ESTD. 1939

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

ESTD. 1979

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1st Year 2018 N Scheme

Academic year 2021- 2022 onwards

Department: Architecture

Programme: B.Arch

1st to 10th Semester Scheme of Teaching and Examination

1st to 2nd 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.

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
The Department of Architecture shall stand out as the Department of excellence in architectural education and space making, in training individuals for outstanding calibre, character and holistic development.

MISSION
To train the students to grapple with complex issues that are emerging in today's society and encourage them to be designers who will find architectural solutions that respond appropriately to culture, climate and context

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

1.0 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:

1.1 Professional Core (PC) Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

1.2 Basic Sciences and Applied Engineering (BS & AE) Course: A course which informs the Professional core and should compulsorily be studied.

1.3 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/ subject of study or which provides an extended scope

(ii) Open Elective (OE) which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill

1.4 Employability Enhancement Courses (EEC) which may be of two kinds: Employability Enhancement Compulsory Courses (EECC) and Skill Enhancement Courses (SEC)

2.0 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) : 45%
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) : 15%

(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. program

Total credits for B.Arch. Program: 260 credits

	Semester	Credits per Sem	Total credits
1st year	1	25	54
	2	29	
2nd year	3	29	57
	4	28	
3rd year	5	31	63
	6	32	
4th year	7	31	47
	8	16	
5th year	9	20	39
	10	19	
	Total	**260**	**260**

K.L.S. GOGTE INSTITUTE OF TECHNOLOGY, BELGAUM

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: I**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
										CIE		SEE			
					L	S	P/SE	Total		CP	PA	VIV A/T	EXAM	Total	
DESIGN	18DES1.1N	PC	Basic Design and Visual Arts	Architecture	1	6	0	7	10	10	40	50	-	100	
	18DES1.2N	PC	Model Making	Architecture	0	0	3	3	CA	20	80	-	-	100	-
TECHNOLOGY	18TEC1.1N	BS&AE	Building Construction and Materials-I	Architecture	1	2	2	5	5	10	40	50	-	100	-
	18TEC1.2N	PC	Architectural Graphics-I	Architecture	0	1	3	4	3	10	40	50	-	100	-
	18TEC1.3N	BS&AE	Structures-I	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
HUMANITIES	18HUM1.1N	PC	History of Architecture- I	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18HUM1.2N	SEC	Communication Skills	Architecture	1	0	0	1	1	20	80	-	-	100	-
				Total	9	9	8	26	25	90	360	150	100	700	

L-Lecture **CIE- Continuous Internal Evaluation** **Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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.

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: II**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
										CIE		SEE		Total	
					L	S	P/SE	Total		CP	PA	/IVA/TW	EXAM		
DESIGN	18DES2.1N	PC	Architectural Design -I	Architecture	1	6	**0**	7	9	10	40	50	-	100	-
	18TEC 2.1N	**BS&AE**	Building Construction and Materials-II	**Architecture**	**1**	**2**	**2**	**5**	**5**	10	40	50	-	100	-
	18TEC 2.2N	**PC**	Architectural Graphics-II	**Architecture**	0	1	3	4	3	10	40	50	-	100	-
	18TEC 2.3N	BS&AE	Structures-II	Architecture	3	**0**	**0**	3	3	10	40	-	50	100	3 hrs
TECHNOLOGY	18TEC2.4N	BS&AE	Surveying and Levelling	Architecture	2	**0**	2	4	3	10	40	-	50	100	3 hrs
	18HUM2.1N	**PC**	History of Architecture-II	**Architecture**	**3**	**0**	**0**	**3**	**3**	**10**	**40**	-	**50**	**100**	**3 hrs**
HUMANITIES	**18HUM 2.2N**	**PC**	Art Appreciation	**Architecture**	**2**	**0**	**0**	**2**	**2**	**20**	**80**	-	-	**100**	-
	18HUMB2.3N / **18HUMS2.3N**	SEC	**Kannada**	**Architecture**	**2**	**0**	**0**	**2**	**1**	**5**	**20**	-	**25**	**50**	**2 hrs**
				Total	**14**	**9**	**7**	**30**	**29**	**85**	**340**	**150**	**175**	**750**	

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: III**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA/TW	EXAM		
DESIGN	18DES 3.1N	PC	Architectural Design -II	Architecture	1	6	0	7	10	10	40	50	-	100	-
	18DES 3.2N	BS&AE	Climatology	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
TECHNOLOGY	18TEC 3.1N	BS&AE	Building Construction and Materials-III	Architecture	1	2	2	5	5	10	40	50	-	100	-
	18TEC 3.2N	BS&AE	Building Services-I (WATER SUPPLY AND SANITATION)	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18TEC 3.3N	BS&AE	Structures-III	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18TEC 3.4N	SEC	Computer Application-I	Architecture	1	0	2	3	2	10	40	50		100	-
HUMANITIES	18HUM 3.1N	PC	History of Architecture-III	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18HUM 3.2N	PC	Vacation Assignment-I	Architecture	0	0	0	0	CA	20	80	-	-	100	-
				Total	15	8	4	27	29	90	360	150	200	800	

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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: Students are to be taken on study tour or given vacation assignment after IIsemester examinations, before the starting of III semester

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: IV**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA/TW	EXAM		
DESIGN	18DES 4.1N	PC	Architectural Design -III	Architecture	1	6	0	7	10	10	40	50	-	100	-
TECHNOLOGY	18TEC 4.1N	BS&AE	Building Construction and Materials-IV	Architecture	1	2	2	5	5	10	40	50	-	100	-
	18TEC 4.2N	BS&AE	Building Services-II	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18TEC 4.3N	BS&AE	Structures-IV	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18TEC 4.4N	SEC	Computer Application-II	Architecture	1	0	2	3	2	10	40	50	-	100	-
HUMANITIES	18HUM 4.1N	PC	History of Architecture-IV	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18HUM 4.2N	PC	Humanities	Architecture	1	0	2	3	2	20	80	-	-	100	-
				Total	13	8	6	27	28	80	320	150	150	700	

L-Lecture CIE- Continuous Internal Evaluation CP-Class Participation

S-Studio SEE- Semester End Examination PA-Progressive Assessment CA-Compulsory Audit

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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.

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: V**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA/TW	EXAM		
DESIGN	18DES 5.1N	PC	Architectural Design -IV	Architecture	0	8	0	8	12	10	40	50	-	100	-
	18DES 5.2N	PC	Theory of Architecture-I	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18DES 5.3N	SEC	Working Drawing	Architecture	1	0	2	3	2	10	40	50	-	100	-
TECHNOLOGY	18TEC 5.1N	BS&AE	Building Construction and Materials-V	Architecture	1	2	2	5	5	10	40	50	-	100	-
	18TEC 5.2N	BS&AE	Building Services-III	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18TEC 5.3N	BS&AE	Structures-V	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
HUMANITIES	18HUM 5.1N	PC	History of Architecture-V	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18HUM 5.2N	PC	Vacation Assignment-II	Architecture	0	0	0	0	CA	20	80	-	-	100	-
				Total	14	10	4	28	31	90	360	150	200	800	

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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: Students are to be taken on study tour or given vacation assignment after IVsemester examinations, before the starting of V semester

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GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: VI**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA	EXAM		
DESIGN	18DES 6.1N	PC	Architectural Design -V	Architecture	0	8	0	8	12	10	40	50	-	100	-
	18DES 6.2N	PC	Theory of Architecture II	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18DES 6.3N	PC	Landscape Architecture	Architecture	2	0	2	4	3	10	40	-	50	100	3 hrs
TECHNOLOGY	18TEC 6.1N	BS&AE	Building Construction and Materials-VI	Architecture	1	2	2	5	5	10	40	50	-	100	-
	18TEC 6.2N	BS&AE	Structures -VI	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
HUMANITIES	18HUM 6.1N	PC	Physical Planning	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
	18HUM 6.2N	PC	Contemporary Architecture	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
				Total	15	10	4	29	32	70	280	100	250	700	

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

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

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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.

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture | **Semester: VII**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA	EXAM		
DESIGN	18DES 7.1N	PC	Architectural Design -VI	Architecture	2	8	-	10	14	10	40	50	-	100	-
	18DES 7.2N	PC	Specification,Estimation and	Architecture	3	0	-	3	3	10	40	-	50	100	3 hrs
TECHNOLOGY	18TEC 7.1N	BS&AE	Alternate Building Techniques	Architecture	0	0	4	4	2	10	40	50	-	100	-
	18TEC 7.2N	BS&AE	Building Services -IV	Architecture	3	0	-	3	3	10	40	-	50	100	3 hrs
	18TEC 7.3N	PC	Earthquake Resistant	Architecture	2	0	-	2	2	20	80	-	-	100	-
HUMANITIES	18HUM 7.1N	PE	Elective -I	Architecture	2	0	2	4	3	20	80	-	-	100	-
	18HUM 7.2N	PAECC	Professional Practice-I	Architecture	3	0	-	3	3	10	40	-	50	100	3 hrs
	18CRT7.1N	SEC	Certification Course	Architecture	0	0	-	0	1	-	50	-	-	50	-
				Total	15	8	6	29	31	90	410	100	150	750	

L-Lecture | **CIE- Continuous Internal Evaluation** | **CP-Class Participation**

S-Studio | **SEE- Semester End Examination** | **PA-Progressive Assessment** | **CA-Compulsory Audit**

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

SE - Studio Exercise | PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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.

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: VIII**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks				Duration of Exam
					L	S	P/SE	Total		CIE	SEE		Total	
										PA	VIVA	EXAM		
DESIGN	18DES 8.1N	PAECC	Professional Training	Architecture	16 weeks				16	50	50	-	100	-
				Total					16	50	50		100	

L-Lecture	**CIE- Continuous Internal Evaluation**	**CP-Class Participation**
S-Studio	**SEE- Semester End Examination**	**PA-Progressive Assessment** **CA-Compulsory Audit**
P-Practical	PC - Professional Core; BS- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective	
SE - Studio Exercise	PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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	

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: IX**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA/TW	EXAM		
DESIGN	18DES 9.1N	PAECC	Dissertation (Thesis Part- I)	Architecture	2	4	0	6	8	10	40	50	-	100	-
	18DES 9.2N	BS&AE	Energy Efficient Architecture	Architecture	1	0	4	5	3	10	40	50	-	100	-
	18DES 9.3N	PE	Elective-II	Architecture	2	0	2	4	3	20	80	-	-	100	-
TECHNOLOGY	18TEC 9.1N	PE	Elective-III	Architecture	2	0	2	4	3	20	80	-	-	100	-
HUMANITIES	18HUM 9.1N	PAECC	Professional Practice-II	Architecture	3	0	0	3	3	10	40	-	50	100	3 hrs
Total					10	4	8	22	20	70	280	100	50	500	

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

P-Practical PC - Professional Core; BS- Building Science and Applied Engineering; PE- Professional Elective; OE- Open Elective

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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

Karnatak Law Society's

GOGTE INSTITUTE OF TECHNOLOGY, BELAGAVI-08

Bachelor of Architecture

SCHEME OF TEACHING AND EXAMINATION

Department :Architecture **Semester: X**

Subject Stream	Subject Code	Course Type	Subject Title	Teaching Department	Contact Hrs				Credits	Marks					Duration of Exam
					L	S	P/SE	Total		CIE		SEE		Total	
										CP	PA	VIVA	EXAM		
DESIGN	18DES10.1N	PC	Architectural Design Project	Architecture	0	10	-	10	15	10	40	50	-	100	-
HUMANITIES	18HUM10.1N	SEC	Constitutional Law	Architecture	2	0	-	2	2	20	80	-	-	100	-
		OE	Open Elective		2	0	-	2	2	-	50	-	50	100	3 Hrs
				Total	4	10	-	14	19	30	170	50	50	300	-

L-Lecture **CIE- Continuous Internal Evaluation** **CP-Class Participation**

S-Studio **SEE- Semester End Examination** **PA-Progressive Assessment** **CA-Compulsory Audit**

P-Practical PC - Professional Core; BS&AE- Building Science and Applied Engineering; PE- Professional Elective;
OE- Open Elective(Offered by other engineering departments)

SE - Studio Exercise PAECC - Professional Ability Enhancement Compulsory Courses; SEC - Skill 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.

BASIC DESIGN AND VISUAL ARTS

Course Code	**18DES1.1N**	**Credits**	**10**
Course type	**PC**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**7 Hrs (1 Lecture+6 Studios) per Week**	**SEE Marks**	**50 Marks**
Total Hours:	**Lecture = 14 Hrs; Tutorial = 84 Hrs, Total = 98 Hrs**	**SEE Duration**	**Term work**

Course learning objectives

1. To develop an understanding of Principles of design and develop a series of compositions.
2. To expose students to various tools of sketching and painting.

Unit-I: Principles of Design **42 Hours**

a) Understanding the design elements like Point, Line, Plane, Volume, Colour, Shape, Size and Texture.
b) Understanding the design principles like Contrast, Harmony, Rhythm, Balance, Symmetry, Proportion, Repetition, Radiation, Gradation, Anomaly, Unity, Similarity and Concentration.
c) Application of design principles in two dimensional and three dimensional compositions.

Unit-II: Anthropometry **35 Hours**

a) Basic Anthropometrics, average measurements of human body, its proportion and their graphical representation.
b) Basic human functions and their implications on space requirements. Minimum and optimum areas for mono functions. Movement and circulation diagrams, basic sense of scale of human body and its interrelationship with day to day objects and spaces.

Unit-III: Sketching and Observation **14 Hours**

a) To develop sketching skills using various tools and exercises.
b) Sketching of objects such as pots, chairs, sculptures, block compositions, still life, etc. using pencil only. Emphasis on understanding proportions and recreating it.
c) Field trips to architecturally rich sites under guidance and exploring the processes and techniques of sketching with emphasis on understanding of perspective drawing of a live setting. Emphasis on understanding of proportions, silhouettes and details.

Unit-IV: Colour Theory **07 Hours**

a) Colour wheel, Primary, secondary, and tertiary colours, colour schemes, exercises in understanding of colour value and intensity.
b) Use of painting tools and materials like easels, brushes, paper, watercolour and poster colour.

Reference Books:

1. **Wong Wucius, Principles of Form and Design, Van Nostrand Rein Hold, New York, 1993**
2. **ChakrabartiDebkumar: Indian Anthropometric Dimensions, National Institute of Design, 1997, India**
3. **Ching Francis D K: Architecture: Form, Space and Order, John Wiley & Sons Inc, 2007, New Jersey**
4. **Wong Wucius: 'Principles of Colour composition' , Van Nostrand Rein Hold, New York, 1993**
5. **Cohen David & Anderson Scott: 'a visual language elements of design', Herbert Press,2006, Great Britain.**
6. **Schwarz Hans: Draw in pencil-charcoal, crayon and other media, Dolphin press, 1980, New Delhi**

Course delivery methods

1. **Presentation**
2. **Exercise**
3. **Model**

Assessment methods

1. **Exercise marking**
2. **Exhibition**
3. **Semester End Term Work**

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio Marking	Average of two assignments	Quiz/Seminar/ Project	Class participation	Total Marks
Maximum Marks:50	40	-	-	10	50
➢ **Minimum marks required to qualify for SEE: 25 out of 50**					

Scheme of Semester End Examination (SEE):

1. Term work will be conducted for 50 marks for term work exam and same will be considered of SGPA and CGPA.
2. **Minimum marks required in SEE to pass: 20 out of 50**
3. Students have to submit the portfolio at the end of the semester for SEE.
4. **For a pass in the course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.**

MODEL MAKING

Course Code	**18DES1.2N**	**Credits**	**CA**
Course type	**PC**	**CIE Marks**	**100 Marks**
Hours/week: L-T-P	**3Hrs (Studio Exercises) per Week**	**SEE Marks**	**-**
Total Hours:	**Studio exercise = 42 Hrs ;** **Total = 42 Hrs.**	**SEE Duration**	**-**

Course learning objectives

To develop the ability to appreciate the three dimensional explorations of design and to introduce the students to the tools, techniques and materials used for model making.

Unit-I: Introduction to Model making and block modelling 12 Hours

a) Introduction to concepts of model making and various materials used for model making.
b) Preparation of base for models using wood or boards.
c) Introduction to block models of buildings (or 3D Compositions) involving the usage of various materials like Thermocol, Soap/Wax, Boards, Clay etc.

Unit-II: Detailed Modelling 30 Hours

a) Making detailed models which includes the representation of various building elements like Walls, Columns, Roofs, Steps, Windows/glazing, Sunshades, Handrails using appropriate materials
b) Representing various surface finishes like brick/stone representation, stucco finish etc. Various site elements – Contour representation, Roads/Pavements, Trees/Shrubs, Lawn, Water bodies, Street furniture, Fencing etc.

Reference Books:

1. Dunn Nick, Architectural Model making, Laurence King Publishing, 2010.

Course delivery methods	**Assessment methods**
1. Demonstration of material and technique	1. **Model marking**

Scheme of Continuous Internal Evaluation (CIE):

Components	**Model making**	**Average of two assignments**	**Quiz/Seminar/ Project**	**Class participation**	**Total Marks**
Maximum Marks:100	80	-	-	20	100

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

BUILDING CONSTRUCTION AND MATERIALS - I

Course Code	**18TEC 1.1N**	**Credits**	**5**
Course type	**BS & AE**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**5 Hrs (1 Lecture + 2 Studios+2 studio Exercise) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 14 Hrs** **Studio = 28 Hrs ; Studio exercise =28 Hrs** **Total = 70 Hrs**	**SEE Duration**	**Term work**

Course learning objectives

To introduce students to building components and usage of basic building materials and construction methods. **10 Hours**

Unit – I: Introduction

Introduction to various building components and their functions, conventions used in drawing plans, sections and elevations

Unit - II :Brick Technology **15 Hours**

a) Introduction
b) Brick as a Building material- Types, properties, uses and manufacturing methods.
c) Types of brick masonry - Walls, Wall junctions, Bonds, Buttresses, Arches, Lintels, Vaults and Domes.
d) Field visit to construction sites and hands on exploration of basic brick masonry bonds.

Unit – III: Stone Technology **15 Hours**

a) Introduction
b) Stone as a Building material- Types, properties, uses, methods of quarrying and types of dressing.
c) Types of stone masonry- Walls, Wall junctions, Bonds, Buttresses, Arches, Lintels, Vaults and Domes.
d) Field visit to see stone masonry buildings and hands on exploration of basic stone masonry.

Unit – IV: Foundation and Walls **20 Hours**

a) Introduction to Foundation
b) Function and types of foundation.
c) Load bearing foundations in Brick and Stone

Unit – V: Cement as a building material **10 Hours**

a) Introduction
b) Types of cement used in building, properties, grades and uses
c) Introduction to materials like fine and coarse aggregates, their sources etc.

Reference Books:

1. **Barry R, The Construction of Buildings, Volume 1, Blackwell Science, Seventh Edition 1999, Oxford, UK**
2. **Chudley R and Greeno R, Building Construction Handbook, Seventh Edition, Elsevier, 2008, Oxford, UK**
3. **Ching D. K, Building Construction Illustrated, Fourth Edition, John Wiley & Sons, 2008, New Jersey, USA**
4. **Rangawala S. C, Engineering Materials, 43rd edition, Charotar Publishing House Pvt. Ltd, 2017, India**

Course delivery methods

1. **Lectures**
2. **Case study**
3. **Site visit**

Assessment methods

1. **Term work**

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio Marking	Average of assignment (two)/activity	Quiz/ seminar/ project	Class Participation	Total Marks
Maximum Marks:50	40	-	-	10	50
Minimum marks required to qualify for SEE :25 out of 50					

Scheme of Semester End Examination (SEE):

1 Term work will be conducted for 50 marks for term work exam and same will be considered of SGPA and CGPA.

2 **Minimum marks required in SEE to pass: 20 out of 50**

3 Students have to submit the portfolio at the end of the semester for SEE.

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

ARCHITECTURAL GRAPHICS-I

Course Code	**18TEC1.2N**	**Credits**	**3**
Course type	**PC**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**4 Hrs. (1 Studio + 3 Studio Exercises) per Week**	**SEE Marks**	**50 marks**
Total Hours	**Studio = 14 Hrs; Studio Exercises = 42 Hrs; Total = 56Hrs.**	**SEE Duration**	**Term Work**

Course learning objectives

1. To introduce the students to the fundamentals of drawing techniques.
2. To introduce students to the two-dimensional representations of built elements and built forms.
3. To develop the ability of the students to perceive three dimensional objects and enhance the visualization skills.

Unit – I :Introduction to Visual Representations and Euclidean Geometry **20 Hours**

a) Introduction to basic principles of drawing and lettering used in Architectural drawings.
b) Introduction to sign conventions used in drawings.
c) Concept of scale, dimensioning and its application in Architectural drawing.
d) Construction of Lines, Angles, Triangles, Quadrilaterals and Regular Polygons.
e) Construction of Plane Curves, Ellipse, Parabola, Hyperbola and Oval.

16 Hours

Unit – II :Orthographic Projection (First Angle Projection)

a) Principles of Orthographic Projection, Projection of Points, Lines, Planes and Solids.
b) Orthographic Projection of simple Architectural built elements and built forms.

Unit – III :3D Projections – Isometric and Axonometric **20 Hours**

a) Introduction to Isometric Projections and views of solids.
b) Isometric views of simple built elements and built forms.
c) Introduction to Axonometric views of solids.
d) Axonometric views of simple built elements and built forms.

Reference Books:

1. **Ching Francis D. K: Architectural Graphics, John Wiley and Sons Inc., New York, 1996 and onwards.**
2. **Gopalkrishna K R: Engineering Graphics, Sree Offset, Bangalore, 1990 and onwards.**
3. **Bhatt N. D., Engineering drawing, Charotar Publishing House, 1986 and onwards.**

Course delivery methods	Assessment methods
1. Lectures	1. Term work evaluation

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio marking	Average of assignments (Two)/Activities	Quiz/Seminar / Project	Class Participation	Total Marks
Maximum Marks: 50	40	-	-	10	50
Minimum marks required to qualify for SEE: 25 out of 50.					

Scheme of Semester End Examination (SEE):

1 Term work will be evaluated for 50 marks and the same will be considered for the calculation of SGPA and CGPA.

2 **Minimum marks required in SEE to pass: 20 out of 50.**

3 Students have to submit the portfolio at the end of the semester for SEE.

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

STRUCTURES-I

Course Code	**18TEC1.3N**	**Credits**	**3**
Course type	**BS & AE**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**3 Hrs. (Lectures) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 42 Hrs; Tutorial = 0 Hrs;Total = 42 Hrs**	**SEE Duration**	**3 Hours for 100 marks**

Course learning objectives

Introduce students to evolution of structures and the basic principles of governing structural systems.

Unit – I: Evolution of Structures Structural Systems and Structural materials 06 Hours

a) Observation and analysis of structural systems present in the nature.
b) Historic perspective and definition of structure.
c) Vertical/lateral systems: Wall, Cantilever, Frame(Moment and Braced), Truss, Arch, Vault, Dome, Shell, Cable (Stayed and Suspended) and Membrane.
d) Mechanical properties of Structural Materials: Wood, Masonry, Steel and Concrete.
e) Advantages and Disadvantages of Structural Materials.
f) Choice of Structural Materials for Domestic and Industrial buildings.

Unit – II: Principles of Statics - Scalars and Vectors 09 Hours

a) Characteristics and Classification of Forces, Composition and Resolution of Forces.
b) Principle of transmissibility of Forces, resultant and equilibrant of coplanar, concurrent and non-concurrent Force systems.
c) Equations of static equilibrium.
d) Free-body diagrams.

Unit – III: Equilibrium of Force Systems 09 Hours

a) Equilibrium of coplanar concurrent and coplanar non-concurrent force systems.
b) Support Reactions – Types of loading and support conditions and their significance.
c) Concept of statically determinate and indeterminate structures.
d) Determination of support reactions for statically determinate Beams and Trusses.

Unit – IV: Centroid and Moment of Inertia 09 Hours

a) Determination of Centroid of simple lamina (symmetrical and asymmetrical).
b) Moment of Inertia and Radius of Gyration of simple cross-sections of beams and columns including built-up sections.
c) Concept of Polar Moment of Inertia (Basic theory and application of formulas for solving numerical problems).

Unit – V: Analysis of Truss 09 Hours

a) Truss concept of triangulation, common truss configurations.
b) Definition of perfect, deficient and redundant trusses.
c) Introduction to methods of analysis of trusses (Only theory and no problems).

Text Books

1. **D.S. Bedi, M.P. Poonia, Engineering Mechanics, Khanna book publishing company Private Limited, 2018**
2. **Nitsure S. P. and Sawant H. J., "Elements of Civil Engineering and Mechanics", Technical Publications, 1st Edition (2014).**

Reference Books:

1. **Salvadori Mario: Structure in Architecture, the building of buildings.**
2. **Schierle G. G: Structure and Design.**

Course delivery methods	**Assessment methods**
1. Lectures	**1. Assignment**
2. Power Point Presentation	**2. I A Test**
3. Videos	**3. Semester end Exam**

Scheme of Continuous Internal Evaluation (CIE):

Components	**Total of two I.A. tests**	**Average of assignments (Two) /activity**	**Quiz/Seminar/ Project**	**Class Participation**	**Total Marks**
Maximum Marks:50	40	-	-	10	50
➢ **Minimum marks required to qualify for SEE: 25 out of 50**					

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 **Minimum marks required in SEE to pass: 20 out of 50**

3 Question paper contains two questions from each unit each carrying 20 marks. Students have to answer one full question from each unit.

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

HISTORY OF ARCHITECTURE – I

Course Code	**18HUM1.1N**	**Credits**	**3**
Course type	**PC**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**3Hrs. (Lecture) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 42 Hrs; Tutorial = 0 Hrs; Total = 42Hrs.**	**SEE Duration**	**3 Hours for 100 marks**

Course learning objectives:

To provide an introduction to students about the culture and Architecture of early civilizations.

Unit I: Introduction **08 Hours**

a) What History education entails? Architecture's connection with History
b) Time Line: Western History and Indian History
c) Introduction to Pre-Historic Civilization: Primitive man - shelters, settlements, religious and burial systems E.g.: Oval hut at Nice, Dolmen tomb, Gallery grave, Passage grave, Houses at CatalHuyuk, Henge Monuments and Stone Henge.

UnitII: River Valley Cultures **10 Hours**

Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features from the following periods:

a) Indus Valley Civilization: e.g. Layout of Mohenjo-Daro, House plan, Community well, Great Bath and Granary at Mohenjo-Daro
b) Tigris and Euphrates Valley Civilization: e.g. Ziggurats at Warka, Ur, TchogaZanbil and Palace of Sargon.
c) Nile Valley Civilization: e.g. Mastaba Tombs, Pyramid of Cheops, Temple of Khons at Karnak and Obelisk.

UnitIII: Pre-Classical Cultures: Western **08Hours**

Introduction, Critical appreciation of works and synoptic study of Architectural characteristic features from the following periods:

a. Mycenea: e.g. Palace at Tiryns.
b. Persia: e.g. Palace of Persepolis.
c. Etruscan: e.g. Temple of Juno Sospita.

UnitIV: Pre-Classical Cultures: Vedic and Buddhist **08 Hours**

a. Pre-classical Aryan and Mauryan: Vedic and Epic Age Salient features e.g. – Vedic Village.
b. Early Buddhist Rock-cut Architecture: Experiments at Barabar Hills-Lomas Rishi Cave, Sudama Cave and Nagarjun Hills-SitaMarhi Cave.

UnitV: Classical Cultures: Buddhist and Jain **08 Hours**

a) Buddhist: Study of design principles. Typologies:Stupa (Great Stupa at Sanchi), Chaitya (Chaitya at Karli), Viharas(Viharas at Ajanta), and Toranas(Torana at Sanchi)
b) Jain Architecture: Study of design principles. Typologies: Temples (Adinatha Temple at Ranakpur and Vimala Vasai at Mount Abu).

Reference Books:

1 **Fletcher Banister: A History of Architecture, CBS publishers & distributors, 1992, India.**
2 **Brown Percy: Indian Architecture, Buddhist and Hindu Period, D B Taraporevala sons & co, 1983, Bombay.**
3 **Grover Satish: Architecture of India – Buddhist and Hindu, vikas publishing house pvt. Ltd. 1980, New Delhi.**
4 **Tomory Edith: History of Fine Arts in India and The West, Orient Longman ltd., 1982, New Delhi.**

Course delivery methods	Assessment methods
1. Lectures	1. Assignments
2. Documentary Videos	2. Internal Assessment Test
	3. Semester End Examination

Scheme of Continuous Internal Evaluation (CIE):

Components	Total of two I.A. tests	Average of two assignments	Quiz/Seminar/ Project	Class participation	Total Marks
Maximum Marks:50	40	-	-	10	50

- Writing two IA tests is compulsory
- **Minimum marks required to qualify for SEE: 25 out of 50**

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. **Minimum marks required in SEE to pass: 20 out of 50**

3. Question paper contains two questions from each unit each carrying 20 marks. Students have to answer one full question from each unit.

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

COMMUNICATION SKILLS

Course Code	**18HUM1.2N**	**Credits**	**1**
Course type	**SEC**	**CIE Marks**	**100 Marks**
Hours/week: L-T-P	**1 Hr. (Lecture) per Week**	**SEE Marks**	**-**
Total Hours	**Lectures=14 Hrs; Total = 14 Hrs**	**SEE Duration**	**-**

Course learning objectives:

To develop skills in effective communication – reading, listening, written and verbal

Unit I: Reading and Listening **04 Hours**

a) Reading of a passage from a famous book and discussion on the same.
b) Listening to an audio clip and discussion on the same

Unit II: Writing **04 Hours**

a) Understanding the difference between formal and informal letters etc.
Exercise: Students to Write /draw a letter to fellow architects, clients, public authorities, contractors, enquiries to industries, dealers.
b) Introduction and discussion on exploratory topic for a brief essay
c) Observation based writing.

Unit III: Interpretation of Materials **02 Hours**

a) Notes taking: From spoken and written English.
b) Comprehension of lectures and speeches to locate key points

Unit IV: Verbal presentations **04 Hours**

Understanding the differences among seminars, conferences, convention, congress, debates, extempore speeches, panel discussions.
Exercise: Students shall write a brief abstract of 200 words on a topic.

Reference Books:

1. **Working in English: Teachers Book, Jones Leo.**
2. **Communicative English for Professional Courses**

Course delivery methods	**Assessment methods**
1. **Lectures**	1. **Assignments**

Scheme of Continuous Internal Evaluation (CIE):

Components	**Exercise Marking**	**Average of two assignments**	**Quiz/Seminar/ Project**	**Class participation**	**Total Marks**
Maximum Marks:100	80	-	-	20	100

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

ARCHITECTURAL DESIGN – I

Course Code	**18DES2.1N**	**Credits**	**10**
Course type	**PC**	**CIE Marks**	**50 Marks**
Hours/week: L-T-P	**7 Hrs (1 Lecture+6 Studios) per Week**	**SEE Marks**	**50 Marks**
Total Hours:	**Lecture = 14 Hrs; Studios = 84 Hrs, Total = 98 Hrs**	**SEE Duration**	**Term Work**

Course learning objectives:

1.To develop an understanding of Elements of space making.
2.To study individual variables like light, colour, texture, scale etc. in the formation and evolution of architectural form.

Unit I: Elements of Space Making: 35 Hours

a) Understanding the Elements of space making like Floor, Wall, Roof, Openings, Staircases and Columns.
b) Space making exercises with proper understanding of context and using variables like light, colour, texture and scale with the help of models and sketches.

Unit II: Design Project: 63 Hours

a) Introduction of basic terminology and their location in an architectural space such as concept of plinth, sill level, lintel level, slab level, etc. and their relevance in architectural space making.
b) Design of a mono-functional space (like living, dining, kitchen and bedroom) exploring the possibilities of built, unbuilt and in-between spaces
c) Project shall be formulated as a process of understanding the various elements of space making. Project for e.g. Residence, Weekend house, Guest house or project of similar nature and scale shall be chosen.

Reference Books:

1. **Edwards Brain: Understanding Architecture through drawing, Taylor and Francis, 2008, New York.**
2. **PandyaYatin: Elements of Space making, Mapin Publishing, 2007, India.**
3. **Knauer Roland: Transformation - Basic principles and methodology of design, James Gussen, 2008, Germany.**

Course delivery methods

1. **Presentation**
2. **Case Study**
3. **Model**

Assessment methods

1. **Submission marking**
2. **Exhibition**
3. **Semester End Term Work**

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio Marking	Average of two assignments	Quiz/Seminar / Project	Class participation	Total Marks
Maximum Marks:50	40	-	-	10	50
➢ **Minimum marks required to qualify for SEE: 25 out of 50**					

Scheme of Semester End Examination (SEE):

1. Term work will be conducted for 50 marks for term work exam and same will be considered of SGPA and CGPA.
2. **Minimum marks required in SEE to pass: 20 out of 50**
3. Students have to submit the portfolio at the end of the semester for SEE.
4. **For a pass in the course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.**

BUILDING CONSTRUCTION AND MATERIALS – II

Course Code	**18TEC 2.1N**	**Credits**	**5**
Course type	**BS & AE**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**5 Hrs (1 Lecture + 2 Studios+2 studio Exercise) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 14 Hrs Studio = 28 Hrs ; Studio exercise =28 Hrs ; Total = 70 Hrs**	**SEE Duration**	**Term work**

Course learning objectives

To acquaint students with Techniques and Practices pertaining to Timber as construction material.

Unit – I Timber Roofs **16 Hours**

a) Introduction
b) Lean to roof, King post, Queen post, Mansard roof and Collard roof.
c) Field visit to study and document timber roofs

Unit – II Timber Doors **20 Hours**

a) Introduction
b) Types- Batten door, Ledged door, Braced door, Panelled door, Flush door, Glazed door and Joinery details

Unit – III Timber Windows **20 Hours**

a) Introduction
b) Types-Glazed window, Panel Window and its joinery details.

Note: Field visit to study different types of timber doors and windows and explore various types of carpentry joinery details

Unit – IV Timber and Commercial Wood **14 Hours**

a) Introduction
b) Quality of timber, defects, Seasoning, Preservation, Natural, Hardwood and Softwood,
c) Uses of commercial wood, plywood, hardboard, particle board, block board, veneers, laminates and MDF etc.
d) Anti-termite Treatment and pest control.
e) Market study and sample collection of various commercial wood products, anti-termite and pest control products

Reference Books:

1. **Barry R, The Construction of Buildings, Volume 1, Blackwell Science, Seventh Edition 1999, Oxford, UK.**

2. **Chudley R and Greeno R, Building Construction Handbook, Seventh Edition, Elsevier, 2008, Oxford, UK.**

3. **Ching D. K, Building Construction Illustrated, Fourth Edition, John Wiley & Sons, 2008, New Jersey, USA.**

4. **Rangawala S. C, Engineering Materials, 43rd edition, Charotar Publishing House Pvt. Ltd, 2017, India.**

Course delivery methods	Assessment methods
1. **Lectures**	**1. Term work**
2. **Case study**	
3. **Site visit**	

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio Marking	Average of assignment (two)/activity	Quiz/ seminar/ project	Class Participation	Total Marks
Maximum Marks:50	40	-	-	10	50
Minimum marks required to qualify for SEE :25 out of 50					

Scheme of Semester End Examination (SEE):

1 Term work will be conducted for 50 marks for term work exam and same will be considered of SGPA and CGPA.

2 Minimum marks required in SEE to pass: 20 out of 50

3 Students have to submit the portfolio at the end of the semester for SEE.

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

ARCHITECTURAL GRAPHICS-II

Course Code	**18TEC2.2N**	**Credits**	**3**
Course type	**PC**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**4 Hrs. (1 Studio + 3 Studio Exercises) per Week**	**SEE Marks**	**50 marks**
Total Hours	**Studio = 14 Hrs; Studio Exercises = 42 Hrs; Total = 56 Hrs.**	**SEE Duration**	**Term Work**

Course learning objectives:

1. To develop the ability of the students to perceive three dimensional objects and enhance the visualization skills
2. To develop the rendering skills of the students

Unit – I : Sections of Solids **12 Hours**

a) Sections of basic solids.
b) True shapes of sections.

Unit – II : Interpenetration of Solids **20 Hours**

Interpenetration of various solids like cube, cylinder, prism, pyramid and cone.

Unit – III : Perspective **12 Hours**

a) Introduction to Perspective drawing: Brief study of history and development of perspective drawings.
b) Terminology in Perspective drawing: Station point, Picture plane, Vanishing point, Eye level and Horizon line.
c) One-point Perspective: Simple objects, built forms and interiors.
d) Two-point interior perspective: Simple objects. built elements and built forms.
e) Approximation method of perspective drawing of buildings, human figures, street furniture, etc.

Unit – IV :Sciography : **12 Hours**

a) Introduction
b) Study of principles of shades and shadows in plan and elevation of simple built elements and built forms.

Reference Books:

1. **Ching Francis D. K: Architectural Graphics, John Wiley and Sons Inc., New York, 1996 and onwards.**
2. **Gopalkrishna K R: Engineering Graphics, Sree Offset, Bangalore, 1990 and onwards.**
3. **Bhatt N. D., Engineering drawing, Charotar Publishing House, 1986 and onwards.**

4. **Norling Ernest R., Perspective Made Easy, Dover Publications Inc., New York, 1999 and onwards.**

5. **Powell William F., Perspective, Walter Foster Publishing, Laguna Hills, CA, 1989 and onwards.**

6. **Mulik Shankar, A Text Book of Perspective and Sciography, Allied Publishers Ltd., Ahmedabad,1994 and onwards.**

Course delivery methods	**Assessment methods**
1. Lectures	**1. Term work evaluation**

Scheme of Continuous Internal Evaluation (CIE):

Components	**Portfolio marking**	**Average of assignments (Two)/Activities**	**Quiz/Seminar / Project**	**Class Participation**	**Total Marks**
Maximum Marks: 50	40	-	-	10	50
Minimum marks required to qualify for SEE: 25 out of 50.					

Scheme of Semester End Examination (SEE):

1 Term work will be evaluated for 50 marks and the same will be considered for the calculation of SGPA and CGPA.

2 **Minimum marks required in SEE to pass: 20 out of 50.**

3 Students have to submit the portfolio at the end of the semester for SEE.

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

STRUCTURES-II

Course Code	**18TEC2.3N**	**Credits**	**3**
Course type	**BS&AE**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**3 Hrs. (Lectures) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 42 Hrs; Tutorial=0 Hrs; Total = 42Hrs**	**SEE Duration**	**3 Hours for 100 marks**

Course learning objectives:

1. To understand the basic principles of structural mechanics so that it forms the basis for study of structural design.
2. To give an introduction to the basic principles governing the structural behaviour of beams

Unit – I Basic Principles of Mechanics 08 Hours

a) Tension, Compression, Shear, Bending, Torsion; symbols and notations, Stress/Strain relations (Hooke's Law).
b) Types of Stresses (Compressive, Tensile, Bending, Shear) and Strain (Axial, Shear, Volumetric) with simple problems.
c) Modulus of Elasticity, Typical Stress-Strain behaviour of Steel and Concrete.
d) Elastic constants, Rigidity Modulus, Poisson's Ratio, Bulk Modulus and Shear Modulus.
e) Relations between Modulus of Elasticity and Modulus of Rigidity.
f) Application to uniform sections with simple problems.

Unit – II Bending Moment and Shear Force Diagrams 09Hours

a) Concept of Shear Force and Bending Moment.
b) Relationship among Load, Shear force and Bending Moment.
c) BMD and SFD for statically determinate Beams subjected to combinations of concentrated and uniform loadings.

Unit – III Bending and Shear Stresses for Beams 09Hours

a) Theory of Bending with assumptions, Flexure Formula.
b) Bending Stress distribution for simple sections (symmetrical about vertical axis).
c) Strength of a section, equation for Shear stress distribution across a section, Shear Stress distribution for simple sections. (Only diagrams for rectangle, T and I Section).

Unit – IV Columns and Struts 09Hours

a) Differentiation between short and long column.
b) Concept of effective length, slenderness ratio and critical load.
c) Euler's formula for different end conditions.
d) Failure of Euler's Theory.

Unit – V Slope and Deflection **07Hours**

a) Concept and application to Cantilever and Simply supported beams using Maclauy's method with
   1. Point load
   2. Udl for entire span.

Text Books:

1. **Bansal R K: Strength of Materials, Laxmi Publications, New Delhi, Third Edition**
2. **S.S.Bhavikatti:Strength of Materials, Vikas Publishing House, Second Edition.**

Reference Books:

1. **Salvadori Mario: Structure in Architecture, the building of buildings.**
2. **Basavarajaiah B. S., Mahadevappa P. "Strength of Materials in SI Units", University Press (India) Pvt. Ltd., 3rd Edition, 2010**

Course delivery methods	Assessment methods
1. **Lectures**	1. **Assignment**
2. **Power Point Presentation**	2. **IA Test**
3. **Videos**	3. **Semester End Exam**

Scheme of Continuous Internal Evaluation (CIE):

Components	Total of two IA tests	Average of assignments (Two) /activity	Quiz/ Seminar/ Project	Class Participation	Total Marks
Maximum Marks:50	40	-	-	10	50
➢ **Minimum marks required to qualify for SEE: 25 0ut of 50**					

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 **Minimum marks required in SEE to pass: 20 0ut of 50**

3 Question paper contains two questions from each unit each carrying 20 marks. Students have to answer one full question from each unit.

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

SURVEYING AND LEVELLING

Course Code	**18TEC2.4N**	**Credits**	**3**
Course type	**BS&AE**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**04 (02 Lecture+02 Practical)**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 28 Hrs; Practical= 28Hrs ; Total = 56 Hrs**	**SEE Duration**	**3 Hours for 100 marks**

Course learning objectives:

To develop the skills and knowledge related to Surveying and Levelling Principles and practice.

Unit – I Introduction **12 Hours**

Definition, Classification, Principles of surveying, Units of measurement, Shrunk Scale

Unit – II Chain Survey **12 Hours**

Instruments used, Types of chain, Instruments for ranging, erecting perpendiculars and Obstacles in chaining.

Unit – IIIPlane Table Survey and Theodolite **12 Hours**

a) Introduction to Plane table- Plane table and accessories, Methods of plane table survey, Radiation, Intersection, Traversing and resection, Two point and Three point problems and their solutions.
b) Introduction to Theodolite - Definition of different terms, Temporary adjustments, Uses, Measuring horizontal and vertical angles, Method of repetition

Unit – IVLevelling **12 Hours**

Definition, Classification, Booking and reduction of levels, Errors in levelling.

Unit – V Contouring and Total Station Survey **08 Hours**

a) Characteristics of contours, Direct and indirect methods of contouring, Understanding of Contours.
b) Introduction to total station survey.

Text Books:

1. **Punmia B. C. , Surveying Volume I, Standard book House, 1980**
2. **Kanetkar T. P. and Kulkarni S. V., Surveying and Leveling (Part 1), Vidhyarathi, GrihaPrakarranPuna, 1981.**

Reference Books:

1. **B.C. Punmia, Ashok Kumar Jain, Arunkumar Jain., Surveying - Vol. 1., Laxmi Publications pvt.ltd, 2005**

Course delivery methods	**Assessment methods**
1. **Lectures**	1. **Assignment**
2. **Power Point Presentation**	2. **IA Test**
3. **Videos**	3. **Semester End Exam**

Scheme of Continuous Internal Evaluation (CIE):

Components	Total of two IA tests	Average of assignments (Two) /activity	Quiz/Seminar/ Project	Class Participation	Total Marks
Maximum Marks:50	40	-	-	10	50
➢ Writing two IA tests is compulsory. ➢ **Minimum marks required to qualify for SEE: 25 out of 50**					

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. **Minimum marks required in SEE to pass: 20 out of 50**
3. Question paper contains two questions from each unit each carrying 20 marks.
   Students have to answer one full question from each unit.
4. **For a pass in the course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.**

HISTORY OF ARCHITECTURE – II

Course Code	**18HUM2.1N**	**Credits**	**3**
Course type	**PC**	**CIE Marks**	**50 marks**
Hours/week: L-T-P	**3Hrs. (Lecture) per Week**	**SEE Marks**	**50 marks**
Total Hours:	**Lecture = 42 Hrs; Tutorial = 0 Hrs; Total = 42Hrs.**	**SEE Duration**	**3 Hours for 100 marks**

Course learning objectives

- To present students an overview of the History of Architecture of Greece, Roman, Early Christian, Byzantine, Romanesque and Gothic.
- To develop the appropriate skills of reading, discussion and writing as well as 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.

UnitI : Greek Architecture **08 Hours**

a) Introduction: Critical appreciation of works and synoptic study of architectural characteristic features. Study of Design principles and study of orders: Optical Corrections, Doric, Ionic and Corinthian.
b) Typologies: Temples (Parthenon), Theatres (Theatre at Epidaurus) and Acropolis.

Unit II: Roman Architecture **10 Hours**

a) Introduction: Critical appreciation of works and synoptic study of architectural characteristic features. Study of Design principles and study of Orders: Doric, Ionic, Corinthian, Composite, Tuscan.
b) Typologies: Temples (Pantheon), Amphitheatre (Colosseum), Thermae (Thermae of Caracalla), Aqueduct (Pont du Garde at Nimes), Basilica (Basilica of Trajan), Triumphal Arch (Arch of Septimius Severus) and Pillar of Victory (Column of Trajan).

Unit III: Early Christian and Byzantine **08 Hours**

a) Early Christian: How architecture evolved as religious practice and study of design principles. Typology: Church (Church of St.Peter's, Rome and St. Clemente, Rome)
b) Byzantine: Study of design principles. Typology: Church (Hagia Sophia, Constantinople).

Unit IV: Medieval Architecture **08 Hours**

a) Introduction: Critical appreciation of works and synoptic study of architectural characteristic features. Study of Design principles.
b) Typologies: Cathedral (Pisa Cathedral), Bell Tower (The Campanile, Pisa) and Baptistery (Baptistery, Pisa)

UnitV: Gothic Architecture **08 Hours**

a) Introduction: Critical appreciation of works and synoptic study of architectural characteristic features and study of Design principles.
b) Typologies: Church (Notre Dame, Paris and Chartres Cathedral, Paris).

Reference Books:

1. **Fletcher Banister: A History of Architecture, CBS publishers & distributors, 1992, India.**
2. **Stierlin Henri: Greece, Taschen, 1997, Germany.**
3. **Stierlin Henri: The Roman Empire, Volume I, Taschen, 1996, Italy.**
4. **Xavier Barral I Altet: The Romanesque, Taschen, 1998, Italy.**
5. **Binding Gunther: High Gothic: References Taschen, 1999, Italy.**

Course delivery methods	**Assessment methods**
1. Lectures	**1. Assignments**
2. Documentary Videos	**2. Internal Assessment Test**
	3. Semester End Examination

Scheme of Continuous Internal Evaluation (CIE):

Components	**Total of two I.A. test**	**Average of two assignments**	**Quiz/Seminar / Project**	**Class participation**	**Total Marks**
Maximum Marks:50	40	-	-	10	50

- Writing two IA tests is compulsory
- ➢ **Minimum marks required to qualify for SEE: 25 out of 50**

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. **Minimum marks required in SEE to pass: 20 out of 50**
3. Question paper contains two questions from each unit each carrying 20 marks. Students have to answer one full question from each unit.
4. **For a pass in the course, a candidate shall secure overall 50% of the maximum marks of the course i.e., CIE+SEE put together.**

ART APPRECIATION

Course Code	**18HUM2.2N**	**Credits**	**2**
Course type	**PC**	**CIE Marks**	**100 marks**
Hours/week: L-T-P	**2 Hrs (2 Lecture) per Week**	**SEE Marks**	**_ _**
Total Hours:	**Lecture = 28 Hrs** **Total = 28 Hrs**	**SEE Duration**	**_ _**

Course learning objectives:

To understand Visual Art Forms and their Cultural Connections

To encourage students to appreciate fields of Arts and to make a piece of Art and Exhibit

UnitI: Introduction to Work of Art **08 Hours**

a) The Humanities: A study of Values and Taste
b) Response to Art, Identifying Art Conceptually and Perceptually
c) Participation, Artistic form, Content and Subject matter of Art form

UnitII: History of Art and Critic of Art **08 Hours**

a) Overview of Art and its progression through History, Important works of Art and Artists
b) Brief history of Western Art- The Renaissance- 17th Century- 18th Century- 19th Century- The impressionism and Beyond-Art Deco and ArtNouveau-Cubism - Abstraction-Surrealism-Modern Art: Post Cubism to 1980- Contemporary Art From 1980
c) The Art market- Participation and Criticism - Types

UnitIII: Painting **04 Hours**

a) The Media of Paintings-Elements of Painting-Characteristics of Paintings-Types (Abstract and Representational)
b) Styles of Painting and understanding works of major Artists.

UnitIV: Sculpture **04 Hours**

a) Sensory Interconnection- Sculpture and Space - Types- Sculpture and Human body - Techniques and Materials of Sculpture making.

Unit V: Architecture **04 Hours**

a) Space and Architecture-Types of Spaces-Necessities of Architecture-Types of Architecture
b) Interrelationship between Art and Architecture

Reference Books:

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**

Course delivery methods	Assessment methods
1. Presentation	1. **Exercise marking**
2. Exercises	

Scheme of Continuous Internal Evaluation (CIE):

Components	Portfolio Marking	Average of two assignments	Quiz/Seminar / Project	Class Participation	Total Marks
Maximum Marks: 100	80	-	-	20	100

- **Note: This subject does not have Semester End Examination (SEE).**
- **Minimum passing marks: 50 out of 100**