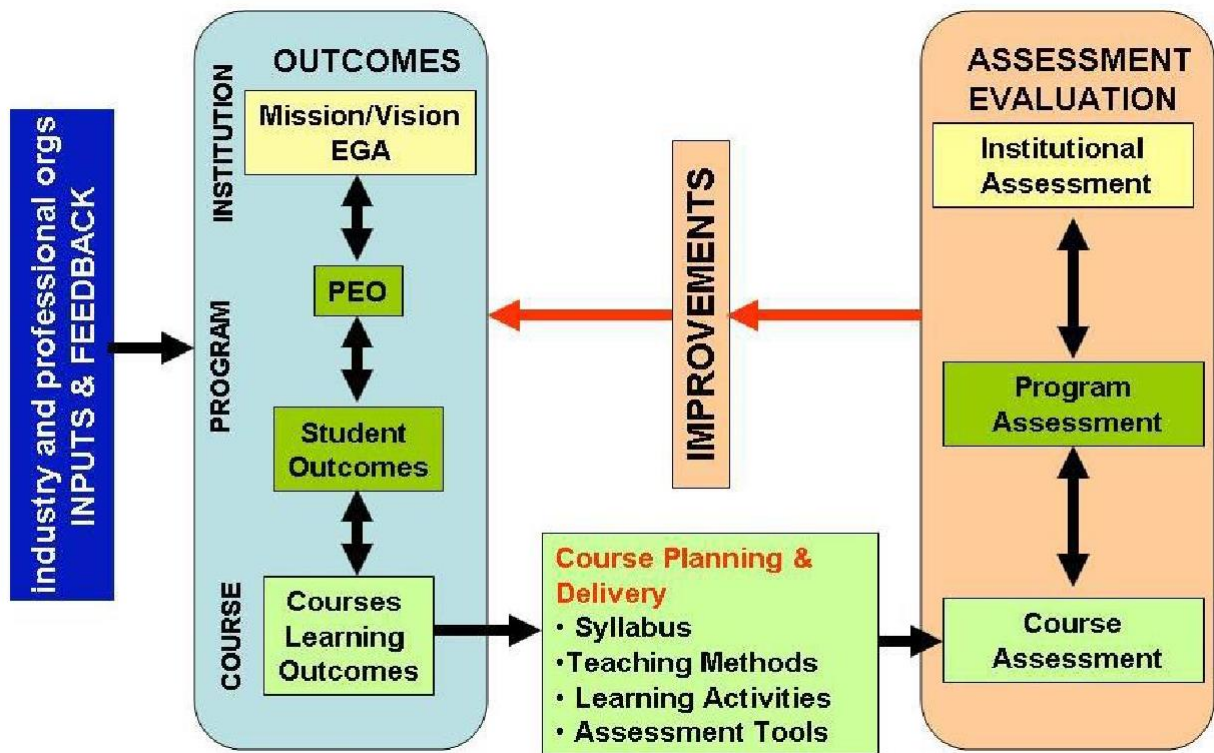
## DEPARTMENT VISION

To achieve excellence in Architectural education, nurturing individuals with creative, technical and entrepreneurial skills towards ethical and holistic design approach.

## DEPARTMENT MISSION

- ② To develop core competencies of design and professionalism to address complex design issues that are emerging in today's global scenario.
- ② To train students to be empathetic in the process of designing built environments that respond appropriately to aesthetic, technological, socio-cultural and economic contexts.
- ② Establishing an immersive learning environment that promotes critical thinking, collaborative research and holistic design approach by bringing in expertise, infrastructure and technologies together.

## OUTCOME BASED EDUCATION (OBE)



## PROGRAMME OUTCOMES (PO's)

1. **Architectural Knowledge:** Apply the requisite knowledge to create Architectural designs that satisfy aesthetic, functional and technical requirements for liveable habitats responding to divergent arts, cultural, social, physical and environmental contexts.
2. **Problem Analysis:** Identify, formulate, review research literature and analyse complex Architectural design problems for reaching substantiated conclusions.
3. **Evolving Design Solutions:** Design solutions for complex Architectural problems that meet the specified needs with appropriate consideration for the aesthetic, cultural, societal, economical, physical, environmental and technological concerns.
4. **Critical Thinking:** Use analysis and interpretation of data, research-based knowledge, research methods and design approaches to critically evaluate and synthesize appropriate design solutions.
5. **Adaptability to latest Tools and Techniques:** Learn and apply latest design softwares and techniques for representing and communicating Architectural designs.
6. **The Architect and Society:** Apply Architectural skills to address complex issues concerning society, culture, health, safety and legal aspects to achieve holistic development.
7. **Environment and Sustainability:** Understand the impact of the Architectural solutions in societal and environmental contexts and demonstrate the knowledge of, and need for creating healthy communities and sustainable development.

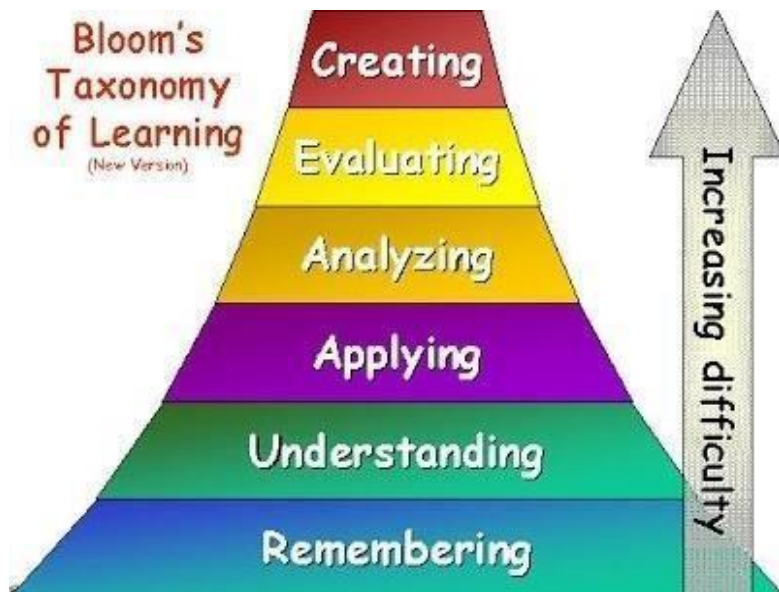
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the Architectural practice.
9. **Individual and Team-work:** Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings according to changing global scenarios.
10. **Communication:** Apply communication skills to effectively manage challenging professional demands, to communicate, present, deliver ideas and design solutions.
11. **Project Management Skills:** Demonstrate knowledge and understanding of the project financing and management principles and apply these to profession, individually or as a team to successfully manage complex projects in multidisciplinary environments.
12. **Life-long Learning:** Recognize the need and ability to consistently engage in independent and lifelong learning in the ever changing global context.

### **BLOOMS TAXONOMY OF LEARNING OBJECTIVES**

Bloom's Taxonomy in its various forms represents the process of learning. It was developed in 1956 by Benjamin Bloom and modified during the 1990's by a new group of cognitive psychologists, led by Lorin Anderson (a former student of Bloom's) to make it relevant to the 21st century. The revised taxonomy given below emphasizes what a learner "Can Do".

<b>Lower order thinking skills (LOTS)</b>		
L1	Remembering	Retrieve relevant knowledge from memory.
L2	Understanding	Construct meaning from instructional material, including oral, written, and graphic communication.
L3	Applying	Carry out or use a procedure in a given situation – using learned knowledge.
<b>Higher order thinking skills (HOTS)</b>		
L4	Analyzing	Break down knowledge into its components and determine the relationships of the components to one another and then how they relate to an overall structure or task.
L5	Evaluating	Make judgments based on criteria and standards, using previously learned knowledge.
L6	Creating	Combining or reorganizing elements to form a coherent or functional whole or into a new pattern, structure or idea.





## COURSES, PERIODS OF STUDY AND SUBJECTS OF EXAMINATION UNDER CHOICE BASED CREDIT SYSTEM FOR THE ARCHITECTURE DEGREE PROGRAMME

1. Under the Choice based credit system, which is a student/ learner centric system, the courses of study in the Architecture Degree program shall be as under:
  - 1) **Professional Core (PC) Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
  - 2) **Building Sciences and Applied Engineering (BS & AE) Course:** A course which informs the Professional core and should compulsorily be studied.
  - 3) **Elective Course:** Generally a course which can be chosen from a pool of courses and are of two types:
    - i. **Professional Elective (PE)** which may be very specific or specialized or advanced or supportive to the discipline or subject of study or which provides an extended scope.
    - ii. **Open Elective (OE)** which enables an exposure to some other discipline or subject or domain or nurtures the candidate's proficiency or skill.
  - 4) **Employability Enhancement Courses (EEC)** which may be of two kinds:
    - i. **Employability Enhancement Compulsory Courses (EECC)**
    - ii. **Skill Enhancement Courses (SEC)**
2. The Weightage in terms of Credits for each of the above in the prescribed curriculum of the institution shall be as follows:
  - 1) Professional Core Courses (PC) : 50%
  - 2) Building Science and Applied Engineering (BS& AE) : 20 %
  - 3) Elective Courses
    - i. Professional Electives (PE) : 10%
    - ii. Open Electives (OE) : 5%
  - 4) Professional Ability Enhancement Courses (PAEC)
    - i. Professional Ability Enhancement Compulsory Courses (PAECC) : 10%
    - ii. Skill Enhancement Courses (SEC) : 5%

Note: Where it is not possible to offer Open Electives, Professional Electives may have a weightage 15% of the total credits.

**SEMESTER WISE DISTRIBUTION OF CREDITS FOR B.ARCH  
PROGRAMME**

**Total credits for B.Arch Programme: 270 credits**

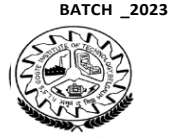
	<b>Semester</b>	<b>Credits per Sem</b>	<b>Total credits</b>
1 <sup>st</sup> year	1	30	59
	2	29	
2 <sup>nd</sup> year	3	31	62
	4	31	
3 <sup>rd</sup> year	5	31	61
	6	30	
4 <sup>th</sup> year	7	31	47
	8	16	
5 <sup>th</sup> year	9	29	41
	10	12	
	<b>Total</b>	<b>270</b>	<b>270</b>

# Curriculum Flow Chart 2023 scheme

STREAM	I SEM	II SEM	III SEM	IV SEM	V SEM	VI SEM	VII SEM	VIII SEM	IX SEM	X SEM	
<b>DESIGN</b>	Mono-spaces and Residential Design	Elements of Space Making and Design	Contextual Design	Structural Aesthetics in Architecture	Housing Design	Campus Design	Urban Infill Design	Professional Training	Dissertation (Thesis Part- I)	Architectural Design Project (Thesis Part-II)	
	Basic Design and Design Thinking in Architecture		Climate Responsive Architecture		Theory of Architecture-I	Theory of Architecture-II	Specification, Estimation and Costing		Energy Efficient Architecture		
	<b>TECHNOLOGY</b>	Building Construction and Materials-I	Building Construction and Materials-II	Building Construction and Materials-III	Building Construction and Materials-IV	Building Construction and Materials-V	Building Construction and Materials-VI	Alternate Building Techniques		Interior Design	
		Architectural Graphics-I		Architectural Graphics-II		Water Supply and Sanitation		Electricity and Illumination			
		Evolution of Structures and Engineering Mechanics	Analysis of Determinate Structures	Design of RCC Structures	Design of Steel Structures	Principles of Advanced Structural Form					
	<b>HUMANITIES</b>	History of Architecture- I	History of Architecture-II	Hindu Temple Architecture in India	Islamic and Colonial Architecture in India	Renaissance to Modernism	Physical Planning	Professional Practice-I	Traffic Awareness and Road Safety	Professional Practice-II	Constitution of India and Professional Ethics
		Samskrutika Kannada	Communication Skills			Study Tour	Contemporary Architecture	Entrepreneurship skills			
		Balake Kannada	Social Connect and Responsibility		Humanities		Universal Human Values and Professional Ethics				
		Scientific Foundations of Health									
<b>ELECTIVE</b>			Elective - I: Literature and Arts	Elective - II: Architectural Presentation and Documentation	Elective - III: Natural Systems/Environmental studies/Context	Open Elective -I	Elective - IV: Design and Practice		Elective - V: Advance Technology		
							Open Elective-II		Elective - VI: Management and Research		
							Certification Course				



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**Bachelor of Architecture**  
SCHEME OF TEACHING AND EXAMINATION



BATCH \_2023

Department :Architecture

Semester:I

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES1.1	PC	Mono-spaces and Residential Design	Architecture	1	7	0	8	8	80	20	100	-	200	-
	23DES1.2	PC	Basic Design and Design Thinking in Architecture	Architecture	1	3	0	4	4	80	20	100	-	200	-
TECHNOLOGY	23TEC1.1	BS&AE	Building Construction and Materials-I	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC1.2	PC	Architectural Graphics-I	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC1.3	BS&AE	Evolution of Structures and Engineering Mechanics	Architecture/ Civil	3	0	0	3	3	80	20	-	100	200	3 hrs
HUMANITIES	23HUM1.1	PC	History of Architecture- I	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUMS1.2	SEC	Samskrutika Kannada	Allied	1	0	0	1	1	30	20	-	50	100	1 hr
	23HUMB1.2		Balake Kannada							40	10				
	23HUM1.3	AEC	Scientific Foundations of Health	Architecture/ Allied	1	0	0	1	1	40	10	-	50	100	1 hr
-	23AEC1.1	MNC	Physical Education(Sports, Athletics),Yoga/NSS/Club Activities	Architecture /Sports	0	0	2	2	MNC	80	20	-	-	100	-
Total					12	18	2	32	30	640	160	400	300	1500	

L-Lecture

CIE- Continuous Internal Evaluation

CA-Course Activity

S-Studio

SEE- Semester End Examination

PA-Progressive Assessment

P-Practical

PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective

MNC- Mandatory Non Credit

PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.

AEC- Ability Enhancement Courses

UHV - Universal Human Values

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**





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**Bachelor of Architecture**  
**SCHEME OF TEACHING AND EXAMINATION**



BATCH \_2023

Department :Architecture

Semester:II

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES2.1	PC	Elements of Space Making and Design	Architecture	1	7	0	8	8	80	20	100	-	200	-
TECHNOLOGY	23TEC2.1	BS&AE	Building Construction and Materials-II	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC2.2	PC	Architectural Graphics-II	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC2.3	BS&AE	Analysis of Determinate Structures	Architecture/ Civil	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC2.4	BS&AE	Surveying and Levelling	Architecture/ Civil	2	0	1	3	3	80	20	-	100	200	3 hrs
HUMANITIES	23HUM2.1	PC	History of Architecture-II	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM2.2	SEC	Communication Skills	Allied	1	0	0	1	1	40	10	-	50	100	1 hr
	23HUM2.3	UHV	Social Connect and Responsibility	Architecture/ Allied	1	0	0	1	1	80	20	-	-	100	-
-	23AEC2.1	MNC	Physical Education(Sports, Athletics),Yoga/NSS/Club Activities	Architecture /Sports Dept	0	0	2	2	MNC	80	20	-	-	100	-
					13	15	3	31	29	680	170	300	350	1500	

**L-Lecture**

**CIE- Continuous Internal Evaluation**

**CA-Course Activity**

**S-Studio**

**SEE- Semester End Examination**

**PA-Progressive Assessment**

**P-Practical**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**MNC- Mandatory Non Credit**

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For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

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**Bachelor of Architecture**  
**SCHEME OF TEACHING AND EXAMINATION**

BATCH \_2023



Semester:III

Department :Architecture

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES3.1	PC	Contextual Design	Architecture	1	7	0	8	8	80	20	100	-	200	-
	23DES3.2	BS&AE	Climate Responsive Architecture	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
TECHNOLOGY	23TEC3.1	BS&AE	Building Construction and Materials-III	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC3.2	BS&AE	Water Supply and Sanitation	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC3.3	BS&AE	Design of RCC Structures	Architecture/ Civil	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC3.4	SEC	Computer Application-I	Architecture	1	0	2	3	3	80	20	-	-	100	-
HUMANITIES	23HUM3.1	PC	Hindu Temple Architecture in India	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
ELECTIVES	23ARE3.1x	PE	Elective - I: Literature and Arts	Architecture/Allied	3	0	0	3	3	80	20	-	-	100	-
					18	11	2	31	31	640	160	200	400	1400	

**L-Lecture**  
**S-Studio**

**CIE- Continuous Internal Evaluation**  
**SEE- Semester End Examination**

**CA-Course Activity**  
**PA-Progressive Assessment**

**P-Practical**  
**MNC- Mandatory Non Credit**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**  
**PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses. AEC- Ability Enhancement Courses**  
**UHV - Universal Human Values**

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,  
For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**

Elective - I: Literature and Arts	
Course Code	Course Title
23ARE3.11	Craft in Architecture
23ARE3.12	Art Appreciation
23ARE3.13	Literature Appreciation
23ARE3.14	Architectural Photography



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**Bachelor of Architecture**  
SCHEME OF TEACHING AND EXAMINATION

BATCH \_2023



Semester:IV

Department :Architecture

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES4.1	PC	Structural Aesthetics in Architecture	Architecture	1	7	0	8	8	80	20	100	-	200	-
TECHNOLOGY	23TEC4.1	BS&AE	Building Construction and Materials-IV	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC4.2	BS&AE	Electricity and Illumination	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC4.3	BS&AE	Design of Steel Structures	Architecture/ Civil	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC4.4	SEC	Computer Application-II	Architecture	1	0	2	3	3	80	20	-	-	100	-
HUMANITIES	23HUM4.1	PC	Islamic and Colonial Architecture in India	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM4.2	PC	Humanities	Architecture	1	2	0	3	3	80	20	-	-	100	-
ELECTIVES	23ARE4.1x	PE	Elective - II: Architectural Presentation and Documentation	Architecture/Allied	3	0	0	3	3	80	20	-	-	100	-
					16	13	2	31	31	640	160	200	300	1300	

L-Lecture

CIE- Continuous Internal Evaluation

CA-Course Activity

S-Studio

SEE- Semester End Examination

PA-Progressive Assessment

P-Practical

PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective

MNC- Mandatory Non Credit

PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.

AEC- Ability Enhancement Courses

UHV - Universal Human Values

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**

**Elective - II: Architectural Presentation and Documentation**

Course Code	Course Title
23ARE4.11	Architectural Presentation Techniques
23ARE4.12	Vernacular Architecture
23ARE4.13	Heritage Documentation
23ARE4.14	Film Making in Architecture



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SCHEME OF TEACHING AND EXAMINATION

BATCH \_2023



Semester:V

Department :Architecture

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES5.1	PC	Housing Design	Architecture	1	7	0	8	8	80	20	100	-	200	-
	23DES5.2	PC	Theory of Architecture-I	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23DES5.3	SEC	Working Drawing	Architecture	1	0	2	3	3	80	20	100	-	200	-
TECHNOLOGY	23TEC5.1	BS&AE	Building Construction and Materials-V	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC5.2	BS&AE	HVAC and Fire Safety	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23TEC5.3	BS&AE	Principles of Advanced Structural Form	Architecture/ Civil	3	0	0	3	3	80	20	-	100	200	3 hrs
HUMANITIES	23HUM5.1	PC	Renaissance to Modernism	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM5.2	MNC	Study Tour	Architecture	0	0	0	0	MNC	80	20	-	-	100	-
ELECTIVES	23ARE5.1x	PE	Elective - III: Natural Systems/Environmental studies/Context	Architecture/Allied	3	0	0	3	3	80	20	-	-	100	-
					18	11	2	31	31	720	180	300	400	1600	

**L-Lecture**

**S-Studio**

**P-Practical**

**MNC- Mandatory Non Credit**

**CIE- Continuous Internal Evaluation**

**SEE- Semester End Examination**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.**

**UHV - Universal Human Values**

**CA-Course Activity**

**PA-Progressive Assessment**

**AEC- Ability Enhancement Courses**

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**

**Elective - III: Natural Systems/Environmental studies/Context**

Course Code	Course Title
23ARE5.11	Cost Effective Design
23ARE5.12	Biomimicry
23ARE5.13	Eco-friendly Architecture
23ARE5.14	Indian Traditional Knowledge Systems in Architecture



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**Bachelor of Architecture**  
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BATCH \_2023



Semester:VI

Department :Architecture

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES6.1	PC	Campus Design	Architecture	1	7	0	8	8	80	20	100	-	200	-
	23DES6.2	PC	Theory of Architecture-II	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23DES6.3	PC	Landscape Architecture	Architecture	2	2	0	4	4	80	20	-	100	200	3 hrs
TECHNOLOGY	23TEC6.1	BS&AE	Building Construction and Materials-VI	Architecture	1	4	0	5	5	80	20	100	-	200	-
HUMANITIES	23HUM6.1	PC	Physical Planning	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM6.2	PC	Contemporary Architecture	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM6.3	UHV	Universal Human Values and Professional Ethics	Architecture/Allied	1	0	0	1	1	40	10	-	50	100	1 hr
ELECTIVES	23ARE6.1x	OE	Open Elective -I	Any	3	0	0	3	3	80	20	-	-	100	-
					17	13	0	30	30	600	150	200	450	1400	

**L-Lecture**

**CIE- Continuous Internal Evaluation**

**CA-Course Activity**

**S-Studio**

**SEE- Semester End Examination**

**PA-Progressive Assessment**

**P-Practical**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**MNC- Mandatory Non**

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**UHV - Universal Human Values**

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Department :Architecture

BATCH\_2023  
Semester:VII

Course Stream	Course Code	Course Type	CourseTitle	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES7.1	PC	Urban Infill Design	Architecture	2	8	0	10	10	80	20	100	-	200	-
	23DES7.2	PC	Specification, Estimation and Costing	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
TECHNOLOGY	23TEC7.1	BS&AE	Alternate Building Techniques	Architecture	1	4	0	5	5	80	20	100	-	200	-
	23TEC7.2	BS&AE	Acoustics in Architecture	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
HUMANITIES	23HUM7.1	PAECC	Professional Practice-I	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM7.2	PAECC	Traffic Awareness and Road Safety	Architecture	1	0	0	1	1	80	20	-	-	100	-
ELECTIVES	23ARE7.1x	PE	Elective - IV: Design and Practice	Architecture/Allied	3	0	0	3	3	80	20	-	-	100	-
	23ARE7.2x	OE	Open Elective-II	Any	3	0	0	3	3	80	20	-	-	100	-
-	23CRT7.1	SEC	Certification Course	Architecture	0	0	0	0	MNC	100	-	-	-	100	-
					19	12	0	31	31	740	160	200	300	1400	

**L-Lecture**

**S-Studio**

**P-Practical**

**MNC- Mandatory Non Credit**

**CIE- Continuous Internal Evaluation**

**SEE- Semester End Examination**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.**

**UHV - Universal Human Values**

**CA-Course Activity**

**PA-Progressive Assessment**

**AEC- Ability Enhancement Courses**

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note:**

- 1) The certification course will be conducted for minimum 30 hours duration with an end examination
- 2) An International study tour will be arranged (optional across 1st to 10th semester)

**Elective - IV: Design and Practice**

Course Code	Course Title
23ARE7.11	Humanizing Public Spaces
23ARE7.12	Cultural Landscapes
23ARE7.13	Furniture Design
23ARE7.14	Architectural Journalism
23ARE7.15	Architectural Conservation
23ARE7.16	Digital Mapping for Design





Karnatak Law Society's  
**GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08**  
**Bachelor of Architecture**  
**SCHEME OF TEACHING AND EXAMINATION**



BATCH\_2023

Department :Architecture

Semester:VIII

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES8.1	PAECC	Professional Training	Architecture	16 weeks				16	100		100	-	200	-
					0	0	0	0	16	100	0	100	0	200	

**L-Lecture**

**CIE- Continuous Internal Evaluation**

**CA-Course Activity**

**S-Studio**

**SEE- Semester End Examination**

**PA-Progressive Assessment**

**P-Practical**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**MNC- Mandatory Non Credit**

**PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.**

**AEC- Ability Enhancement Courses**

**UHV - Universal Human Values**

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**



Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION



BATCH \_2023

Semester:IX

Department :Architecture

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES9.1	PAECC	Dissertation (Thesis Part- I)	Architecture	2	4	0	6	6	80	20	-	-	100	-
	23DES9.2	PC	Energy Efficient Architecture	Architecture	1	7	0	8	8	80	20	100	-	200	-
	23DES9.3	PC	Interior Design	Architecture	1	3	0	4	4	80	20	100	-	200	-
HUMANITIES	23HUM9.1	PAECC	Professional Practice-II	Architecture	3	0	0	3	3	80	20	-	100	200	3 hrs
	23HUM9.2	SEC	Entrepreneurship skills	Any	2	0	0	2	2	80	20	-	-	100	-
ELECTIVES	23ARE9.1x	PE	Elective - V: Advance Technology	Architecture/ Allied	3	0	0	3	3	80	20	-	-	100	-
	23ARE9.2x	PE	Elective - VI: Management and Research	Architecture/ Allied	3	0	0	3	3	80	20	-	-	100	-
					15	14	0	29	29	560	140	200	100	1000	-

L-Lecture

CIE- Continuous Internal Evaluation

CA-Course Activity

S-Studio

SEE- Semester End Examination

PA-Progressive Assessment

P-Practical

PC - Professional Core; BS&amp;AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective

MNC- Mandatory Non Credit

PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.

AEC- Ability Enhancement Courses

UHV - Universal Human Values

Minimum Marks for passing:

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**Note: An International study tour will be arranged (optional across 1st to 10th semester)****Elective - V: Advance Technology**

Course Code	Course Title
23ARE9.11	Highrise Buildings
23ARE9.12	Advanced Building Technologies
23ARE9.13	BIM / Digital Architecture
23ARE9.14	Architectural Lighting

**Elective - VI: Management and Research**

Course Code	Course Title
23ARE9.21	Disaster Management
23ARE9.22	Earthquake Management
23ARE9.23	Research Methodology
23ARE9.24	Construction and Project Management
23ARE9.25	Real Estate Development



Department :Architecture

Karnatak Law Society's  
GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08  
**Bachelor of Architecture**  
SCHEME OF TEACHING AND EXAMINATION

BATCH \_2023



Semester:X

Course Stream	Course Code	Course Type	Course Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										PA	CA	VIVA/TW	EXAM		
DESIGN	23DES10.1	PC	Architectural Design Project (Thesis Part-II)	Architecture	0	10	-	10	10	80	20	100	-	200	-
HUMANITIES	23HUM10.1	HSMC	Constitution of India and Professional Ethics	Architecture	2	0	-	2	2	80	20	-	-	100	-
					2	10	0	12	12	160	40	100	0	300	

**L-Lecture**

**S-Studio**

**P-Practical**

**MNC- Mandatory Non Credit**

Minimum Marks for passing:

**CIE- Continuous Internal Evaluation**

**SEE- Semester End Examination**

**PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective**

**PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill Enhancement Courses.**

**UHV - Universal Human Values**

Theory, Studio and Lab Marks (CIE) : 50%, Term Work / Viva/Lab(SEE) : 40% , Theory Marks (SEE) : 40%,

For a pass in a course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.

**CA-Course Activity**

**PA-Progressive Assessment**

**AEC- Ability Enhancement Courses**

**Note: An International study tour will be arranged (optional across 1st to 10th semester)**



### 3<sup>RD</sup> SEMESTER

#### CONTEXTUAL DESIGN

<b>Course Code</b>	<b>23DES3.1</b>	<b>Course type</b>	<b>PC</b>	<b>Total credits</b>	<b>8</b>
<b>Hours/week: L-S-P</b>	1- 7 - 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 98 Hrs; P = 0 Hrs Total = 112 Hrs			<b>SEE Marks</b>	100

#### Course learning objectives

1.	To introduce students to the techniques of reading physical context and cultural context related to the built environment, such as site, site surroundings, climate and culture of the region.
2.	To enable students to demonstrate a design solution which responds to the context.

**Pre-requisites :** Nil

#### **Unit – I: Introduction to Context and Architectural Response**      **Contact Hours = 16 Hours**

Students will be introduced to the 'Theory of Context' related to the built environment. Further students will present the literature case studies on works of Master architects, exploring ideas of cultural and physical contexts by analyzing the prominent buildings and presenting the outcome in the form of analytical drawings that will demonstrate the process of development of built form in response to Physical and Cultural Context.

#### **Unit – II: Design Project**      **Contact Hours = 96 Hours**

Major Design Project:  
Project shall deal with two or more distinct contexts with identical design programme. Students shall study various elements of Physical and Cultural contexts like Site, Site surroundings, Climate, Culture, Architectural character of the region etc. The same shall be represented in the form of data collection using maps, sketches, abstract diagrams etc. Project, for e.g. design of Museum, Community center, Recreational club, Cultural Centre, School, Resort or project of similar nature and scale shall be chosen.  
The study shall be demonstrated in the form of detailed scaled drawings.

#### **Design Methodology:**

The entire design process comprises various stages of reading the context, understanding design and context through various stages such as case study, site selection and analysis, data collection, concept, conceptual design sketches, design drawings and final design submission.

Note:

1. The design solution shall be explored through case study/study tour /design walk of the project of appropriate type and scale.
2. The design solution shall be explored with the help of physical models.

#### Books

#### **Reference Books:**

1.	Neil Leach, Rethinking Architecture: Reader in Cultural Theory, T&F, 1997 and onwards.
2.	Yi-fu Tuan, Space and Place, University of Minnesota Press, 25th edition, London, 2001 and onwards
3.	Lambe Neeta, Shape Grammar and Space Syntax Approach in Contextual Design, COPAL Publishing Group, October 2023 and onwards
4.	Parry Eric , Context: Architecture and the Genius of Place, Wiley, May 2015 and onwards

5.	Norberg-Schulz Christian, Genius Loci, Rizzoli; New edition (15 June 1991) and onwards
6.	RobsonDavid , Geoffrey Bawa: The Complete Works , Thames and Hudson,November 2002 and onwards
7.	Frampton Kenneth ,Charles Correa : With an Essay, (Collector's Edition), The Perennial Press, 1996 and onwards
8.	Steele James, An Architecture for People: Complete Works of Hassan Fathy, Thames & Hudson Ltd November 1997 and onwards

Course delivery methods		Assessment methods	
1.	PPT and Videos	1.	Progressive Portfolio Assessment
2.	Case Study	2.	Course Activity Assessment
3.	Site Study	3.	Semester End Examination
4.	Design Discussions		
5.	Models		

Course Outcome (COs)			
At the end of the course, the student will be able to			
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create		Learning Level	PO(s)
1.	Understand and analyze the given context with respect to physical, climate and culture.	Un, An	1,2
2.	Apply the theory to develop conceptual diagramming and arrive at programme formulation.	Ap, Cr	1,2
3.	Develop a design project by integrating physical, climatic and cultural context.	Ap, Cr	1,2,3,4

Scheme of Continuous Internal Evaluation (CIE):				
Components	Portfolio Marking	Reviews	*Course Activity	Total Marks
Marks	40	40	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>				

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

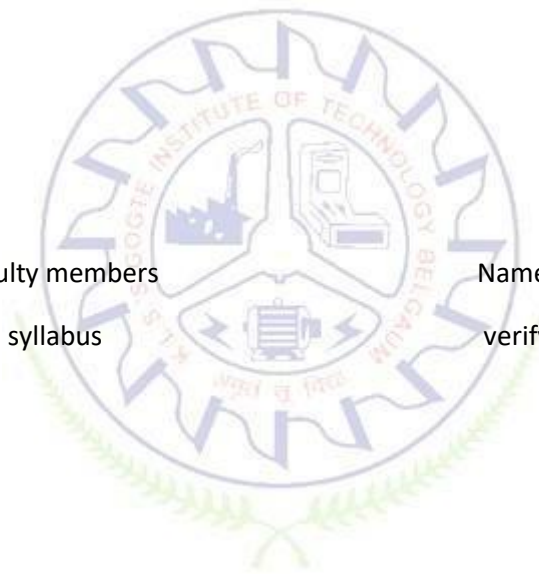
Scheme of Semester End Examination (SEE):	
1.	Viva Voce Examination will be conducted for 100 marks.
2.	<b>Minimum marks required in SEE to pass:</b> Score should be $\geq 40\%$ , however overall score of CIE+SEE should be $\geq 50\%$ .



CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√	√										
2	√	√										
3	√	√	√	√								

Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus



## CLIMATE RESPONSIVE ARCHITECTURE

<b>Course Code</b>	<b>23DES 3.2</b>	<b>Course type</b>	<b>BS &amp;AE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week :L-S-P</b>	3-0 -0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L =42 Hrs; S=0 Hrs; P=0 Hrs Total=42 Hrs			<b>SEE Marks</b>	<b>100</b>

### Course learning objectives

1.	To understand the influence of climate on Architecture along with knowledge of Climate science, Traditional Architecture, Urban planning effects on climate change and thermal comfort for human habitable spaces.
2.	To acquaint students with Design considerations for Hot –Dry, Warm-Humid, Composite and Cold climatic zones.

#### Unit - I : Characteristics, Types of Climate and Site Climate

**Contact Hours = 08 Hours**

- a) Introduction to Climatology, Relation to Architecture, Role of the Designer. Relevance of climatic aspects in Architecture with some examples of Vernacular Architecture, like Bhunga houses and Kerala House. Elements of climate, measurement and representations of climatic data. Classifications and Characteristics of tropical climates. Major climatic zones of India.
- b) Site Climate: Natural factors and built elements affecting site climate. Urban growth and Heat Island Effect.

#### Unit – II : Thermal Comfort and Thermal Performance

**Contact Hours = 08 Hours**

- a) Thermal Comfort Factors and Balance, Body's Mechanism of Heat Production and Loss, Methods of Heat Transfer, Definitions of Thermal comfort indices like Effective Temperature and CET. Heat Exchange of Buildings, Internal Heat Gain/ Loss, definitions of Sol Air Temperature, Solar Gain Factor.  
Study of materials with U-values, R-values for climate responsive designing.  
Lab Experiment: Observation of temperature changes in various materials of a surrounding location using suitable devices.

#### Unit – III : Sun Path and Shading Devices

**Contact Hours=08 Hours**

- a) Sun path diagram, Use of solar charts in climatic design, Types of shading devices.
- b) Study of different traditional shading devices like Jharokha, Jaali walls and contemporary shading devices. Building examples to understand different shading devices shall include CEPT, Ahmedabad, Tower of shadows, High Court and Legislative building, Chandigarh.  
Contemporary buildings with kinetic facades Milwaukee Art Museum, Al Bahr Towers.  
Lab experiment: Analysing the Sun path movement, Sun angles using suitable devices.

#### Unit – IV : Natural Ventilation and Daylighting

**Contact Hours = 08 Hours**

- a) Functions of natural ventilation, Stack effect, effects of openings and external features on internal air flow, air movements around buildings. Study of Passive downdraft system - Torrent Research Centre, Ahmedabad.
- b) Day-Lighting: Daylight Factor, components of daylight factor, Advantages and limitations in different climatic zones, Light from walls and roofs.  
Lab experiment: Studying the wind velocity/speed in indoor and outdoor spaces using suitable devices.

<b>Unit – V Climatic Design Considerations</b>	<b>Contact Hours=10 Hours</b>
a) Design considerations for buildings in Hot –Dry, Warm-Humid, Composite and Cold climatic zones. b) Case Studies to understand climate responsive design considerations, like Sangath - Ahmedabad, Verem Housing - Goa and Asian Games Village - Delhi Cold climate - Degree College and Hill Council Complex, Leh. MLA Hostel, Shimla.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Koenigsberger and Ingersol, Manual of Tropical Housing & Buildings (Part-II), Universities Press/Orient Blackswan, 1985 and onwards.
2.	Krishnan Arvind, Baker & Szokolay, Climate Responsive Architecture, Tata McGraHill, New Delhi, 2001 and onwards.
3.	Mujumdar Milli, Energy efficient buildings, TERI India publications, 2002 and onwards.
4.	Rudofsky Bernard, Architecture without Architects, A Short Introduction to Non-Pedigreed Architecture, University of New Mexico Press, July 1st 1987 and onwards.
5.	Fry Maxwell and Drew Jane, Tropical Architecture in the Dry and Humid Zones, Batsford, London, 1964 and onwards

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Internal Assessment Test
2.	PPT and Videos	2.	Course Activity Assessment
3.	Documentary Videos	3.	Semester End Examination
4.	Lab Exercises		

<b>Course Outcome(COs)</b>			
At the end of the course, the student will be able to,			
<b>Learning Levels: Re-Remember; Un-Understand; Ap-Apply; An-Analysis; Ev-Evaluate; Cr-Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> and <b>explain</b> the architectural characteristics for designing climate responsive strategies for various climate zones.	<b>Un</b>	1, 7
2.	<b>Identify</b> and <b>list</b> the Architectural materials with better thermal comfort for climate responsive design.	<b>Un</b>	1, 7
3.	<b>Analyse</b> and <b>Evaluate</b> the role of a designer for a climate sensitive approach to climate science and its adaptability in urban context.	<b>Ap, An</b>	1, 2, 3, 4, 7

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40=80	20	100
<b>Minimum score to be eligible for SEE:50 OUT OF 100</b>			

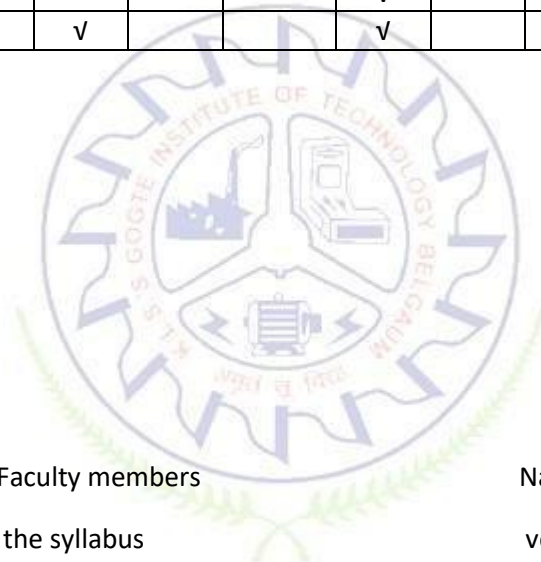
\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/Workshops/Hands on/Analytical understanding/Theoretical Studies/Documentation/Study tours/Design Process/Design walk.

- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain CO's and PO's

Scheme of Semester End Examination (SEE):	
1.	It will be conducted for 100 marks of 3 hours duration.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains three parts <b>A, B and C</b> . Students have to answer <ol style="list-style-type: none"> <li>From Part A answer any 5 questions each Question carries 6 Marks.</li> <li>From Part B answer any one full question from each unit and each Question carries 10 Marks.</li> <li>From Part C answer any one full question and each Question carries 20 Marks.</li> </ol>

CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√						√					
2	√						√					
3	√	√	√	√			√					



Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus

### BUILDING CONSTRUCTION AND MATERIALS – III

<b>Course Code</b>	<b>23TEC3.1</b>	<b>Course type</b>	<b>BS &amp; AE</b>	<b>Total credits</b>	5
<b>Hours/week: L - S- P</b>	1 – 4 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 56 Hrs; P = 0 Hrs Total = 70 Hrs			<b>SEE Marks</b>	100

<b>Course learning objectives</b>	
1	To acquaint students with Construction Techniques and Practices pertaining to R.C.C. Foundations, Columns, Beams and Types of Slabs.
2	Introduction to Staircase, Types of Staircases.
3	To understand Paints, Plastering and Waterproofing materials.

<b>Unit-I : Reinforced Cement Concrete</b>	<b>Contact Hours = 08 Hours</b>
a) Introduction to RCC Framed Structures and principles and methods of RCC structures. b) Scaffolding and formwork. c) Types of Piles - Precast Piles, Cast in-situ Piles. Methods of driving Piles and Pile caps.	

<b>Unit-II : RCC Foundations, Columns, Beams, Lintels</b>	<b>Contact Hours = 14 Hours</b>
a) Foundation - Shallow and Deep foundations and types. b) Columns and beams c) Arches, Lintels with Chajjah Projection.	
Self-learning topics: Documentation of the process of casting of RCC components.	

<b>Unit – III : RCC Slabs</b>	<b>Contact Hours = 20 Hours</b>
a) One-way and Two-way slab. b) Sloping slab. c) Cantilever slab.	
Self-learning topics: Site visits and documentation of the slabs to understand the principles and methods of construction.	

<b>Unit – IV: Staircases</b>	<b>Contact Hours = 20 Hours</b>
a) Introduction and Components of staircases. b) Types of Staircases - Staircase in Timber, Staircase in Metal- Spiral Stairs, Fire Escape Stairs Staircase in R.C.C.-Waist slab, Folded plates.	

<b>Unit – V: Plastering, Paints and Waterproofing</b>	<b>Contact Hours = 14 Hours</b>
a) Methods of Plastering, Internal, External Plastering and various plaster finishes like Grit Plaster and Waterproof Plaster. b) Types of Paints like Distempers, Emulsions, Oil based Paints, Cement Based Paints and Textured Paints, their Characteristics and application.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Mackey W B, Building construction, volume 3, Orient Longman, London, 1985 and Onwards

2.	Chudley R, Construction Technology, volume 3, ELBS, England, 1997 and Onwards.
3.	Barry R, Construction Technology, volume 2, EWP, New Delhi, 1999 and Onwards.
4.	Ching Francis D.K., Building Construction Illustrated, John Wiley & Sons, Inc, Hoboken, New Jersey, Volume 4, 2014 onwards.
5.	Rangawala S. C, Engineering Materials, 43rd edition, Charotar Publishing House Pvt. Ltd, 2017, India

Course delivery methods		Assessment methods	
1.	Chalk and Talk	1.	Progressive Portfolio Assessment (Reviews)
2.	PPT and Videos	2.	Course Activity Assessment
3.	Documentary Videos	3.	Semester End Examination
4.	Site Visits		

Course Outcome (COs)			
At the end of the course, the student will be able to ,			
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create		Learning Level	PO(s)
1.	<b>Understand and demonstrate</b> the principles and methods of RCC structures, scaffolding and Formwork with its Construction methods. <b>Identify and compare</b> various types of piles used in construction and its methods of driving piles and constructing pile caps.	Un, Ap	1, 5
2.	<b>Illustrate</b> various types of RCC building components.	Un	1, 5
3.	<b>Illustrate and apply</b> various types of RCC slabs and its construction as per structural requirements.	Un, Ap	1, 5
4.	<b>Demonstrate</b> construction techniques of Timber, Metal and RCC Staircase.	Un	1, 5
5.	<b>Explain</b> the uses of Paint and Plaster as building materials.	Un	1, 5

Scheme of Continuous Internal Evaluation (CIE):			
Components	Addition of two reviews	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			

\*Note:

- **The problems may be framed in discussion with respective Design and Structures faculty.**
- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

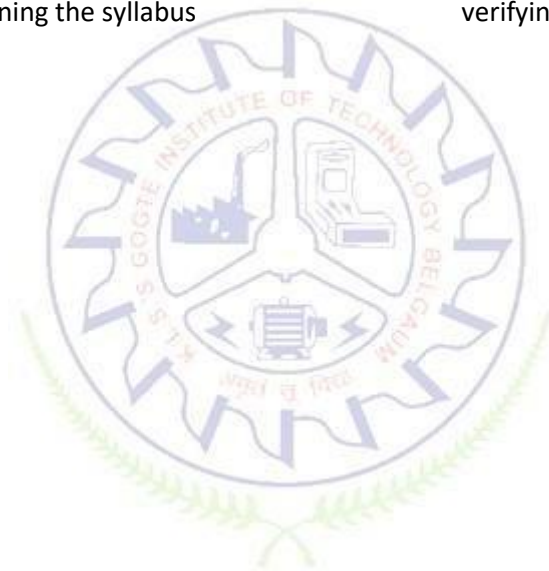
Scheme of Semester End Examination (SEE):	
1.	Viva-Voce will be conducted for 100 marks.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math>, however overall score of CIE+SEE should be <math>\geq 50\%</math></b>
3.	Students have to submit the portfolio at the end of the semester for SEE.



CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	√				√							
2	√				√							
3	√				√							
4	√				√							
5	√				√							

Name & Signature of Faculty members  
members involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus



## WATER SUPPLY AND SANITATION

<b>Course Code</b>	<b>23TEC3.2</b>	<b>Course type</b>	<b>BS &amp; AE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week: L - S- P</b>	3 – 0 – 0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	<b>100</b>

<b>Course learning objectives</b>	
1.	To introduce students to the concepts of basic building services like water supply and sanitation at the building and neighborhood level.
2.	To evolve the understanding of students of the integration of water supply and sanitation services with Architectural design.
3.	To enable the students to understand the importance of water, its harvesting systems and sanitation systems.

<b>Unit – I: Water Supply</b>	<b>Contact Hours = 08 Hours</b>
<p>a) Introduction: Introduction to water supply system.</p> <p>b) Sources of Water: Surface sources like rivers, streams, lakes and impounded reservoirs. Underground sources like springs, infiltration galleries, tube wells and driven wells.</p> <p>c) Brief outline of Treatment of water for different uses: Aeration, sedimentation, filtration, softening and disinfection. Storage and supply of treated water, schematic diagrams of Distribution system of drinking water.</p> <p>d) Quantity of Water: Per capita demand, types of demand – domestic, institutional and commercial, industrial, public use, firefighting and compensate losses. Factors affecting per capita demand of water.</p> <p>e) Quality of Water: Types of impurities, Tests conducted for ascertaining the quality of drinking water, effects and standard permissible limits of all types of impurities.</p>	

<b>Unit – II: Sanitation</b>	<b>Contact Hours = 09 Hours</b>
<p>a) Introduction: History of sanitation, importance and purpose of sanitation, principles of sanitation.</p> <p>b) Terminologies in sanitation: Sewerage, sewer, sullage, sewage, refuse, invert, soil pipe, waste pipe, vent pipe, anti siphonage pipe, dry weather flow and wet weather flow. Collection and disposal of refuse, water carriage system. Conveyance of sewage- gully trap, inspection chamber, intercepting trap, grease traps, oil traps, backflow preventer, manholes and its types. Materials of construction of sewerage network – PVC, uPVC, HDPE, corrugated PP pipes.</p> <p>c) Introduction to Sewage treatment, types of treatment- aerobic, anaerobic; Space requirements and Ventilation of Sewage Treatment Plant.</p> <p>d) Solid Waste Management: Introduction to types of waste- Municipal waste, Commercial waste, Medical waste, Industrial waste and garden waste. Collection, segregation, treatment, disposal of waste. Organic waste and its disposal.</p> <p>e) Sanitary Fixtures and Fittings: Space requirements for soil appliances like water closets, bidet, urinals, flushing cistern and flush valve. Waste appliances like wash basin, sink, dishwasher and washing machine.</p>	

<b>Unit – III: Sewage Collection and Storm Water Management</b>	<b>Contact Hours = 08 Hours</b>
<ul style="list-style-type: none"> <li>a) Systems of Drainage: Separate, combined and partially combined systems.</li> <li>b) Sewage collection: Objective, space requirements, working and design of Septic tank for a typical dwelling or community. Soak pits.</li> <li>c) Decentralized Wastewater Treatment: Properties, Treatment systems in DEWATS and scope.</li> <li>d) Storm water Management: Drainage system – piped drains, open drains. Management of storm water drainage for a small house, collection and storm water drainage showing down take pipes, drainage of basements, podium, paved areas.</li> <li>e) Introduction to Rain water harvesting: Recharging of storm water, Harvesting of roof top water, first flush, pretreatment. Reuse of water within the project, landscape drainages.</li> </ul>	
Self-learning topics: Study of rainwater harvesting projects for different sites- residential, commercial and institutional buildings.	

<b>Unit – IV: Plumbing- Water Supply</b>	<b>Contact Hours = 08 Hours</b>
<ul style="list-style-type: none"> <li>a) Water Supply Plumbing: Typical service connection to a premises- water mains, ferrule, service pipe and water meter. Sump tanks and domestic overhead water tanks and plumbing in sunken areas, false ceiling areas, ducts.</li> <li>b) Flow control valves – Gate valve, air relief valves and pressure relief valves, reflux valves, Globe valves, butterfly valves and Stop cock.</li> <li>c) Pipe fixtures – Tees, bends, elbows, unions, reducers, increasers and pipe supports. Bath and water fixtures – Taps, mixers: single lever, quarter turn, health faucets and showers, bathtub, multi-jet bath, rain showers. Wellness products: Space requirements of Sauna bath, steam bath, Jacuzzi.</li> <li>d) Hot water system: Geysers and systems of hot water supply, boilers and heat pumps and centralized hot water generation and distribution.</li> <li>e) Introduction to alternative technology (Solar)for hot water generation.</li> </ul>	
Self-learning topics: Study of automated and smart fixtures used in the toilets and study of hot water generation for an apartment block using solar energy.	

<b>Unit – V : Plumbing- Sanitation</b>	<b>Contact Hours = 09 Hours</b>
<ul style="list-style-type: none"> <li>a) Sanitary Plumbing: Requirement of traps and types of traps- P, Q, S traps, Floor traps and bottle traps. Systems of Sanitary plumbing- Single stack, one pipe, one pipe partially ventilated and two pipe systems. Cross venting and fixture venting.</li> <li>b) Study of Plumbing for a two-bedroom house: Layout of water supply and sanitation plumbing for a small residence - location of sump tank and overhead water tank (Floor Plan, terrace floor plan and Section) and connection from water mains and connection to municipal drainage. Layout of a typical toilet block showing complete details of sanitary fittings and plumbing required for water supply and sanitation. Calculation of the capacities of sump tank and overhead water tank.</li> </ul>	
Self-learning topics: Study and design of toilet layouts for private use, public use and for the physically challenged.	

Activities or site visits to study:

1. Public toilets - standards and types.
2. Water treatment plant.
3. Sewage treatment plant at Neighborhood/city level.
4. Central LPG Supply System and Medical Gases Supply.
5. Collection of refuse in a gated community.

<b>Books</b>	
	<b>Text Books:</b>
1.	Rangwala S.C., Water Supply and Sanitary Engineering, Charotar Publishing House Pvt. Ltd. , 29th edition, 2016.
2.	Birdie S. G., Water Supply and Sanitary Engineering, Dhanpat Rai Publishing Company P. Ltd., New Delhi, Jan.,2011.
3.	Husain S.K., Textbook of Water Supply and Sanitary Engineering, Oxford & IBH Publishing Co. Pvt Ltd., 3 <sup>rd</sup> edition, 2017.
4.	Garg Santosh.Kumar, Environmental Engineering (Vol. I) Water Supply Engineering, Khanna Publishers, 35th edition, 1977.
5.	Garg Santosh.Kumar, Environmental Engineering (Vol. II) Sewage Waste Disposal and Air Pollution Engineering, Khanna Publishers, 41 <sup>st</sup> edition, 1979.
6.	Panchdhari, A. C., Water Supply and Sanitary Installations :(within Building) Design, Construction and Maintenance, 2 <sup>nd</sup> Edition, New Age Publishers, Feb., 2017.
	<b>References:</b>
1.	Relevant IS Codes of India i. Uniform Plumbing Code India 2012, 2012 onwards. ii. Special IS Code: SP- 35 – 1996.
2.	Bureau of Indian Standards. (2016). National Building Code of India. New Delhi.
	<b>E-resources (NPTEL/SWAYAM, Any Other)</b>
1.	<a href="https://nptel.ac.in/courses/105105110">https://nptel.ac.in/courses/105105110</a>
2.	<a href="https://nptel.ac.in/courses/105104102">https://nptel.ac.in/courses/105104102</a>

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	IA tests
2.	PPT and Videos	2.	Course Activity Assessment
3.	Site study visits and reports	3.	Semester End Examination
4.	Market study and analysis		

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Illustrate</b> the importance of water supply and sanitation services in a building.	Un	1
2.	<b>Explain</b> the sources, quantity and quality of water and the treatment of water.	Un	1
3.	<b>Explain</b> the Collection, conveyance and treatment of sewage and illustrate the various plumbing and sanitary fixtures and fittings.	Un	1
4.	<b>Demonstrate</b> storm water drainage, application of rainwater harvesting system and waste water drainage.	Ap,An	1, 3, 7
5.	<b>Illustrate</b> water supply and sanitary plumbing layouts in a building.	Ap, An	1, 3, 7

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>	
1.	It will be conducted for 100 marks of 3 hours duration.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains three parts <b>A, B and C</b> . Students have to answer <ol style="list-style-type: none"> <li>1. From Part A answer any 5 questions each Question carries 6 Marks.</li> <li>2. From Part B answer any one full question from each unit and each Question carries 10 Marks.</li> <li>3. From Part C answer any one full question and each Question carries 20 Marks.</li> </ol>

<b>CO-PO Mapping (Planned)</b>												
<b>C O</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>
<b>1</b>	√											
<b>2</b>	√											
<b>3</b>	√											
<b>4</b>	√		√				√					
<b>5</b>	√		√				√					

Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabu

## DESIGN OF RCC STRUCTURES

<b>Course Code</b>	<b>23 TEC 3.3</b>	<b>Course type</b>	<b>BS &amp; AE</b>	<b>Total credits</b>	3
<b>Hours/week: L - S - P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	100

### Course learning objectives

1.	To Introduce students to Concrete and its composition. Advantages of RCC over other conventional structural practices. Explain different design philosophies with emphasis on Limit State Method (LSM) and compute loads to be considered in the design as per relevant IS codes.
2.	Design the RCC structural elements like beams and slabs by LSM.
3.	Design of Column and Footing by LSM using IS codes and SP 16.
4.	Design of Staircase by LSM using IS codes.

**Pre-requisites:** Analysis of Determinate Structures and Building Materials.

#### Unit – I: Concrete

**Contact Hours = 6 Hours**

Composition, water cement ratio, strength, durability, workability requirements. Advantages of RCC over other conventional structural practices, Design Philosophies (Limit State, Working Stress and Ultimate Load Method), Necessity and Philosophy of limit state design, stress block parameters, characteristic and design loads and strengths, load consideration as per IS 875.

#### Unit – II: Analysis and Design of Beams by Limit State Method

**Contact Hours = 9 Hours**

Analysis and design of singly and doubly reinforced beams for flexure and shear.

#### Unit – III: Design of Slabs

**Contact Hours = 9 Hours**

Introduction to slabs, different types of slabs, design of slabs, one way and two way slabs (simply supported and restrained).

#### Unit – IV: Design of Columns and Footings

**Contact Hours = 9 Hours**

Introduction to columns and footings, design of column (axial and uniaxial) using SP-16, design of footings (axially loaded square).

#### Unit – V: Design of Staircase

**Contact Hours = 9 Hours**

Introduction to staircase, Types of staircases, Design of dog legged staircase.

### Books

#### Text Books:

1.	Varghese P. C., "Limit State Design of Reinforced concrete", PHI Learning Private Limited 2008-09.
2.	Krishnaraju N. and Pranesh R. N., "Reinforced Concrete Design", New Age International Publications, New Delhi 2003
3.	Karve and Shah, "Limit State Theory and Design of Reinforced Concrete", 8th Edition, Structures Publications, Pune 2010
4.	Bhavikatti S. S., "Design of RCC Structural Elements Volume I", New Age International Publications, New Delhi 2007
5.	I. C. Syal and A. K. Goel, "Reinforced Concrete Structures", Revised Edition, S. Chand & Company Limited, New Delhi 2013
6.	Krishnamurthy, "Structural Design and Drawing - Concrete Structures", CBS publishers, New Delhi 2006



Reference Books:	
1.	Sinha S. N., "Reinforced concrete Design", Mc Graw Hill education India Pvt. Ltd., 2017
2.	Unnikrishna Pillai and Devdas Menon, "Reinforced Concrete Design", Mc Graw Hill education India Pvt. Ltd., 2021
3.	"IS-456:2000- Indian Standard Plain and Reinforced Concrete Code of Practice (Fourth Revision)", BIS, New Delhi
4.	"SP-16:1980 - Design aids for reinforced concrete to IS: 456-2000", BIS, New Delhi
5.	"SP-34:1987 – Handbook on concrete reinforcement and detailing", BIS, New Delhi
E-resources (NPTEL/SWAYAM/Any Other)	
1.	NPTEL course titled "Design of Reinforced Concrete Structures" conducted by Prof. N. Dhang, IIT Kharagpur ( <a href="https://nptel.ac.in/courses/105105105">https://nptel.ac.in/courses/105105105</a> )

Course delivery methods		Assessment methods	
1.	Chalk and Talk	1.	IA tests
2.	PPT and Videos	2.	Open Book Tests (OBT)
3.	Structural models	3.	Semester End Examination
4.	Site visits		

Course Outcome (COs)				
At the end of the course, the student will be able to				
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create			Learning Level	PO(s)
1.	Understand the fundamental concepts and design philosophy of Reinforced Cement Concrete (RCC).		Un	1
2.	Evaluate load carrying capacity of RCC members.		Ap, An	1,2,3,4
3.	Design RCC members and structures for given conditions as per IS 456: 2000.		Ap, An	1,2,3,4

#### Scheme of Continuous Internal Evaluation (CIE):

Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			

#### \*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk/ Open Book Test/Structural Grid of the Architectural Design.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>	
1.	It will be conducted for 100 marks of 3 hours duration. It will be reduced to 50 marks for the calculation of SGPA and CGPA.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains 2 questions on each unit having a weightage of 20 marks each. Students have to answer any one question from each unit.

<b>CO-PO Mapping (Planned)</b>												
<b>CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>
<b>1</b>	√											
<b>2</b>	√	√	√	√								
<b>3</b>	√	√	√	√								

Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus

## COMPUTER APPLICATION - I

<b>Course Code</b>	<b>23TEC3.4</b>	<b>Course type</b>	<b>SEC</b>	<b>Total credits</b>	3
<b>Hours/week: L - S- P</b>	1 – 0 – 2			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 00 Hrs; P = 28 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

<b>Course learning objectives</b>	
1.	To develop and train students to use computers and digital media as a tool to explore, develop, evaluate and present architectural ideas.
2.	To equip the student with a range of digital tools and techniques in 2D drafting and 3D modeling.

**Pre-requisites:** Basic Computer Skills, Understanding of Technical Drawing and Knowledge of Drafting Standards

<b>Unit-I : 2D Drafting</b>	<b>Contact Hours = 28 Hours</b>
a) Introduction to AutoCAD (or relevant 2D drafting software): 2D commands, viewports, dimensions, annotations. Time problem: classroom exercises such as measured drawings of windows, doors, staircases etc. b) Introduction to AutoCAD (or relevant 2D drafting software): Understanding layers, paper space vs. model space, lineweights, print setup for measured drawings. c) 2D Drafting: Presentation of time problem: plans, sections, elevations of a single storied building (or earlier semester architectural design studio project).	

<b>Unit-II : Basic 3D Modeling</b>	<b>Contact Hours = 14 Hours</b>
a) Introduction to Basic 3D modeling (Trimble SketchUp or relevant 3D modeling software): Introduction to software interface, basic tools for 3D modeling, composition with basic shapes, viewport manipulation and application of materials. b) 3D modeling: Demonstration of 3D modeling commands required to convert 2D project of a single storied building (or earlier semester architectural design studio project).	

<b>Books</b>	
	<b>Reference Books:</b>
1.	Omura George and Graham Rick, Mastering AutoCAD 2012 and AutoCAD LT 2012, Sybex; 1 edition,2011
2.	Online documentation, tutorials, blogs at <a href="http://www.lynda.com/AutoCAD-training">www.lynda.com/AutoCAD-training</a> tutorials.
3.	Online documentation, tutorials, blogs and videos: <a href="http://www.sketchup.com/learn/videos">http://www.sketchup.com/learn/videos</a>

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio Assessment
2.	PPT and Videos	2.	Course Activity Assessment
3.	Case study		

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An- Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Develop</b> the skills to use computers and digital media as a tool to explore and present architectural ideas.	<b>Un, Ap</b>	1,5
2.	<b>Apply</b> a range of digital tools and techniques in 2D drafting and 3D modeling.	<b>Un, Ap</b>	1, 5

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	Addition of two reviews	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for passing the subject : 50 OUT OF 100</b>			

<b>Scheme of Semester End Examination(SEE):</b>
<ul style="list-style-type: none"> <li>Note: This subject does not have Semester End Examination (SEE).</li> <li>Minimum marks required to pass CIE: 50 out of 100</li> </ul>

\*Note:

- Course Activity will be evaluated as the outcome (**sketches/model/Report/Monograph**) of site visits/ **Workshops/** Hands-on / **Analytical understanding/** Theoretical Studies/**Documentation/**Study tours/**Design Process/**Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√				√							
2	√				√							

Name & Signature of Faculty members

involved in designing the syllabus  
syllabus

Name & Signature of Faculty

verifying/approving the

## HINDU TEMPLE ARCHITECTURE IN INDIA

<b>Course Code</b>	<b>23HUM3.1</b>	<b>Course type</b>	<b>PC</b>	<b>Total credits</b>	3
<b>Hours/week: L - S- P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	100

<b>Course learning objectives</b>	
1.	To provide an introduction to the evolution of Hindu Temple Architecture in India
2.	To develop an understanding of the spatial experience of buildings in order to appreciate the complexity of the influences bearing on architecture, as reflected in the major historical periods of Hindu Temple Architecture in India.
3.	To give comparative analysis identifying evolution in various stylistic modes of Hindu Temple Architecture, characterized by technology, ornamentation and planning practices from Indo Aryan Style to Dravidian Style.

<b>Unit-I : Evolution of Temples and Indo Aryan Period –Orissa</b>	<b>Contact Hours = 09 Hours</b>
a) Rock-cut Architecture and beginning of structural Temples: Indo Aryan - Early temples at Udayagiri, Tigawa, Sanchi, Deogarh and Bhitargaon. b) Evolution of Hindu Temple: Dravidian Experiments at Aihole- Durga temple and Ladkhan Temple, Rock cut caves at Badami . c) Introduction and synoptic study of Vesara style architecture at Ellora and Pattadakal. d) Introduction, Critical appreciation of works and synoptic study of parts of Orissan temples, Architectural characteristic features and study of Design principles of Orissan temples. E.g.: Lingaraja temple, Bhubaneswar and Sun temple, Konark.	

<b>Unit-II : Gujarat and Khajuraho</b>	<b>Contact Hours = 09 Hours</b>
Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features. Study of Design principles - a) Gujarat: E.g. Surya Temple, Osia, Marwar, Sun Temple, Modhera. b) Khajuraho: E.g. Kandariya Mahadeva temple, Khajuraho, Laxman Temple Khajurao.	
Self-Learning Topics- Types of Shikaras of Indo Aryan style temples (Three modes of development: Latina, Shekhari and Bhumija).	

<b>Unit – III: Dravidian Period - Pallava and Chola</b>	<b>Contact Hours = 08 Hours</b>
Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features. Study of Design principles- a) Pallava: E.g. Rathas and Shore temple at Mahabalipuram, Kailasanatha and Vaikuntha Perumal temple at Kanchipuram. b) Chola: E.g. Brihadeshwara temple at Thanjavur and Gangaikonda Cholapuram.	

<b>Unit – IV : Pandya and Hoysala</b>	<b>Contact Hours = 08 Hours</b>
a) Pandya: Study of Architectural characteristic features of Pandya style Gopurams. b) Hoysala: Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features. Study of Design principles. Chennakesava temple at Belur, Hoysaleswara temple at Halebid, Kesava temple at Somnathpur.	
Self-Learning Topics: Study of Pandya style temples.	

<b>Unit – V: Vijayanagar and Nayaka</b>	<b>Contact Hours =08 Hours</b>
Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features. Study of Design principles.	
a) Vijayanagar: E.g. Vithala temple and Hazara Rama temple, Hampi.	
b) Madurai: Meenakshi temple, Madurai and Ranganath Swami temple at Srirangam.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Brown Percy, Indian Architecture- Buddhist and Hindu Period, D. B. Taraporevala Sons and Co., Bombay, 1983 and onwards.
2.	Grover Satish, Architecture of India- Buddhist and Hindu, Vikas Publishing House Pvt. Ltd., New Delhi, 1980 and onwards.
3.	Tomory Edith, History of Fine Arts in India and the West, Orient Longman Ltd., New Delhi, 1982 and onwards.
4.	Stierlin Henry, Hindu India, Benedikt Taschen Verlag GmbH, Hohenzollern ring 53, D-50672 Koln, 1998 and onwards
5.	Michell George, Temples of Deccan India, Hindu and Jain 7th to 13th centuries Art Books.
6.	Michell George, Badami.Aihole.Pattadakal, Jaico Publishing House Mumbai.
7.	Tadgell Christopher, The History of Architecture in India, Phaidon Press Ltd

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Internal Assessment Test
2.	PPT and Videos	2.	Course Activity Assessment
3.	Documentary Videos	3.	Semester End Examination

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An- Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>List and explain</b> the architectural characteristics of the Hindu Temple Architecture in India like Indo Aryan Period –Orissa, Central India-Gujarat and Khajuraho, Dravidian Period - Pallava and Chola, Pandya and Hoysala, Vijayanagar and Nayakas.	<b>Un</b>	1
2.	<b>Illustrate</b> the spatial experience of buildings in order to appreciate the complexity of the influences bearing on architecture, as reflected in the major historical periods of Hindu Temple Architecture in India.	<b>Un</b>	1
3.	<b>Compare and Analyze</b> the characteristics of Hindu Temples from Indo Aryan Style to Dravidian Style.	<b>An</b>	1

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			



\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>	
1.	It will be conducted for 100 marks of 3 hours duration.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains three parts <b>A, B and C</b> . Students have to answer <ol style="list-style-type: none"> <li>1. From Part A answer any 5 questions each Question carries 6 Marks.</li> <li>2. From Part B answer any one full question from each unit and each Question carries 10 Marks.</li> <li>3. From Part C answer any one full question and each Question carries 20 Marks.</li> </ol>

<b>CO-PO Mapping (Planned)</b>												
<b>CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>
<b>1</b>	√											
<b>2</b>	√											
<b>3</b>	√											

Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus

Name & Signature of Faculty members      Name & Signature of Faculty  
involved in designing the syllabus      verifying/approving the syllabus

### ELECTIVE-I: CRAFT IN ARCHITECTURE

<b>Course Code</b>	<b>23ARE3.11</b>	<b>Course type</b>	<b>PE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week: L-S-P</b>	3-0-0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L=42 Hrs; S=0 Hrs; P=00 Hrs Total= 42 Hrs			<b>SEE Marks</b>	<b>-</b>

<b>Course learning objectives</b>	
1.	To introduce students to the idea of 'craft' in and of Architecture.
2.	To study the role of major philosophies, movements and styles in shaping various crafts.
3.	To understand the role of crafts in addressing cultural and place-making aspects of Architecture through works of Modern and Contemporary Architects.

<b>Outline</b>	<b>Contact Hours = 42 Hours</b>
<ul style="list-style-type: none"> <li>a) Introduction to the term 'Craft', its scope and relevance of skill based craftsmanship in Architecture.</li> <li>b) Study of craft based interventions in Classical, Medieval and Renaissance Architecture.</li> <li>c) Study of evolution and influence of major philosophies, movements and styles like 'The Arts and Crafts Movement' and 'Art Nouveau' on Architecture.</li> <li>d) Study of regional crafts and its implications on regional architecture in Indian context.</li> <li>e) Document and present critical analysis of manifestation of crafts in the works of Frank Lloyd Wright, Carlo Scarpa, Hassan Fathy, Alvar Alto, Charles and Ray Eames, Norman Jaffe and such other architects.</li> <li>f) Document and present critical analysis of manifestation of crafts in the works of Charles Correa, B.V Doshi, Laurie Baker, Nari Gandhi, Bijoy Jain, Gurjit Singh Matharoo, Prasanna Morey and such other architects.</li> </ul>	

<b>Books</b>	
	<b>Reference Books :</b>
1.	Ranjan Aditi, Ranjan M.P : Crafts of India-Handmade in India: Council of Handicraft Development Corporations ( COHANDS ) New Delhi.2007.
2.	Wilson Henry : Pattern and Ornament in the Arts of India : Thames & Hudson Year.
3.	Davy Peter : Arts and Crafts Architecture: London, Phaidon, 1995.
4.	Rudofsky Bernard: Architecture without Architects: A short introduction to Non Pedigreed Architecture, Double Dey and company, INC, Garden City, New York,1964
5.	May John: Building without Architects: Global guide to everyday Architecture,2010
6.	Gordon Alastair : Romantic Modernist : The Life and Work of Norman Jaffe, Architect : Monacelli Press. 2005

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio
2.	PPT ,Videos and documentary	2.	Course Activity

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An- Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> the meaning of the term 'craft' and skill based interventions in Architecture.	<b>Un</b>	1
2.	Collect, communicate and <b>analyze</b> the application of crafts in architecture in a critical manner.	<b>Un, An</b>	1,4

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination(SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√											
2	√			√								

Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabu

## ELECTIVE - I: ART APPRECIATION

<b>Course Code</b>	<b>23ARE3.12</b>	<b>Course type</b>	<b>PE</b>	<b>Total Credits</b>	<b>3</b>
<b>Hours/week: L - T - P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; T = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

<b>Course learning objectives</b>	
1.	To understand Visual Art Forms and their Cultural Connections.
2.	To encourage students to appreciate types of Arts.

<b>Outline</b>	<b>Contact Hours =42 Hours</b>
<p><b>A: Introduction to Work of Art</b> The Humanities: A study of Values and Taste. Response to Art, Identifying Art Conceptually and Perceptually. Participation, Artistic form, Content and Subject matter of Art form.</p> <p><b>B: History of Art and Critic of Art</b> Overview of Art and its progression through History, Important works of Art and Artists. Brief history of Western Art- The Renaissance- 17th Century, 18th Century, 19th Century, The impressionism and Beyond, Art Deco, Art Nouveau, Cubism, Abstraction, Surrealism, Modern Art: Post Cubism to 1980, Contemporary Art from 1980 The Art market- Participation and Criticism - Types.</p> <p><b>C: Painting</b> The Media of Paintings, Elements of Painting, Characteristics of Paintings, Types (Abstract and Representational). Styles of Painting and understanding works of master Artists and their expressions through paintings.</p> <p><b>D: Sculpture</b> Types, Techniques and Materials of Sculpture making, Sculpture and Human body. Styles of Sculpture and understanding works of master Artists and their expressions through sculptures.</p> <p><b>E: Architecture</b> Interrelationship between Art and Architecture.</p>	

<b>Books</b>	
	<b>Reference Books :</b>
1.	Martin David F and Jacobus Lee: The Humanities through Arts, Ninth Edition, McGraw Hill education, New York, USA, 2011.
2.	Getlein Mark: Living with Art, Tenth edition, Mc Graw Hill education, New York, USA, 2012.
3.	Bjone Christian: Art and Architecture, Cuno Calbe, Basel Boston Berlin, 2007.
4.	Bowron Peters Edgar and Morton G. Mary Masterworks of European Painting, Princeton University Press and Museum of Fine Arts, Houston, 2000.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Assignments
2.	PPT and Videos	2.	Course Activity

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An- Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> Visual Art Forms and their Cultural Connections	<b>Un</b>	1 ,2
2.	<b>Analyze</b> different Forms of Art	<b>Un, An</b>	1 ,2, 4
3.	<b>Apply</b> the learnings of a given topic in the form of Painting and Sculpture	<b>Un, Ap</b>	1, 2, 4

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's

<b>Scheme of Semester End Examination(SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√	√										
2	√	√		√								
3	√	√		√								

Name & Signature of Faculty members involved in designing the syllabus

Name & Signature of Faculty members verifying/approving the syllabus

### ELECTIVE - I: LITERATURE APPRECIATION

<b>Course Code</b>	<b>23ARE3.13</b>	<b>Course type</b>	<b>PE</b>	<b>Credits</b>	3
<b>Hours/week: L - T- P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; T = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

<b>Course learning objectives:</b>	
1.	To introduce students to the understandings of 'Literature' concerning the field of design and develop skills to effectively present their learning outcomes.
2.	To introduce students to writing a book review establishing the context of the book.
3.	To introduce students to writing and present a paper, essay, article on a given topic.

<b>Outline</b>	<b>Contact Hours =42 Hours</b>
a) Book Reading: Orientation towards book reading, understanding contents like prologue, introduction, chapters, images, sketches, diagrammatic information, references and bibliography writing.	
b) Book Review: Book introduction and review (complete/part/chapter) - Presenting the title, brief introduction about the author and of the book content, focusing on the main theme, idea, debate and the context established in the literature.	
c) Paper/Essay/Article Writing and Presentation: Write a Paper/Essay /Article on the topic from or related to the book reading and presentation of the extract or learnings from the same.	

<b>Books</b>	
<b>Text Books:</b>	
1.	Terry Eagleton: How to Read Literature, Yale university press, CA,2012
<b>Reference Books:</b>	
1.	Frederick Matthew: 101 things, I Learned in Architecture School, MIT press, 2007, Cambridge.
2.	Doshi Balkrishna V.: Paths Uncharted, Vastushilpa foundation, 2012, India.
3.	Beninger Chistopher : Letters to Young Architect, India house, Pune 2013. India
4.	Unwin Simon: Exercise in Architecture-Learning to think as an Architect, Routledge, 2012, New York.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Book review
2.	PPT and Videos	2.	Paper /Essay/ Article
3.	Book Reading	3.	Report of Literature

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> Literature concerning design.	<b>Un</b>	1 ,2
2.	<b>Analyze</b> the content of the book and write a book review.	<b>Un, An</b>	1 ,2, 4
3.	<b>Apply</b> the learnings of a given topic in the form of an essay or article.	<b>Un, Ap</b>	1, 2, 4



**Scheme of Continuous Internal Evaluation (CIE):**

Components	Report/Portfolio Marking	Course Activity	Total Marks
Marks	80	20	100

**\*Note:**

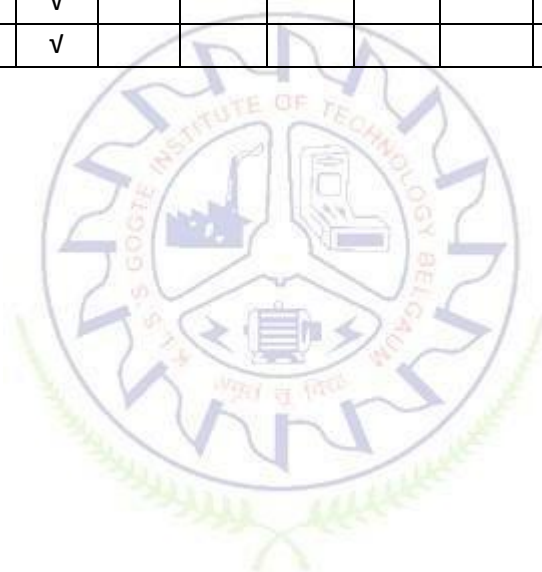
- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

**Scheme of Semester End Examination(SEE):**

- Note: This subject does not have Semester End Examination (SEE).
- Minimum marks required to pass CIE: 50 out of 100

**CO-PO Mapping (Planned)**

CO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√	√										
2	√	√		√								
3	√	√		√								



Name &amp; Signature of Faculty members

involved in designing the syllabus

Name &amp; Signature of Faculty members

verifying/approving the syllabus

### ELECTIVE- I: ARCHITECTURAL PHOTOGRAPHY

<b>Course Code</b>	<b>23ARE3.14</b>	<b>Course type</b>	<b>PE</b>	<b>Total credits</b>	3
<b>Hours/week: L - S- P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

<b>Course learning objectives</b>	
1.	To understand the fundamentals of photography and photographic composition.
2.	To develop technical proficiency in Architectural Photography.
3.	To apply the photographic skills in various contexts and promote effective documentation of architectural elements and spaces.

<b>Outline</b>	<b>Contact Hours = 42 Hours</b>
b) Introduction to architectural photography. Various types of compositions, framing, and silhouette photography. c) Introduction to principles of visual design elements such as Shape, color, visual hierarchy, word/image relationships. d) History of Photography, Introduction to the Digital Revolution in Photography. e) Understand to Optimize the selection of shutter speed, aperture and ISO. Twilight and night photography. Various ways of Architectural Photography for documentation and presentations. f) Creative photography / photo renderings for special effects using softwares.	

<b>Books</b>	
	<b>Reference Books:</b>
1.	Koos Eissen and Roselien Steur, Drawing Techniques for Product Designers, 2009 onwards.
2.	Adrian Schulz, ARCHITECTURAL PHOTOGRAPHY 3/E: Composition, Capture, and Digital Image Processing 2015
3.	McGrath, Norman. Photographing Buildings Inside and Out, Watson-Guptill Publications, 1993.
4.	Heinrich, M. Birkhäuser Verlag AG, Basics Architectural photography, 2008.
5.	Julius Shulman, The Photography of Architecture and Design Photographing Buildings, Interiors, and the Visual Arts, 1998.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Portfolio
2.	PPT and Videos	2.	Course Activity

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand and apply</b> the skills for creative architectural photographs through the use of appropriate cameras / lenses and lighting conditions.	<b>Un, Ap</b>	1,5
2.	<b>Illustrate and apply</b> various usage of cameras, lenses and accessories.	<b>Un, Ap</b>	1, 5
3.	<b>Demonstrate</b> exterior and interior architectural photography.	<b>Un, Ap</b>	1,5

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100
<b>Minimum score to be eligible for passing the subject: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.
- 

<b>Scheme of Semester End Examination (SEE):</b>
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- |   |
|---|
| <ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul> |
|---|

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√				√							
2	√				√							
3	√				√							

Name & Signature of Faculty members involved in designing the syllabus

Name & Signature of Faculty members verifying/approving the syllabus

**4<sup>TH</sup> SEMESTER**  
**STRUCTURAL AESTHETICS IN ARCHITECTURE**

<b>Course Code</b>	<b>23DES4.1</b>	<b>Course type</b>	<b>PC</b>	<b>Total credits</b>	8
<b>Hours/week: L-S-P</b>	1-7-0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 98 Hrs; P = 0 Hrs Total = 112 Hrs			<b>SEE Marks</b>	100

<b>Course learning objectives</b>	
1.	To understand Program, spatial requirements and organization of Urban level projects.
2.	To understand structural systems, associated grids and their influence on spatial compositions and Architectural aesthetics.
3.	To understand the design consideration required to accommodate various services.
4	To enable students to demonstrate design solutions for Urban level projects integrating structural systems and services.

**Pre-requisites :** Nil

<b>Unit – I: Understanding of the Program:</b>	<b>Contact Hours = 12 Hours</b>
Introduction Studio project of urban level projects like Hospitals (around 50 bedded), Polyclinic, Hotels, Bus Terminals, Shopping Malls, Convention Centers, Library, Hostels, etc. Study of spatial requirements, furniture layouts, interspatial relationships, services and functional organization through literature study and live case studies.	

<b>Unit – II Understanding of Structural patterns and their impact on spatial organization and Architectural aesthetics</b>	<b>Contact Hours = 16 Hours</b>
Understanding of the Structural patterns and how they influence the formal composition and spatial layout embedded in an Architectural idea. Understanding of the Structural elements, patterns and grids for Urban level buildings through various literature case studies.	

<b>Unit – III: Design Project</b>	<b>Contact Hours = 84 Hours</b>
Design project shall explore and demonstrate an understanding of design considerations of structural systems and services by dealing with urban level projects like Hospitals (around 50 bedded), Polyclinic, Hotels, Bus Terminals, Shopping Malls, Convention Centers, Library, Hostels, etc.	
<b>Design Methodology:</b>	
The Design process comprises various stages starting with understanding of Program, Data collection and case study for understanding of furniture layout, spatial requirements, Functional arrangement, relevant building services, etc. This is followed by a literature case study of appropriate projects showcasing harmony between structure and architecture, to understand structural grids, primary and secondary spans, and distribution of structural elements along the grid. The influence of the structural system on 3 dimensional forms is explored. Followed by concept, conceptual design sketches, study models, design drawings, reviews of the design and final design submission.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Bjorn N Sandarkers, Arne P. Eggen, The Structural Basis of Architecture, Routledge, Abingdon.UK. 2011 and onwards.
2.	Salvadori Mario, The Strength of Architecture-Why Buildings Stand Up, W.W.Norton and Company, New York, US 1991 and onwards.

3.	Kunders G.D., Hospitals, McGraw-Hill Education Pvt. Ltd., New York.US. 2004 and onwards
4.	Curtis Eleanor, Hotel- Interior Structures, John Wiley Academy, London.UK. 2001 and onwards.
5.	Jodidio Philip, Santiago Calatrava Complete Works 1979-2009,Taschen, Hohenzollernring 53, Cologne, Germany, 2007 and onwards.
6.	Taylor Brian Brace, Raj Rewal, Mimar Publications, Concept Media Ltd., London, 1992 and onwards.
7.	Ching Francis D.K., Onouye Barry S. and Zuberbuhler Douglas, Building Structures Illustrated Pattern, Systems and Design, JohnWiley & Sons, Inc. Hoboken, New Jersey, 2009 and onwards.
8.	Margolius Ivan, Architects + Engineers = Structures, Wiley-Academy, T J International Ltd, Padstow, Cornwall, 2002 and onwards.

Course delivery methods		Assessment methods	
1.	PPT and Videos	1.	Case study and data collection review
2.	Case Study	2.	Literature case study review
3.	Site Visits	3.	Design reviews
4.	Discussion on drawing board	4	Semester End Exam/Viva
5.	Model studies		

Course Outcome (COs)			
At the end of the course, the student will be able to			
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create		Learning Level	PO(s)
1.	<b>Understand</b> the Program and Spatial requirements and functional organization of Urban Level projects.	<b>Un</b>	1,2
2.	<b>Understand</b> the role of structural grids, their manipulation to distribute structural elements, and organize architectural space.	<b>Un</b>	1,2
3.	<b>Apply</b> structural grids to arrive at iterations of suitable spatial organizations for the design problem at hand.	<b>Ap</b>	2
4.	<b>Analyze</b> and <b>evaluate</b> the resulting spatial organizations for their suitability to the design problem.	<b>An, Ev</b>	2,4
5.	<b>Develop</b> a design solution by integrating function, structure and services to best suit the design problem.	<b>Cr</b>	3,8,10,12

Scheme of Continuous Internal Evaluation (CIE):				
Components	Portfolio Marking	Reviews	*Course Activity	Total Marks
Marks	40	40	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>				

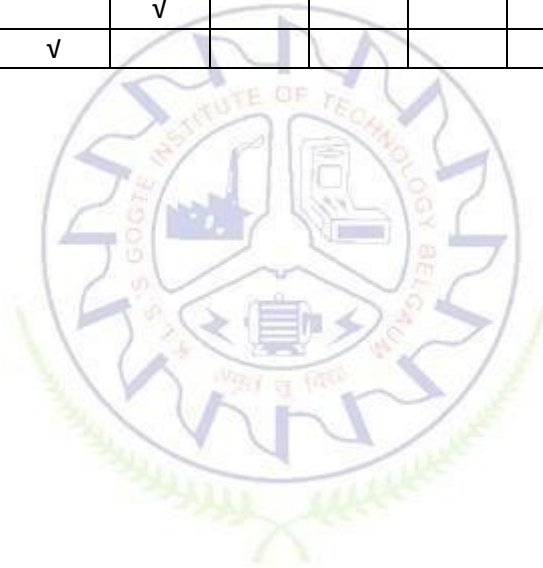
\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

Scheme of Semester End Examination (SEE):	
1.	Term Work will be conducted for 100 marks.

2.	<b>Minimum marks required in SEE to pass:</b> Score should be $\geq 40\%$ , however overall score of CIE+SEE should be $\geq 50\%$ .
3.	Students have to submit the portfolio at the end of the semester for SEE.

CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√	√										
2	√	√										
3		√										
4		√		√								
5			√					√		√		√



Name & Signature of Faculty members  
in designing the syllabus

Name & Signature of Faculty members involved  
verifying/approving the syllabus



### BUILDING CONSTRUCTION AND MATERIALS – IV

<b>Course Code</b>	<b>23TEC4.1</b>	<b>Course type</b>	<b>BS &amp; AE</b>	<b>Total credits</b>	5
<b>Hours/week: L - S- P</b>	1 – 4 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 56 Hrs; P = 0 Hrs Total = 70 Hrs			<b>SEE Marks</b>	100

<b>Course learning objectives</b>	
1.	Introduction to Flooring and Paving.
2.	Introduction to Special types of Doors.
3.	Introduction to Structural Glazing and Cladding.
4	Introduction to Aluminum and UPVC windows.
5	To study manufacturing of Glass and Plastics; its types with applications in the Building Industry.

<b>Unit-I : Flooring and Paving</b>	<b>Contact Hours = 12 Hours</b>
a) Mud and Stone Flooring. b) Marble, Granite, Tandoor and Kota Flooring. c) Mosaic, Terrazzo, Ceramic and Vitrified Tile Flooring. d) Natural Wood, Pre-Engineered Wood Flooring. e) Special flooring e.g. Epoxy, Tremix Concrete and Vinyl Flooring. f) Paving - Cast-in-situ Concrete, Concrete tiles, Interlocking blocks, Clay tiles, Brick and stone	

<b>Unit-II : Aluminum and UPVC Windows</b>	<b>Contact Hours = 20 Hours</b>
a) Introduction b) Types of Aluminum windows c) Types of UPVC Windows	

<b>Unit – III : Special Types of Doors and Windows</b>	<b>Contact Hours =12 Hours</b>
a) Frameless Glass Doors, Sliding and Folding Doors. b) Collapsible gates and Rolling shutters. c) Revolving Doors. d) PVC and FRP Doors and Windows. e) Sensor Control and Automated Systems of Doors.	

<b>Unit – IV: Structural Glazing and Cladding</b>	<b>Contact Hours = 12 Hours</b>
a) Structural Glazing and Fitting Devices. b) Introduction to Cladding. c) Precast Concrete Cladding Panels. d) Aluminum Composite Panel Cladding.	

<b>Unit – V: Glass and Plastics as building materials</b>	<b>Contact Hours = 14 Hours</b>
a) Glass Fabrication techniques. b) Types of glasses and their appropriate use as a building material. c) Introduction to plastics, Properties and Architectural uses of plastics. d) Thermoplastics and Thermosetting Plastics. e) Structural Plastics. f) Decorative plastic coatings.	
Self-learning topics: To Collect samples, rates and manufacturers information of Polycarbonate, Acrylic, PVC, Polymer films or Fiber- reinforced plastics and glass.	

NOTE: Site Visits and documentation for each module and study of material application shall form part of the portfolio.

Books	
<b>Reference Books:</b>	
1.	Mackey W. B., Building Construction, Volume 3, Orient Longman, 1985 onwards.
2.	Chudley R., Construction Technology, Volume 3, ELBS, England, 1997 onwards.
3.	Barry R., Construction Technology, Volume 2, 4, EWP, New Delhi, 1999 onwards.
4.	Rangwala S. C., Building Materials, Charotar Publishing House (Pvt Ltd), New Delhi 2015 onwards
5.	Ching Francis D.K., Building Construction Illustrated, John Wiley & Sons, Inc, Hoboken, New Jersey, Volume 5, 2014 onwards.

Course delivery methods		Assessment methods	
1.	Chalk and Talk	1.	Progressive Portfolio Assessment (Reviews)
2.	PPT and Videos	2.	Course Activity Assessment
3.	Literature Case Studies	3.	Semester End Examination
4.	Site Visits		

Course Outcome (COs)			
At the end of the course, the student will be able to ,			
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An Analysis; Ev - Evaluate; Cr - Create		Learning Level	PO(s)
1.	<b>Understand and demonstrate</b> the various methods of flooring and Paving techniques.	<b>Un</b>	1,5
2.	<b>Understand and Illustrate</b> various types of special doors and windows	<b>Un</b>	1, 5
3.	<b>Illustrate the application of various</b> construction techniques used for Structural Glazing and Cladding in a building.	<b>Un</b>	1, 5
4.	<b>Illustrate</b> construction techniques of Aluminum Doors and Windows	<b>Un</b>	1, 5
5.	<b>Explain</b> the uses of Glass and Plastic as building materials.	<b>Un</b>	1, 5

Scheme of Continuous Internal Evaluation (CIE):			
Components	Addition of two reviews	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			

\*Note:

- The problems may be framed in discussion with respective Design and Structures faculty.
- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

Scheme of Semester End Examination (SEE):	
1.	Viva-Voce will be conducted for 100 marks.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math>, however overall score of CIE+SEE should be <math>\geq 50\%</math></b>
3.	Students have to submit the portfolio at the end of the semester for SEE.

CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√				√							
2	√				√							
3	√				√							
4	√				√							
5	√				√							

Name & Signature of Faculty members

Members involved in designing the syllabus

Name & Signature of Faculty

verifying/approving the syllabus



## ELECTRICITY AND ILLUMINATION

<b>Course Code</b>	<b>23TEC4.2</b>	<b>Course type</b>	<b>BS&amp;AE</b>	<b>Total credits</b>	3
<b>Hours/week: L - S- P</b>	3 – 0 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	100

### Course learning objectives

1.	To introduce students to electrical services and illumination and to sensitize them concerning their integration into Architectural Design.
2.	To introduce students to the green building councils of India and codes (BEE, GRIHA, IGBC) and sensitize them about the energy consumption and carbon emissions of different electrical equipment, technologies, and lighting.
3.	Introduction and study of renewable energy systems.

<b>Unit-I: Introduction to Electrical Services.</b>	<b>Contact Hours = 08 Hours</b>
<ul style="list-style-type: none"> <li>a) Introduction to commonly used terminology – Power, Voltage, Current, Connected Load, Maximum Demand, Load Factors, symbols per IS standards, etc.</li> <li>b) Supply and Distribution of Electricity to Buildings: Power Requirements, Voltage levels, Substation, Ring Main Units, Metering panels, HT Breakers, Transformers, Generators, LT Panels, Cables – HT and LT, Standards like National Building Code and National Electric Code.</li> <li>c) Introduction and brief study about ECBC, BEE code books.</li> </ul>	

<b>Unit-II: Protective Devices, Earthing, and Lightning Protection System, Internal Supply and Distribution.</b>	<b>Contact Hours = 08 Hours</b>
<ul style="list-style-type: none"> <li>a) Fuses, Miniature Circuit Breakers, Earth Leakage Circuit Breakers, Molded Case Circuit Breakers.</li> <li>b) Earthing: Introduction, Types - Pipe Earthing, Plate Earthing, and brief about new advances in earthing systems. Lightning arresters for High-rise buildings.</li> <li>c) Residential Building Electrical Distribution System: Study of Overhead and underground distribution system, a brief description of various cabling types, conduit, PVC casing, and capping wiring systems.</li> </ul>	

<b>Unit-III: Electrical Layout Design and Automation in Electrical System</b>	<b>Contact Hours = 08 Hours</b>
<ul style="list-style-type: none"> <li>a) Electrical layout of a three-bedroom residential unit and load calculation.</li> <li>b) Electrical layout of commercial outlets like restaurants of around 150 sqm.</li> <li>c) Multi-storied Residential and Commercial electrical distribution system – Study of the layout of any multi-storied Residential or Commercial building showing line diagram or individual duct layout for electrical cables, internet cables, telephone cables, other services, etc.</li> <li>d) A brief study of Automation into overall building electrical systems to save energy.</li> </ul>	
<b>Self-learning topics:</b> Documentation of electrical layout of Showrooms / Shops/Clinics of around 150 Sqm and calculation of the load.	

<b>Unit-IV: Illumination</b>	<b>Contact Hours = 12 Hours</b>
<ul style="list-style-type: none"> <li>a) Introduction to Illumination, Quality and Quantity of Light</li> <li>b) Type of Lighting Systems: Direct, Indirect, Semi Direct and Semi Indirect.</li> <li>c) Methods of lighting: Ambient, Task and Accent lighting, Street Lighting, Façade Lighting, Landscape lighting, etc.</li> <li>d) Type of Light sources: Fluorescent, Incandescent, HID's, CFL, LED, OLED and Halogen.</li> <li>e) Types of Luminaires: Pendant light, Uplighter, Recessed ceiling light, wall washers, etc. Design considerations for the lighting of the museum, auditorium, garden, and library.</li> </ul>	

**Self-Learning Topics:** Market Survey and report presentation of latest technology switches and luminaries.

<b>Unit-V: Renewable Energy Systems</b>	<b>Contact Hours = 06 Hours</b>
<p>a) Renewable Energy Systems: Non-conventional systems like Solar, Wind, Biomass, and Thermal Wave plants and their applications.</p> <p>b) Application of renewable energy in the design of buildings through appropriate case studies like CII Soharabji Godrej Green Business Centre, Hyderabad, Auroville Solar Kitchen, The Energy Research Institute Bangalore, Indira Paryavaran Bhavan, Ministry of Environment and Forest, PEDDA Office Complex, Chandigarh.</p>	
<p><b>Self-Learning Topics:</b> Study of projects involving one or more renewable energy systems like Solar/ Wind.</p>	

Activities or site visits to study:

1. Sub-station.
2. Under construction Residential and Commercial building to study electrical services and systems.
3. Market survey for luminaries and lights.

<b>Books</b>	
	<b>Reference Books:</b>
1.	Uppal S. L. Electrical Wiring, Estimating & Costing, Khanna Publishers, 2013
2.	Dadras S. Aly. Electrical Systems for Architects by N.G.A.R.B. Hill -McGraw USA Publishers, 1995
3.	Anwari. Basic Electrical Engineering, 1st Edition and onwards, McGraw Hill Education Publishers, 2017
4.	National Electric Code, Indian Electricity Rules 1956, Energy Conservation and Building Code, 1st Edition and onwards. Bureau of Energy Efficiency, Ministry of Power, Government of India, Publishers, 2017
5.	Handbook of Lighting Design by Ganslandt Ruediger, Hofmann Harald; ERCO Edition Verlag Vieweg Publisher, 1992
6.	Winchip Susan M., Fundamentals of Lighting 2nd Edition, Fairchild Books Publisher, 2011
7.	National Building Code, 2016 – Part 8 (Section 1, 2, 6). Bureau of Indian Standard, Government of India, Publisher, 2011
8.	Code of Practice for Interior Illumination (IS 3646-1 (1992); Bureau of Indian Standard, Government of India, Publisher, 1992
9.	AK Mittal, Electrical and Mechanical Services in High-Rise Buildings – Design and Estimation Manual – Including Green Building, CBS Publishers & Distributors, 2015

<b>Web links</b>	
1.	<a href="https://ndl.iitkgp.ac.in">https://ndl.iitkgp.ac.in</a>
2.	<a href="https://www.youtube.com/watch?v=8DEap6exAB0">https://www.youtube.com/watch?v=8DEap6exAB0</a>
3.	<a href="https://www.youtube.com/watch?v=qY_VzvksNa8">https://www.youtube.com/watch?v=qY_VzvksNa8</a>
4.	<a href="https://www.youtube.com/watch?v=ofWq03WPek0">https://www.youtube.com/watch?v=ofWq03WPek0</a>
5.	<a href="https://www.youtube.com/watch?v=lebflvdLVvM">https://www.youtube.com/watch?v=lebflvdLVvM</a>
6.	<a href="https://www.youtube.com/watch?v=5cr71HISw6k">https://www.youtube.com/watch?v=5cr71HISw6k</a>

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Internal Assessment Test
2.	PPT and Videos	2.	Course Activity Assessment
3.	Site Visits	3.	Semester End Examination

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply;An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> the importance of electrical services and illumination in a building.	<b>Un</b>	1
2.	<b>Explain</b> the green building codes of India and the energy consumption, and carbon emissions of different electrical equipment, technologies, and lighting.	<b>Un</b>	1, 7
3.	<b>Illustrate</b> electrical drawings of residential and commercial buildings.	<b>Ap, An</b>	1,3
4.	<b>Explain</b> the application of renewable energy systems in buildings.	<b>Un</b>	1,7

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	The addition of two IA tests	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>The minimum score to be eligible for SEE: 50 OUT OF 100</b>			

Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's

<b>Scheme of Semester End Examination (SEE):</b>	
1.	It will be conducted for 100 marks of 3 hours duration.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however an overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	The question paper contains three parts <b>A, B, and C</b> . Students have to answer 1. From Part A answer any 5 questions each Question carries 6 Marks. 2. From Part B answer any one full question from each unit and each Question carries 10 Marks. 3. From Part C answer any one full question and each Question carries 20 Marks.

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	√											
2	√						√					
3	√		√									
4	√						√					

Name & Signature of Faculty members

Name & Signature of Faculty

Members involved in designing the syllabus

verifying/approving the syllabus



## DESIGN OF STEEL STRUCTURES

<b>Course Code</b>	<b>23TEC4.3</b>	<b>Course type</b>	<b>BS &amp; AE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week: L - S- P</b>	3 – 0 – 0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L = 42 Hrs; S = 0 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	<b>100</b>

<b>Course Learning Objectives</b>	
1.	To Introduce students to Steel Structures. Advantages of steel over other conventional structural practices. Explain different design philosophies with emphasis on LSM and compute loads to be considered in the design as per relevant IS codes.
2.	To learn the basics of different kinds of bolted and welded connections and design them.
3.	Analysis and Design of Tension Members, Compression Members and Slab Base.
4.	To learn the behavior of beams and design them.

**Pre-requisites:** Analysis of Determinate Structures.

<b>Unit – I: Introduction to Steel Structures</b>	<b>Contact Hours = 6 Hours</b>
Introduction to steel structures, advantages and disadvantages of steel structures. Members used in steel structures, Loads and Load combinations and Design considerations. Limit State Method (LSM) of design, Failure Criteria for steel, Codes, specification and section classification. Types of connections and types of joints.	

<b>Unit – II: Bolted and Welded Connections</b>	<b>Contact Hours = 9 Hours</b>
Behavior of bolted joints and welded connections. Advantages and disadvantages of bolted and welded connections. Design strength of Bolts (no staggering) and welds. Simple and Eccentric Connections.	

<b>Unit – III: Design of Tension Members</b>	<b>Contact Hours = 9 Hours</b>
Introduction, Types of tension members. Modes of failure, factors affecting the strength of tension members. Sections used for tension members. Design of tension members.	

<b>Unit – IV: Design of Compression Members and Column Bases</b>	<b>Contact Hours = 9 Hours</b>
Introduction, Types of compression members, Behavior of compression members, Modes of failure, Sections used for compression members. Design of compression members, Built up compression members, Design of simple slab base (no gusseted base), Simple column and Footing connection details.	

<b>Unit – V: Design of Beams</b>	<b>Contact Hours = 9 Hours</b>
Introduction, Types of beams, Lateral stability of beams, factors affecting lateral stability. Behavior of simple and built-up beams in bending (without vertical stiffeners). Design strength of laterally supported beams in Bending.	

<b>Books</b>
<b>Text Books:</b>
Subramanian N, “ <b>Design of Steel Structure</b> ” Oxford University Press, 2017
Duggal S.K. “ <b>Limit state Design of Steel Structure</b> ”, Tata McGraw- Hill Education Pvt.Ltd. 2010



Ramchandra “ <b>Design of Steel Structure</b> ” , Scientific Publisher 9 <sup>th</sup> Edition, 2012
<b>Reference Books: Codes</b>
IS 875-1987, Code of practice for Design Loads.
IS 800-2007, General Construction Steel Structure of Practise
<b>E-resources (NPTEL/SWAYAM/Any Other)</b>
<a href="https://onlinecourses.nptel.ac.in/noc23_ce76/preview">https://onlinecourses.nptel.ac.in/noc23_ce76/preview</a>

Course delivery methods		Assessment methods	
1.	Chalk and Talk	1.	IA tests
2.	PPT and Videos	2.	Open Book Tests (OBT)
3.	Structural models	3.	Semester End Examination
4.	Site visits		

Course Outcome (COs)				
At the end of the course, the student will be able to				
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create			Learning Level	PO(s)
1.	Understand the importance and application of steel structures		Un, Ap	1,3
2.	Analyze, Apply and design bolted and welded connection, tension and compression members and implement it in the design of trusses.		Ap, An	1,2,3,4
3.	Analyze, Apply and design laterally supported beams.		Ap, An	1,2,3,4

#### Scheme of Continuous Internal Evaluation (CIE):

Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<b>Minimum score to be eligible for SEE: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk/ Open Book Test/Structural Grid of the Architectural Design. .
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

Scheme of Semester End Examination (SEE):	
1.	It will be conducted for 100 marks of 3 hours duration. It will be reduced to 50 marks for the calculation of SGPA and CGPA.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE + SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains 2 questions on each unit having a weightage of 20 marks each. Students have to answer any one question from each unit.

CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√		√									
2	√	√	√	√								
3	√	√	√	√								



Name & Signature of Faculty members  
involved in designing the syllabus

Name & Signature of Faculty  
verifying/approving the syllabus

## COMPUTER APPLICATION -II

<b>Course Code</b>	23TEC4.4	<b>Course type</b>	<b>SEC</b>	<b>Total credits</b>	3
<b>Hours/week: L - S- P</b>	1 – 0 – 2			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 00 Hrs; P = 28 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

<b>Course learning objectives</b>	
1.	To equip students with practical skills in using Advanced computer applications to support the architectural design process.
2.	To foster creativity and innovation in architectural visualization and presentation.
3.	To prepare students for professional practice by enhancing their proficiency in industry-standard software tools.
4.	To empower students to communicate their design ideas effectively through visualizations and presentations.

<b>Unit-I : Advanced 3D Modeling and Visualization Techniques</b>	<b>Contact Hours = 28 Hours</b>
a) Introduction to advanced Sketch Up extensions and tools to aid 3D modeling, adding details to models in 3D space using plug-ins like 1001bit, Sandbox, etc. b) Study of Advanced Rendering and Visualization Techniques of Design Studio projects using software.	

<b>Unit-II : Presentation Techniques</b>	<b>Contact Hours = 14 Hours</b>
a) Introduction to Graphics Editing Tools using software. Concepts of image editing, image scanning, effects and filters. b) Presentation of earlier semesters Architectural Design studio project- rendering of 2D drawings. Adding foreground, background elements to the 3D visualizations. Tools for Presentation of the edited 2D drawings and 3D visualizations.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Tal Daniel, Rendering in Sketch Up: From Modeling to Presentation for Architecture, Landscape, Architecture, and Interior Design, John Wiley & Sons 2013
2.	Daniel Tal, Sketch Up to Layout: The essential guide to creating construction documents with Sketch Up Pro & Layout, Bizfound, LLC (4 July 2015)
3.	Fane Bill, Harrison Mark, Reilly Josh Sketch Up For Dummies, 2nd Edition, For Dummies (Computer/Tech) 2022.
<b>E-recourses (NPTEL/SWAYAM, Any Other)</b>	
Bark, Steve, An Introduction to Adobe Photoshop; Bookboon.com	

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio Assessment
2.	PPT and Videos	2.	Course Activity Assessment
3.	Case studies		

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to ,			
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Apply</b> skills in using advanced software's to support the architectural design process.	<b>Un, Ap</b>	1,5
2.	<b>Create</b> various types of architectural visualization using digital presentation techniques.	<b>Un, Ap</b>	1, 5
3.	<b>Apply</b> skills in industry related software tools and enhance their professional practice.	<b>Ap</b>	1, 5
4.	<b>Communicate</b> design ideas effectively through visualizations and presentations.	<b>Un, Ap</b>	1, 5

<b>Scheme of Continuous Internal Evaluation (CIE):</b>			
Components	Intermediate submissions	*Course Activity	Total Marks
Marks	40+40	20	100
<b>Minimum score to be eligible for passing the subject: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (**sketches/model/Report/Monograph**) of site visits/ **Workshops/** Hands-on / **Analytical understanding/** Theoretical Studies/ **Documentation/**Study tours/**Design Process/**Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	√				√							
2	√				√							
3	√				√							
4	√				√							

Name & Signature of Faculty members

Members involved in designing the syllabus

Name & Signature of Faculty

verifying/approving the syllabus

## ISLAMIC AND COLONIAL ARCHITECTURE IN INDIA

<b>Course Code</b>	<b>23HUM4.1</b>	<b>Course type</b>	<b>PC</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week :L-S-P</b>	3-0-0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L =42 Hrs; S=0 Hrs; P=0 Hrs Total=42 Hrs			<b>SEE Marks</b>	<b>100</b>

<b>Course learning objectives</b>	
1.	To provide an insight to the culture and its influence on architecture of Islamic and Colonial Periods in India.
2.	To develop appropriate skills of appreciation, reading, understanding and analyzing the evolution of the various styles, characterized by technology, building elements and planning practices.

<b>Unit - I Imperial Style (12th to 16th Century AD)</b>	<b>Contact Hours=10 Hours</b>
<p>a) Early phase: Advent of Islam into India. Evolution of the Islamic Architecture – Salient features of Mosque and Tomb.</p> <p>b) Critical appreciation of works and synoptic study of architectural characteristic features of the contribution of various dynasties under the Imperial style(Slave, Khilji, Tughlaq, Sayyid and Lodi)</p> <ul style="list-style-type: none"> <li>• Slave and Khilji Dynasties – E.g. Quwwat-ul-Islam Mosque, Qutub-Minar, Enlargement of Quwwat-ul-Islam Mosque by Iltutmish, Tomb of Iltutmish, Enlargement of Quwwat-ul-Islam Mosque by Ala-ud-din Khilji and Alai Darwaza.</li> <li>• Tughlaq, Sayyid and Lodi Dynasties -E.g. Tomb of Ghiyas-ud-din Tughlaq, Khirki Masjid, Tomb of Firoz Shah Tughlaq, Shish Gumbad, Tomb of Mubarak Shah Sayyid and Tomb of Sikandar Lodi.</li> </ul>	

<b>Unit - II Provincial style (Bengal, Jaunpur and Bijapur)</b>	<b>Contact Hours=08 Hours</b>
<p>Critical appreciation of works and synoptic study of architectural characteristic features of the provincial styles.</p> <p>a) Bengal (1203 to 1573 AD) E.g. Adina Masjid and Eklakhi Tomb, Pandua.</p> <p>b) Jaunpur (1376 to 1479AD) E.g. Atala Masjid and Jami Masjid, Jaunpur.</p> <p>c) Bijapur (1490 to 1656AD) E.g. Gol Gumbaz, Ibrahim Rauza and Jami Masjid, Bijapur.</p>	

<b>Unit - III Provincial style(Ahmedabad and Malwa)</b>	<b>Contact Hours=08 Hours</b>
<p>Critical appreciation of works and synoptic study of architectural characteristics features of Provincial and Mughal styles.</p> <p>a) Ahmedabad (1411 to 1455 AD)E.g. Jami Masjid, Sarkhej Roza and Teen Darwaza, Ahmedabad</p> <p>b) Malwa Provinces (1405 to 1569 AD) E.g. Jami Masjid, Jahaz Mahal and Hindola Mahal, Mandu.</p>	

<b>Unit - IV Mughal Architecture (1526 to 1707 Century AD)</b>	<b>Contact Hours=08 Hours</b>
<p>a) Humayun's Tomb, Delhi</p> <p>b) Fatehpur Sikri (Layout and Diwan-i-khas, Jami Masjid, Tomb of Salim Chisti and Buland Darwaza)</p> <p>c) Akbar's tomb, Sikandra.</p> <p>d) TajMahal, Agra - Layout of the Tomb and the concept of Charbagh.</p>	

<b>Unit - V Colonial Architecture</b>	<b>Contact Hours=08 Hours</b>
a) Introduction to Colonial Architecture in India -Fort of Bombay. b) Characteristics of Colonial architecture- Victoria Memorial, Calcutta and Victoria Terminus, Bombay. c) Design of New Capital of Delhi- Contributions of Sir Edward Lutyens, Herbert Baker- Layout of New Delhi, Rashtrapati Bhavan and Parliament House.	

<b>Books</b>	
<b>Reference Books:</b>	
1.	Tadgell Christopher, The History of Architecture in India from the Dawn of Civilization to the end of the Raj; Phaetons Press, London, U.K. Ltd., 2002 onwards.
2.	Brown Percy, Indian Architecture (Islamic Period) Vol II; DB Taraporevala and Sons Co.Pvt. Ltd., Bombay, 1983 and subsequent publications.
3.	Grover Satish, Islamic Architecture in India, Galgotia Publications, India, 1996 onwards.
4.	Stierlin Henri, Stierlin Anne, Islamic Art and Architecture, Thames & Hudson, 2002 onwards.
5.	Ferguson, J.A., Encyclopedia of World Architecture (Islamic Architecture), Aryan books, 1998 onwards.
6.	Fletchers Banister, A History of Architecture, C.B.S.Publishers, 1996 onwards.
7.	Tomory Edith, A History Of Fine Arts In India And The West, Orient Blackswan Pvt Ltd.-(New Delhi ), 2009 onwards.
8.	Asher Catherine B., Architecture of Mughal India, Cambridge, 1995 onwards.
9.	Tillotson, G.H.R. , The Tradition of Indian Architecture: Continuity, Change and the Politics of Style since 1850, Oxford University Press, Delhi, 1989 onwards.
10.	Dwivedi Sharada and Mehrotra Rahul, Bombay the Cities Within, Eminence Publishing, 1995 onwards.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Internal Assessment Test
2.	PPT and Videos	2.	Course Activity Assessment
3.	Documentary Videos	3.	Semester End Examination

<b>Course Outcome(COs)</b>			
At the end of the course, the student will be able to,			
<b>Learning Levels: Re-Remember ;Un-Understand; Ap-Apply; An-Analysis ; Ev-Evaluate; Cr-Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> and <b>explain</b> the architectural characteristics of Islamic and Colonial structures by identifying various Architectural elements, cultural and religious influence on Architecture.	<b>Un</b>	<b>1</b>
2.	<b>Identify</b> and <b>list</b> the Architectural characteristics of various mosques, tombs, cities, gardens with appropriate terminologies and construction methods.	<b>Un, An</b>	<b>1</b>
3.	<b>Analyze</b> and categorize the monuments under different styles of Imperial, Provincial, Mughal and Colonial periods in India	<b>Un, An</b>	<b>1</b>

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Addition of two IA tests	*Course Activity	Total Marks
Marks	40+40=80	20	100
<b>Minimum score to be eligible for SEE:50 OUT OF 100</b>			



\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/Workshops/Hands on/Analytical understanding/Theoretical Studies/Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO'S

<b>Scheme of Semester End Examination (SEE):</b>	
1.	It will be conducted for 100 marks of 3 hours duration.
2.	<b>Minimum marks required in SEE to pass: Score should be <math>\geq 40\%</math> however overall score of CIE +SEE should be <math>\geq 50\%</math></b>
3.	Question paper contains three parts <b>A, B and C</b> . Students have to answer 1. From Part A answer any 5 questions each Question carries 6 Marks. 2. From Part B answer any one full question from each unit and each Question carries 10 Marks. 3. From Part C answer any one full question and each Question carries 20 Marks.

<b>CO-PO Mapping(Planned)</b>												
CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	√											
2	√											
3	√											

Name & Signature of Faculty members

Members involved in designing the syllabus

Name & Signature of Faculty

verifying/approving the syllabu



## HUMANITIES

<b>Course Code</b>	<b>23HUM4.2</b>	<b>Course type</b>	<b>PC</b>	<b>Total credits</b>	3
<b>Hours/week: L-S-P</b>	1– 2 – 0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L = 14 Hrs; S = 28 Hrs; P = 0 Hrs Total = 42 Hrs			<b>SEE Marks</b>	-

### Course learning objectives

1.	To provide an insight into the Social, Cultural and Economic influences on design of human settlements.
2.	To introduce students to basic concepts of Sociology.

#### Unit – I: Types of Communities and Urbanization

**Contact Hours = 08 Hours**

- a) Communities: Origin, growth and nature of settlements and communities, their characteristics and spatial organizations.
- b) Rural Communities: Characteristics and Form, Rural society, village community, development of traditional patterns and trends of change. The concept of social stratification. Spatial aspects- Physical and Visual.
- c) Urbanization: Characteristics and Form, socio-cultural impacts and effects on rural areas. Impact of urbanization on health, housing, transportation, migration and its types.

#### Unit – II: Elements of Society

**Contact Hours = 06 Hours**

- a) Introduction to Sociology: Definition and theories and their relevance to social set-up, nature, scope and utility of sociology, relevance to architecture. Sociology and its branches. Relevance of related subjects like Psychology, Anthropology, History with relevance to built environment.
- b) Concepts of social structure and social institutions, culture and civilization. Relationship between social structure and spatial structure. Elements of Society: Types of families and their impact on space -Single, nuclear and joint families.

#### Unit – III: Settlement Study

**Contact Hours = 16 Hours**

- a) Comprehensive study of a rural settlement to create a holistic understanding of the socio – cultural, geographic, and economic aspects that shape the built environment and to give exposure to the methodology of conducting various surveys covering physical, visual characteristics and socio economic aspects.
- b) Settlement study to understand factors of social change, social changes in a region, current pattern of housing, Social differentiation, Social mobility and Social problems, factors determining the Cultural identity of a place.

#### Unit – IV: Documentation of Settlement Study

**Contact Hours = 12 Hours**

- a) Representation of socio-cultural layers, geological layers, occupational patterns and Climatic layers.
- b) Graphical Presentation of Observations and findings with respect to different layers of the Settlement.

### Books

#### Reference Books:

1.	Rudofsky Bernard, Architecture without Architects- A Short Introduction to Non- Pedigreed Architecture, University of New Mexico, New Mexico, 2010 onwards.
2.	Alexander Christopher, The Timeless Way of Building, Oxford University Press, Oxford,1979 onwards.

3.	Rapoport Amos, House Form and Culture, Pearson Education Ltd., Harlow,1969 onwards.
4.	Oliver Paul, Encyclopedia of Vernacular Architecture of the World, Routledge, London, 1997 onwards.
5.	Jones Paul, The Sociology of Architecture: Constructing Identities, Liverpool University Press,Liverpool, 2008 onwards.
6.	Newman David M., Sociology: Exploring the Architecture of Everyday Life, SAGE Publications Ltd., London, 2009 onwards.
7.	Smelser Neil J., The Sociology of Economic Life, Quid Pro Books, Louisiana, 2009 onwards.

Course delivery methods		Assessment methods	
1.	PPT and Videos	1.	Portfolio
2.	Site Study	2.	Report
3.	Documentation		

Course Outcome (COs)			
At the end of the course, the student will be able to			
Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create		Learning Level	PO(s)
1.	Discuss the basic concepts of sociology to understand its implications on design of Human Settlements.	Un	1,4,6
2.	Understand and analyse the essential parameters of the way of living of human settlements.	Un, An	1,4,6,9,12

Scheme of Continuous Internal Evaluation (CIE):			
Components	Addition of two reviews	*Course Activity	Total Marks
Marks	40+40 = 80	20	100
<ul style="list-style-type: none"> <li>Note: This subject does not have Semester End Examination (SEE).</li> <li>Minimum marks required to pass CIE: 50 out of 100</li> </ul>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

CO-PO Mapping (Planned)												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√			√		√						
2	√			√		√			√			√

Name & Signature of Faculty members  
in designing the syllabus

Name & Signature of Faculty members involved  
verifying/approving the syllabus

## ELECTIVE- II: ARCHITECTURAL PRESENTATION TECHNIQUES

<b>Course Code</b>	<b>23ARE4.11</b>	<b>Course Type</b>	<b>PE</b>	<b>Total credits</b>	3
<b>Hours/week: L-S-P</b>	3-0-0			<b>CIE Marks</b>	100
<b>Total Contact Hours</b>	L=42 Hrs; S=0 Hrs; P=00 Hrs Total=42 Hrs			<b>SEE Marks</b>	-

<b>Course Learning Objectives</b>	
1.	To introduce the fundamentals of architectural presentation techniques using manual rendering techniques and digital tools.
2.	To demonstrate the different rendering techniques using pencil, ink, markers, watercolors, and mixed media for architectural project presentations.
3.	To demonstrate the methods of representation of diverse materials and their finishes.

<b>Outline</b>	<b>Contact Hours = 42 Hours</b>
<ul style="list-style-type: none"> <li>a) Rendering techniques using pen and ink, pencil, watercolors, charcoal, pastels and mixed media to express sensitivity with line, color, values, tones and textures.</li> <li>b) Introduction to presentation and sketching techniques of trees, hedges, foliage, vehicles, human figures, symbols, wall, paving, roofing textures, furniture and accessories.</li> <li>c) Architectural rendering techniques for site plans and landscapes, architectural plans, elevations, sections, interior and exterior perspectives, axonometric drawings and their incorporation into architectural drawings using digital tools and softwares like Adobe Photoshop or InDesign or Illustrator, etc.</li> </ul>	

<b>Books</b>	
	<b>Reference Books:</b>
1.	Ching, F. D. K. (2011). A Visual Dictionary of Architecture. 2nd Ed. John Wiley & Sons.
2.	Gill W. Robert, Rendering with pen and ink.
3.	Guptil L Arthur., Watson; Rendering in Pen and Ink, - Guptill Publication New York
4.	Taylor C Joshua., "Learning to Look: A Handbook for the Visual Arts", (Phoenix Books), University Of Chicago Press, 1981
5.	Atkins, Bernard, Architectural Rendering. California : Walter Foster Art Books,1986
6.	Halse O. Albert, Architectural Rendering: The techniques of contemporary presentation, McGraw-Hill Inc.,US; 2nd edition.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio
2.	PPT and Videos	2.	Course Activity

<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to,			
<b>Learning Levels: Re-Remember; Un-Understand; Ap-Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Illustrate</b> the various mediums of presentation to represent architectural and landscape elements.	<b>Un</b>	1,
2.	<b>Demonstrate</b> rendering techniques in various mediums and <b>apply</b> to Architectural drawings using digital tools and software.	<b>Un, Ap</b>	1,5
3.	<b>Apply</b> presentation techniques to create detailed architectural drawings, interior and exterior perspectives and <b>develop</b> axonometric drawings with a clear understanding of scale and proportion using digital tools and software.	<b>Ap</b>	1,5

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100
<b>Minimum score to be eligible for passing the subject: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
<b>1</b>	√											
<b>2</b>	√				√							
<b>3</b>	√				√							

Name & Signature of Faculty members  
in designing the syllabus

Name & Signature of Faculty members involved  
verifying/approving the syllabus

## ELECTIVE- II: VERNACULAR ARCHITECTURE

<b>Course Code</b>	<b>23ARE4.12</b>	<b>Course type</b>	<b>PE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week: L-S-P</b>	3-0-0			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	L=42 Hrs; S=00 Hrs; P=00 Hrs Total= 42 Hrs			<b>SEE Marks</b>	<b>-</b>

<b>Course learning objectives</b>	
1.	To introduce students to the idea of Vernacular Architecture.
2.	To understand the Vernacular Architecture illustrated through distinct climatic zones of India and the rest of the World.
3.	To understand the relevance of Vernacular Architecture in today's context demonstrated through the works of Contemporary Architects while addressing the issues of socio-cultural aspects and climate change.

<b>Outline:</b>	<b>Contact Hours=42 Hours</b>
<p>a) Introduction to the term `Vernacular' and Vernacular Architecture, understand its nature and scope in general.</p> <p>b) Study of evolution of indigenous house forms addressing human needs, principles of space planning and other factors influencing the same.</p> <p>c) Document and present analysis of one example as a case study of Indian and Worldwide Vernacular Architecture from distinct geographical, climatic and cultural contexts. Study the climate, socio-cultural aspects, building form, construction techniques, building materials, unique architectural features, arts and crafts.</p> <p>d) Document and present analysis of a case study of a building designed by Master Architects /Contemporary Architects like Hassan Fathy, Richardo Legorreta, Laurie Baker, Kengo Kuma, Diebedo Francis Kere, Peter Rich , Anjalendran, Hunnarshala Foundation and such other architects whose works are influenced with the concepts of Vernacular Architecture and understand their ideas and concerns while designing the buildings in contemporary times.</p>	

<b>Books</b>	
<b>Reference Books :</b>	
1.	Oliver Paul: The Vernacular House worldwide, Phaidon, May 2007
2.	Rudofsky Bernard: Architecture without Architects: A short introduction to Non Pedigreed Architecture, Double Day and company, INC, Garden City, New York, 1964
3.	May John: Building without Architects: Global guide to everyday Architecture, 2010
4.	Rapoport Amos :House Form and Culture, Foundation of Cultural geography series Pearson; Facsimile edition, Feb 1969
5.	Asquith Lindsay, Vellinga Marcel: Vernacular Architecture in the 21 <sup>st</sup> century , Taylor and Francis, London and New York, 2006.
6.	Weber Wili and Yannas Simos: Lessons from Vernacular Architecture, Routledge, 2014.
7.	Tipnis Aishwarya, Vernacular Traditions: Contemporary Architecture, Teri, 2012.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio

2.	PPT ,Videos and documentary	2.	Course Activity
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<b>Course Outcome (COs)</b>			
At the end of the course, the student will be able to,			
<b>Learning Levels: Re-Remember; Un-Understand; Ap-Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>		<b>Learning Level</b>	<b>PO(s)</b>
1.	<b>Understand</b> the term Vernacular Architecture and its expression in Architectural Design.	<b>Un</b>	1
2.	<b>Understand</b> and <b>analyze</b> the indigenous design skills presented through Vernacular Architecture illustrated through distinct climatic zones.	<b>Un, An</b>	1,2
3.	<b>Understand</b> and <b>analyze</b> the works of Contemporary Architects influenced with the concepts of Vernacular Architecture while addressing the issues of socio-cultural aspects and climate change.	<b>Un ,An</b>	1,2,6,7

<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100
<b>Minimum score to be eligible for passing the subject: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
1	√											
2	√	√										
3	√	√				√	√					

Name & Signature of Faculty Members

Members involved in designing the syllabus

Name & Signature of Faculty

verifying/approving the syllabus



## ELECTIVE- II: HERITAGE DOCUMENTATION

<b>Course Code</b>	<b>23ARE4.13</b>	<b>Course type</b>	<b>PE</b>	<b>Total credits</b>	<b>3</b>
<b>Hours/week: L - S- P</b>	<b>3 – 0 – 0</b>			<b>CIE Marks</b>	<b>100</b>
<b>Total Contact Hours</b>	<b>L = 42 Hrs; S = 0 Hrs; P = 0 Hrs</b> <b>Total = 42 Hrs</b>			<b>SEE Marks</b>	<b>-</b>

<b>Course learning objectives:</b>	
1.	To understand 'reading' of vernacular/historic structures through its physical form and attributes.
2.	To analyze the cultural and regional rationales behind the evolution of the built environment and their interconnectedness.
3.	To learn various techniques and methodologies of documentation and presentation.

<b>Outline</b>	<b>Contact Hours 42 Hours</b>
<p><b>a.</b> Understanding what constitutes heritage and why. Developing an understanding of the regional/local heritage, through heritage walks, primary and secondary sources. To develop a basic understanding of the place, material palette, form and construction techniques of the built forms and cultural nuances affecting the same.</p> <p><b>b.</b> Case Study – Holistically documenting a historic structure through a methodological approach consisting of various documentation methods like Desk based assessment, physical measured drawing, digital documentation, photogrammetry, LiDar, etc.</p> <p><b>c.</b> Present the findings and learnings through a suitable medium consisting of measured drawings, photographs, inferences from the site study, analytical sketches, details, interpretations, etc.</p>	

<b>Books</b>	
1.	Lane Rebecca, Understanding Historic Buildings: A Guide to Good Recording Practice ,Historic England, 2016
2.	S. Pearson,R. Meeson ,Vernacular buildings in a changing world: Understanding, recording and conservation, Council for British Archaeology,2001
3.	Oxley Richard: Survey and repair of traditional buildings: a sustainable approach, Donhead, 2003, Shaftesbury.

<b>Course delivery methods</b>		<b>Assessment methods</b>	
1.	Chalk and Talk	1.	Progressive Portfolio
2.	PPT and Videos	2.	Course Activity

<b>Course Outcome (COs)</b>				
At the end of the course, the student will be able to				
<b>Learning Levels: Re - Remember; Un - Understand; Ap - Apply; An - Analysis; Ev - Evaluate; Cr - Create</b>			<b>Learning Level</b>	<b>PO(s)</b>
1.	Understand vernacular/historic structures through its physical form and attributes.	Un		1
2.	Analyze the cultural and regional rationales behind the evolution of the built environment and their interconnectedness.	Un, An		1, 6,
3.	Apply various techniques and methodologies of documentation and presentation.	Un, Ap		1, 6, 9



<b>Scheme of Continuous Internal Evaluation(CIE):</b>			
Components	Report / Portfolio Marking	*Course Activity	Total Marks
Marks	80	20	100
<b>Minimum score to be eligible for passing the subject: 50 OUT OF 100</b>			

\*Note:

- Course Activity will be evaluated as the outcome (sketches/model/Report/Monograph) of site visits/ Workshops/ Hands-on / Analytical understanding/ Theoretical Studies/ Documentation/Study tours/Design Process/Design walk.
- The content and mode of conduct of the Course Activity is the prerogative of the course faculty to suitably attain the CO's and PO's.

<b>Scheme of Semester End Examination (SEE):</b>
<ul style="list-style-type: none"> <li>• Note: This subject does not have Semester End Examination (SEE).</li> <li>• Minimum marks required to pass CIE: 50 out of 100</li> </ul>

<b>CO-PO Mapping (Planned)</b>												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
1	√											
2	√					√						
3	√					√			√			

Name & Signature of Faculty members  
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