SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMAKURU
School of Architecture

Vision

To establish as a pioneer institute in planning and design of built environment through excellence in teaching, research, consultancy and design innovation.

Mission

- To create conducive academic ambience that nurtures aesthetic attitude, technical confidence, and critical thinking among students.

- To develop research and design innovation skills in students to address various societal needs.

- To inculcate professional ethics based on values and entrepreneurial skills among students.

Program Educational Objectives (PEO's)

Graduates from school of Architecture will achieve the following Program Educational Objectives within few years of graduation

- Graduates will showcase capabilities for competent practice of Architecture and enhance career by pursuing higher education
- Graduates will exhibit strong design skills to solve complex real-time problems through high technical skills and strong communication along with the knowledge of various domains of architecture including landscape, architectural conservation, interior design, energy conscious architecture, urban design and planning, construction project management, alternative building techniques, building information modeling and digital architecture
- Graduates will demonstrate professionalism, ethical conduct, societal concerns, effective team work and adapt to dynamic global and local needs engaging in lifelong learning

Program Specific Outcomes (PSO's)

PSO1: Develop critical thinking to analyze, evaluate, synthesize and generate appropriate design solutions for varying scales and levels of complexity.

PSO2: Explore possibilities and application of various building materials, construction techniques, building systems and services.

PSO3: Draw inspiration from divergent architectural theories and history along with varied indigenous and vernacular settings.

PSO4: Demonstrate effective communication skills to present architectural works and comprehend professional practice.

Programme Outcomes (PO's)

1. **Architectural Knowledge:** Apply the knowledge of design principles, building systems & technologies, humanities and environmental aspects in design, planning and construction.
2. **Problem Analysis**: Identify, formulate, review research literature and analyse various scales of architectural projects to arrive at tangible conclusions.
3. **Design/ Development of solutions:** Design solutions to integrate interdisciplinary approach for contextual issues pertaining to built-environment.
4. **Conduct investigations of complex problems:** Use research-based knowledge and methodologies including context analysis, case studies, project requirements and synthesis of the information to provide context sensitive solutions.
5. **Modern tool usage:** Identify, select and apply the appropriate tools, techniques and resources to predict, design and simulate qualitative and quantitative outcomes with an understanding of its limitations.
6. **The Architect and Society:** Apply reasoning to address socio-cultural, legal and safety aspects relevant to the professional practice and social responsibility.
7. **Environment and Sustainability:** Understand the importance of the architectural design solutions in environmental and social contexts to demonstrate the need for sustainable built environment.
8. **Ethics:** Apply ethical principles and commit to professional ethics, responsibilities and norms of Architectural profession.
9. **Individual and teamwork:** Function effectively as an individual as well as a team member or a leader in diverse interdisciplinary settings.
10. **Communication:** Comprehend and effectively communicate issues related to architecture, community and society at large through documentation, graphical and verbal presentations.
11. **Project management and Finance:** Demonstrate knowledge and understanding of professional and management principles to apply to individual work, as a team member and as a leader, to manage projects in multidisciplinary environments.
12. **Life-Long learning:** Recognize the need for, have the preparation and ability to engage in independent and lifelong learning in the changing domain of societal and technological advancement and adopt it in individual's professional practice.

SYLLABUS

FOR

I and II semester B.ARCH

2024 -2025

School of Architecture

Siddaganga Institute of Technology

(An Autonomous Institution affiliated to V.T.U., Belagavi, Approved by AICTE, New Delhi Accredited by NAAC with 'A++' Grade and ISO 9001:2015 Certified)

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SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMAKURU

(An Autonomous Institution affiliated to VTU, Belagavi, Approved by AICTE, New Delhi, Accredited by NAAC with 'A++' Grade & ISO 9001:2015 Certified)

B.ARCHITECTURE

SCHEME OF TEACHING AND EXAMINATION (270 Credits Scheme)

Applicable to the students admitted during the year 2024-25

I Semester

Sl. No.	Course and Course Code		Course Title	Teaching / Paper setting Dept.	Teaching hrs/week				Examination					Credits
					Lecture	Studio	Practical	Self Study Component	Duration in hrs.	Mode of Exam	CIE Marks	SEE Marks	Total Marks	
					L	S	P	SS						
1.	PCC	1ATS01	Basics of Architectural Design		3	4				Viva	50	50	100	**7**
2.	BSAE	1ATS02	Building Materials & Construction -I		1	3				Viva	50	50	100	**4**
3.	PCC	1ATS03	Architectural Graphics - I		1	3				Term work	50	50	100	**4**
4.	SEC	1ATS04	Visual Arts		2	3				Term work	50	50	100	**5**
5.	SEC	1ATS05	Architectural Model Making			4				Term work	50	50	100	**4**
6.	PCC	1ATT01	History of Architecture-I		3				3	Theory	50	50	100	**3**
7.	AEC	CC01-AT	Communicative English	T & P			2		1:30	Theory	50	50	100	**1**
8.	HSMC	CC03-AT/ CC04-AT	Balake Kannada / Samskrutika Kannada	HS	1				1:30	Theory	50	50	100	**1**
9.	AEC	CC06-AT	Innovation and Design Thinking	Any Dept.	1				1:30	Theory	50	50	100	**1**
			Total		12	17	2				**450**	**450**	**900**	**30**

Note: PCC: Professional Core Course, **BSAE**: Building Science and Applied Engineering Course, **HSMC**: Humanity and Social Science & Management Course, **SEC** –Skill Enhancement Course, **AEC**- Ability Enhancement Course, **PEC**- Professional Elective Course, **NCMC**- Non-Credit Mandatory Course, **OEC**- Open Elective Course

L –Lecture, **S**- Studio, **P**-Practical, **SS** – Self-Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMAKURU

(An Autonomous Institution affiliated to VTU, Belagavi, Approved by AICTE, New Delhi, Accredited by NAAC with 'A++' Grade & ISO 9001:2015 Certified)

B.ARCHITECTURE

SCHEME OF TEACHING AND EXAMINATION (270 Credits Scheme)

Applicable to the students admitted during the year 2024-25

II Semester

Sl. No.	Course and Course Code		Course Title	Teaching / Paper setting Dept.	Teaching hrs/week				Examination					Credits
					Lecture	Studio	Practical	Self Study Component	Duration in hrs.	Mode of Exam	CIE Marks	SEE Marks	Total Marks	
					L	S	P	SS						
1.	PCC	2ATS01	Architectural Design-I		3	4				Viva	50	50	100	**7**
2.	BSAE	2ATS02	Building Materials and Construction-II		1	3				Viva	50	50	100	**4**
3.	PCC	2ATS03	Architectural Graphics-II		1	3				Term Work	50	50	100	**4**
4.	PCC	2ATS04	Design Theory & Principles		1	3				Viva	50	50	100	**4**
5.	BSAE	2ATS05	Site Surveying and Analysis	Civil			2			Term Work	50	50	100	**2**
6.	PCC	2ATT01	History of Architecture-II		3				3	Theory	50	50	100	**3**
7.	BSAE	2ATT02	Building Structures-I	Civil	3				3	Theory	50	50	100	**3**
8.	AEC	CC02-AT	Professional Writing Skills in English	T & P	1				1:30	Theory	50	50	100	**1**
9.	HSMC	CC05-AT	Indian Constitution	HS	1				1:30	Theory	50	50	100	**1**
10.	HSMC	CC07-AT	Scientific Foundations of Health	SMCRI	1				1:30	Theory	50	50	100	**1**
			Total		15	13	2				**500**	**500**	**1000**	**30**

Note: PCC: Professional Core Course, **BSAE**: Building Science and Applied Engineering Course, **HSMC**: Humanity and Social Science & Management Course, **SEC** –Skill Enhancement Course, **AEC**- Ability Enhancement Course, **PEC**- Professional Elective Course, **NCMC**- Non-Credit Mandatory Course, **OEC**- Open Elective Course

L –Lecture, **S**- Studio, **P**-Practical, **SS** – Self-Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

SIDDAGANGA INSTITUTE OF TECHNOLOGY
Tumakuru-572103

(An Autonomous Constituent Institution of Visvesvaraya Technological University, Belagavi)

SCHOOL OF ARCHITECTURE

DETAILED SYLLABUS FOR
FIRST SEMESTER
B. ARCHITECTURE

BASICS OF ARCHITECTURAL DESIGN

Contact Hours/Week	:	07	Credits	:	7.0
Total Lecture Hours	:	45	CIE Marks	:	50
Total Studio Hours	:	60	SEE Marks	:	50
Course Code	:	1ATS01	Exam Mode	:	Viva

Course Objectives: This course will enable students to:

1. Familiarize with visual grammar, elements of design and methods of visual composition.
2. Recognize the importance of design in creating form for various scales.
3. Explore basic architectural elements of built form.
4. Get insight towards principles of spatial organization.

COURSE OUTLINE:

- Elements of composition - Point, Line, Shape and Form. Principles of Design - Scale, Proportion, Balance, Harmony, Rhythm, and Contrast. Abstract representation of events, memories, activities, objects, and moods. Learning basics of architectural representation.

- Form & Space – Volumes, elements of volumes, enclosure of space, semi-enclosed spaces, defining space by elements. Role of color, texture, materials, and shapes in three dimensional compositions to understand form, voids, space, openings (shapes within shapes), material, texture, and light.

- Anthropometry – study of human dimensions, concept of percentile in Indian standards, space required for various simple activities, Introduction to static and transitional spaces through user requirements. Need of furniture as an aid to enhance activities, study of various furniture in isolation and combination.

- Elements of Built Form – Basic elements including walls, floor, windows, doors, staircase, façade etc. Support elements including courtyards, balconies, canopy, patio, sit outs, water bodies, pergolas etc. Relevance of all such elements on architectural expression and spatial quality.

- Principles of spatial organization – Basic principles of architectural design and spatial organization, symbiosis of form and function, concept generation, convergent and divergent thinking in design.

NOTE:

a. Exercises related to each aspect have to be carried out distinctively.
b. Relevant case studies and literature studies can be given by the studio teachers and a report must be compiled by the students.
c. One or more design exercises can be carried out as group work to explore possibilities of students working as teams.
d. Vertical studio involving other semesters can be encouraged to carry out one full or part project.
e. The portfolio covering the above topics shall be presented viva.

REFERENCE BOOKS:

1.	Wucius Wong	Principles of Three-dimensional Design, Van Nostrand Reinhold Company, 1977 ISBN : 0442295618, 9780442295615
2.	Manfred Maier	Basic Principles of Design, Van Nostrand Reinhold Company, 1980 ISBN : 0671608207, 978-0671608200
3.	Yatin Pandya	Elements of Space Making, Mapin Publishing, 2013 ISBN : 9781935677307, 1935677306
4.	Francis D. K. Ching	Architecture Form, Space, & Order; Wiley, 2014 ISBN : 9781118745083, 1118745086

Course Outcomes: After the completion of this course, students will be able to:

1. **Apply** basic design principles to create space and form.
2. **Explore** the basic design principles defining architectural form.
3. **Analyze** human proportions and their impact on space making.
4. **Identify** various elements of built form and their applications.
5. **Explore** the principles of various spatial organization and its applications.
6. **Develop** the conceptual ideas through the language of architecture.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1			3										3			
	CO2		3	2										2			
	CO3		2											3			
	CO4		3	2										2			
	CO5			3										3			
	CO6										3			3			3

BUILDING MATERIALS AND CONSTRUCTION - I

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	15	SEE Marks	:	50
Total Studio Hours	:	45	CIE marks	:	50
Course Code	:	1ATS02	Exam mode	:	Viva

Course Objectives: This course will enable students to:

1. Get introduced to basic building materials and their properties.
2. Familiarize with the construction details of various building components.
3. Get introduced to environmental friendly materials as an alternate construction.

COURSE OUTLINE:

- **Introduction** to various conventions used for drawing plan, sections & elevation of a building.
- **Introduction to the primary building components** such as foundations, walls, floors, windows, doors, piers, arches and roofs.
- **Brick -** Types, properties, uses and manufacturing methods; types of brick walls and bonds, mortar types, plasters, buttresses, arches and lintels.
- **Stone** - Types, properties, quarrying and finishing; Stone Walls: Bonds, arches and lintels.
- **Concrete Masonry Unit** - Hollow and solid concrete Blocks: Manufacture, uses and properties, CMU Wall construction and detailing.
- **Alternative materials for Wall construction -** Clay Hollow Blocks, Fly Ash Blocks, Aerated Concrete Blocks, Autoclaved Cellular Concrete (Aerocon) walls, Stabilized Mud Blocks and Glass Blocks: Manufacture, uses and properties, wall construction and Detailing.
- **Masonry Foundation** - Simple load bearing foundations in brick and stone.
- **Introduction to Lintels and Arches** - Types and Method of typical arch construction. Detailing of brick and stone Lintels.
- **Environment friendly materials** - Bamboo, Adobe, Stabilized Mud Block, Green innovations and materials developed out of waste, sustainable materials available in the current market. Case studies of sustainable residential buildings.

NOTE:

a. Minimum one plate on each construction topic and study of material in the form of portfolio.
b. Hands on session to be conducted to execute wall masonry with different materials in construction yard.
c. Site visits to manufacturing units of brick, cement block etc., stone quarries, construction sites to be arranged by studio teachers and report to be compiled by students.
d. Market survey of materials should be carried out by students.
e. The entire portfolio on construction and materials shall be presented for viva.

REFERENCE BOOKS:

1.	Chudley	Construction Technology, Prentice Hall, 1993, ISBN: 978-0131286429
2.	Barry	Construction Of Buildings, Volume- 5, East West Press, 1999, ISBN: 978-8176710053
3.	W.B. Mc Kay	Building construction, Pearson Education India, 2013. ISBN: 978-8131504291
4.	Glenn M Hardie	Building Construction - Principles, Practices and Materials Pearson, 1995, ISBN: 0133505707

Course Outcomes: After the completion of the course, students will be able to:

1. **Identify** various traditional and contemporary building materials.
2. **Explore** construction details for various building components.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3											3		3		
	CO2	3									3		3		3		

ARCHITECTURAL GRAPHICS - I

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Studio Hours	:	45	SEE Marks	:	50
Course Code	:	1ATS03	Exam Mode	:	Term Work

Course Objectives: This course will enable students to**:**

1. Understand the fundamentals of technical drawing.
2. Familiarize with the techniques of Architectural drafting and lettering standards.
3. Get introduced to the methods of conversion of drawings into different scales.
4. Illustrate the techniques of drawing orthographic projections.
5. Familiarize with the various 3-dimensional representation of building forms.

COURSE OUTLINE:

- **Introduction to the fundamentals of drafting** - Drafting equipment and materials used, Architectural drafting conventions, drawing set up, drafting techniques, line work, line types, line weights, line quality.
- **Practice in lettering** - single stroke letters - uppercase, lowercase, vertical and inclined letters. Different fonts used in architectural lettering.
- **Introduction to scales** - Construction of reduced and enlarged scales and use of different standard scales like 1:100, 1:200, 1:500, 1:50 etc.
- **Introduction to Euclidean Geometry** - exercises in lines and angles. Basic geometrical constructions, construction of triangles, quadrilaterals and regular polygons.
- **Introduction to Arches** - Types of arches and their construction methods.
- **Introduction to plane curves** such as ellipse, parabola, hyperbola, ovals and involutes and their construction methods.
- **Orthographic projections** – Introduction to the principles of projection, first angle projection; Projection of planes, solids and built forms.
- **Three-dimensional representation** - Isometric and Axonometric projection of simple objects, architectural elements and built forms.

REFERENCE BOOKS:

1.	Francis D.K. Ching	Architectural Graphics, 4th Edition, John Wiley, 2015, ISBN-10: 111903566X, ISBN-13: 978-1119035664
2.	Francis D.K. Ching	Design Drawing Vol I & II, John Wiley, 1997, ISBN-10: 0471286540
3.	I. H. Morris	Geometrical Drawing for Arts Students, Orient, 2006, ISBN-10: 8125026096
4.	N. D. Bhat	Engineering Drawing, Charotar publishing house, 53rd edition, 2014, ISBN-10: 9380358962

Course Outcomes: After the completion of this course, students will be able to**:**

1. **Develop** the proficiency in Architectural lettering.
2. **Elucidate** the fundamentals of Architectural drafting.
3. **Apply** the drafting skills for preparing scaled drawings.
4. **Develop** orthographic projections for various building forms.
5. **Explore** the various three dimensional representation methods.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3						3
	CO2										3						3
	CO3	2															3
	CO4	2															3
	CO5										3						3

VISUAL ARTS

Contact Hours/Week	:	05	Credits	:	5.0
Total Lecture Hours	:	30	CIE Marks	:	50
Total Studio Hours	:	45	SEE Marks	:	50
Course Code	:	1ATS04	Exam Mode	:	Term Work

Course Objectives: This course will enable students to**:**

1. Acquaint skills of using various media in sketching.
2. Explore the skills of free hand sketching, rendering and painting.
3. Get introduced to architectural graphical representations using different media.

COURSE OUTLINE:

- **Introduction to basics of 2D & 3D sketching** using various media like pencils, ink pens, charcoal pencils, water colours , poster colours , pastels, etc., Understanding light, shades and shadow.

- **Freehand sketching** - simple buildings with landscape elements and household furniture, street furniture, human beings, cars, trees etc. Indoor & Outdoor sketching - Still drawings and Memory drawings.

- **Introduction of painting** – Colour, Properties of colour, Colour schemes, Types of colour, colour theory. Exercises to understand color value and intensity. Properties of paper, brush and other tools – Basic washes – 3D effects from still-life, nature and built environment using mono chromatic and multi-color.

- **Introduction to rendering skills** - Representation of surface textures of materials like stone, timber, brick, concrete, steel, glass etc. Rendering of perspective drawings of various built environments.

- **Graphical presentations** - Rendering individual building plans, elevations and sections in different media showing shades and shadows.

REFERENCE BOOKS:

1	Robert Gill	Water colour rendering by Hayashi Studio 1994, Graphic-sha publishing company Ltd.
2	Wucius Wong	Perspective sketches(publisher: Van Nostrand Reinhold NY)
3	Fredrick Harh.	Principles of color composition by Wucius Wong
4	Wucius Wong	Principles of two Dimensional Design (publisher: Van Nostrand Reinhold NY)
5	Theodore D Walker Van Nostrand	A History of painting Sculpture & Architecture Reinhold, New York.
6	Wucius Wong	Water colour rendering by Hayashi Studio 1994, Graphic-sha publishing company Ltd. (publisher: Van Nostrand Reinhold NY)

Course Outcomes: After the completion of this course, students will be able to**:**

1. **Create** 2D & 3D sketches using various media.
2. **Develop** the skills of free hand sketching techniques.
3. **Render** architectural drawings representing the textures for various materials.
4. **Apply** graphical representations of architectural drawings using different media.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3						3
	CO2	2															3
	CO3										3						3
	CO4										3						3

ARCHITECTURAL MODEL MAKING

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	--	CIE Marks	:	50
Total Studio Hours	:	60	SEE Marks	:	50
Course Code	:	1ATS05	Exam Mode	:	Term Work

Course Objectives: This course will enable students to:

1. Get introduced to the basic skills required for Architectural model making.
2. Familiarize with the skills of making abstract models using different materials.
3. Demonstrate the techniques and precision involved in making detailed Architectural models.

COURSE OUTLINE:

- **Paper** - Making models of three-dimensional geometrical forms such as cubes, cuboids, prisms, pyramids, cylinders and cones etc. using different types of sheets and boards etc. Platonic forms. (Derivatives forms and transformation).
- **Introduction to Origami** - Creating historic monuments and contemporary buildings using paper products.
- **Clay & Plaster of Paris** – Understanding the properties of the material, creation of 2D/3D abstract models, exercises on creating solids and voids in a mass, clay tile designing, etc.
- **Metal and glass** – Use of metal sheets, wires to generate abstract and architectural models. Techniques of welding, soldering etc. Glass etching, tinting, modeling in glass.
- **Site model** – To represent all elements of landscape on site model with contours, pathways, water bodies etc. Locating buildings as masses (building blocks) in the model and detailing the surroundings, different materials.
- **Detailed plan & Sectional model** - To depict the detailed plan and Sectional model for clear understanding of function. To understand the relationship of levels, openings, staircases/steps, passages/ramps or corridors etc. floor finish, details–texture design etc.

NOTE:

a. Photographs at different stages of preparation as well as sectional and plan models to be used for documentation to study aspects like light, shade and shadows to understand visual quality.
b. Materials like Cardboard, mount board, mill board, balsa wood, solid wood, plywood, soap, foam, plastic, glass, paper, gauze, mesh, metal sheet, canvas, clay to be experimented with to understand their limitations and qualities.

REFERENCE BOOKS:

1.	Roark T. Congdon	Architectural Model Building, Fairchild Publications, 1st edition, 2010, ISBN-10: 1563677733
2.	Driscoll Matt	Model Making for Architects, The Crowood Press Ltd, 2013, ISBN-10: 1847974902
3.	David Neat	Model-making: Materials and Methods, The Crowood Press Ltd, 2008, ISBN-10: 1847970176

Course Outcomes: After the completion of this course, students will be able to**:**

1. **Develop** skills to use different materials for architectural model making.
2. **Create** large scale site models with various details.
3. **Create** detailed architectural models.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3															3
	CO2										3						3
	CO3										3						3

HISTORY OF ARCHITECTURE-I

Contact Hours/Week	:	03	Credits	:	3.0
Total Lecture Hours	:	45	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	1ATT01	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Get introduced to pragmatic early shelter forms & burial traditions of the Prehistoric era.
2. Identify the socio-economic, culture, environment, demographic, political, regional influences on the evolution of ancient river valley civilization.
3. Interpret architectural character, construction methods, materials and socio-religious character of Persian Chinese and Japanese architecture
4. Comprehend the theoretical and philosophies of Classical architecture.
5. Understand the evolution of architectural form with reference to technology, style and character during classical architecture.

UNIT I

Pre-Historic world - Primitive man - shelters, settlements, religious & burial systems. Eg: Oval hut. Nice, Dolmen tomb, gallery grave, passage grave. Houses at Catal Huyuk, Henge monuments, Stone Henge. **08 Hrs**

UNIT II

River valley cultures - Study of Political systems, concept of settlement, impact of climate, social structure and their related shelter types, planning types, method of building structures and detailing.
Indus Valley Civilization - Layout of Mohenjodaro: House plan, Community well, Great Bath, Granary.
Tigris and Euphrates Valley Civilization - Forces shaping settlements and habitats. Ziggurats at Warka, Palace of Sargon.
Nile Valley Civilization-Mastaba Tombs, Pyramid of Cheops, Temple of Khons, Kanark. **09 Hrs**

UNIT III

Architectural character, construction methods, materials and socio-religious character are explained with suitable examples.
Persian Architecture – Palace of Persepolis, Iran

Chinese Architecture-Forbidden city in Beijing, Mausoulea, Buddhist temples.
Japanese Architecture-Imperial palace, Kyoto. Shinto shrines **08 Hrs**

UNIT IV

Introduction to **Minoan & Mycenae civilization**- Eg: Citadel of Tiryns, The Treasury of Atrius. Classical - **Greek Architecture**, Greek temple layout, study of principles of design, proportion, composition, visual effects (Optical corrections). Evolution of Doric, Ionic, Corinthian, and Composite orders. Study of principles of design of Greek buildings through the study of Greek temples – Parthenon, Athens- Erechtheion. Public buildings– Acropolis and Agora and Theatre at Epidaurus. House of Colline. **10 Hrs**

UNIT V

Introduction to **Etruscan architecture**. Introduction to **Roman Architecture**. Architectural characteristic features and study of Roman Classical Architecture: Study of principles of design, Innovations, Engineering aspects in construction technology.
Eg: -Roman orders: Tuscan and Composite. Roman Temples: Pantheon, Rome, Amphitheatre: Colosseum,Rome, Amphitheatre of Pompeii. Public bath: Thermae of Caracalla, Aqueducts: Pont Du Gard, Circus: Circus Maximus, Rome, Roman Forum – Trajan's Forum and Basilica of Trajan, Triumphal arches: Arch of Septimius Severus. **10 Hrs**

NOTE:

a. Assignments to include study of concepts relating to cultural and religious beliefs, structure, climatic interfaces and integration of all these in the resultant forms.
b. Models, analytical studies individually or in groups.

TEXT BOOKS:

1.	Christopher Tadgell	The History of Architecture in India, From the Dawn of Civilization to the End of the Raj, Architecture Design and Technology Press, 1990, ISBN : 9781854543509, 1854543504
2.	Banister Fletcher	A History of Architecture on the Comparative Method for Students, Craftsmen & Amateur;B.T. Batsford, Limited, 1901, ISBN: 9781343929623, 1343929628

REFERENCE BOOKS:

1.	Dora P. Crouch	History of Architecture - Stonehenge to Skyscrapers, McGraw-Hill, 1985, ISBN: 9780070145313, 0070145318
2.	Talbot Hamlin	Architecture Through the Ages, Putnam, 1953, ISBN: 9780399300011, 0399300015
3.	Leland M. Roth	Understanding Architecture - Its Elements, History and Meaning, Herbert Press, 1994, ISBN: 9781871569612, 1871569613
4.	Cyril M. Harris	Illustrated Dictionary of Historic Architecture, Dover Publications, 1983, ISBN: 9780486244440, 048624444X
5.	David Watkin	A history of Western architecture, Laurence King Publishing, 2005, ISBN: 9781856694599, 1856694593
6.	Henri Stierlin	Persian Art & Architecture, Thames & Hudson, 2012, ISBN: 9780500516423, 0500516421

Course Outcomes: After the completion of this course, students will be able to:

1. **Elucidate** the architectural characteristics of pre-historic period.
2. **Differentiate** the architecture and planning principles of various river valley civilizations.
3. **Identify** the vernacular characteristics of Asian civilizations.
4. **Analyze** the design principles, planning and construction of buildings in Greek period.
5. **Explore** the aesthetic innovations and planning principles of Roman period.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
CO	CO1	2														2	

	CO2	2													2	
	CO3	2													2	
	CO4	2													2	
	CO5	2													2	

COMMUNICATIVE ENGLISH

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC01-AT	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Know about Fundamentals of Communicative English and Communication Skills in general.
2. Train to identify the nuances of phonetics, intonation and enhance pronunciation skills for better communication skills
3. Impart Basic English grammar and essentials of important language skills.
4. Enhance with English vocabulary and language proficiency for better communication skills.
5. Learn about Techniques of Information Transfer through presentation.

UNIT I

Introduction to Communicative English : Communicative English, Fundamentals of Communicative English, Process of Communication, Barriers to Effective Communicative English, Different styles and levels in Communicative English. Interpersonal and Intra-personal Communication Skills. **03 Hrs**

UNIT II

Introduction to Phonetics : Phonetic Transcription, English Pronunciation, Pronunciation Guidelines to consonants and vowels, Sounds Mispronounced, Silent and Non silent Letters, Syllables and Structure. Word Accent, Stress Shift and Intonation, Spelling Rules and Words often Miss-spelt. Common errors in pronunciation. **03 Hrs**

UNIT III

Basic English Communicative Grammar and Vocabulary PART - I: Grammar: Basic English Grammar and Parts of Speech, Articles and Preposition. Question Tags, One Word Substitutes, Strong and Weak forms of words, Introduction to Vocabulary, All Types of Vocabulary – Exercises on it. **03 Hrs**

UNIT IV

Basic English Communicative Grammar and Vocabulary PART - II:Words formation - Prefixes and Suffixes,Contractions and Abbreviations. Word Pairs (Minimal Pairs) – Exercises, Tense and Types of tenses, The Sequence of Tenses (Rules in use of Tenses) and Exercises on it. **03 Hrs**

UNIT V

Communication Skills for Employment: Information Transfer: Oral Presentation and its Practice. Difference between Extempore/Public Speaking, Communication Guidelines. Mother Tongue Influence (MTI), Various Techniques for Neutralization of Mother Tongue Influence. Reading and Listening Comprehensions – Exercises. **03 Hrs**

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning:

1. Contents related activities (Activity-based discussions)
2. For active participation of students instruct the students to prepare Flowcharts and Handouts
3. Organizing Group wise discussions Connecting to placement activities
4. Quizzes and Discussions, Seminars and assignments

TEXT BOOKS:

1	Communication Skills by Sanjay Kumar & Pushp Lata, Oxford University Press India Pvt Ltd - 2019.
2	A Textbook of English Language Communication Skills, (ISBN-978-81- 955465-2-7), Published by Infinite Learning Solutions, Bengaluru - 2022.

REFERENCE BOOKS:

1	Technical Communication by Gajendra Singh Chauhan and Et al, (ISBN-978-93-5350-050-4), Cengage learning India Pvt Limited [LatestRevised Edition] - 2019.
2	English for Engineers by N.P. Sudharshana and C. Savitha, Cambridge University Press — 2018.

Course Outcomes: Students will be able to:

1. **Understand** and apply the Fundamentals of Communication Skills in their communication skills.
2. **Identify** the nuances of phonetics, intonation and enhance pronunciation skills.
3. **Impart** basic English grammar and essentials of language skills as per present requirement.
4. **Understand** and use all types of English vocabulary and language proficiency.
5. **Adopt** the Techniques of Information Transfer through presentation.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3		2				3
	CO2										3						3
	CO3										3						3
	CO4										3		2				3
	CO5										3		3				3

INNOVATION AND DESIGN THINKING

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC06-AT	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Explain the concept of design thinking for product and service development
2. Explain the fundamental concept of innovation and design thinking
3. Discuss the methods of implementing design thinking in the real world.

UNIT I

UNDERSTANDING DESIGN THINKING: Meaning of Design Thinking, Definition of Design Thinking, Origins of Design Thinking, Design Thinker in the organizations, Features of Design Thinking, Principles of Design Thinking, Stages of Design Thinking, Benefits of Design Thinking, Theories and Practices of Design Thinking, Practices of Design Thinking, Team based Design Thinking **03 Hrs**

UNIT II

TOOLS FOR DESIGN THINKING: Visualization, Journey mapping, Value chain analysis, The mind map, Rapid Concept development, Assumption testing, Prototype, Co- creation, Learning Launches, Storytelling.

03 Hrs

UNIT III

DESIGN THINKING FOR BUSINESS PROCESS MODELING: Business Process Modelling (BPM), Advantage of Business Process Modelling, Design Thinking in Business Process Modelling, Agile in Virtual Collaboration, Scenario Based Prototyping. **03 Hrs**

UNIT IV

DESIGN THINKING FOR STRATEGIC INNOVATIONS: Strategic Management, Innovation Management, types of innovation, Strategic Innovation, Features of Strategic Innovation, Scope of Strategic Innovation, Design Thinking and Strategic Innovation, Practices of Integrating Design Thinking in Strategic Innovation. **03 Hrs**

UNIT V

Design thinking workshop: Design Thinking Work shop Empathize, Design, Ideate, Prototype and Test. **03 Hrs**

TEXT BOOKS:

1	John. R. Karsnitz, Stephen O'Brien and John P. Hutchinson	"Engineering Design",Cengage learning (International edition) Second Edition, 2013.
2	Roger Martin	"The Design of Business: Why Design Thinking is the Next Competitive Advantage", Harvard Business Press , 2009

3	Hasso Plattner, Christoph Meinel and Larry Leifer (eds)	"Design Thinking: Understand – Improve – Apply", Springer, 2011
4	Idris Mootee	"Design Thinking for Strategic Innovation: What They Can't Teach You at Business or Design School", John Wiley & Sons 2013.

REFERENCE BOOKS :

1	Yousef Haik and Tamer M. Shahin	"Engineering Design Process", Cengage Learning, Second Edition, 2011.
2	Jeanne Liedtka, Andrew King, Kevin Bennett	Solving Problems with Design Thinking - Ten Stories of What Works (Columbia Business School Publishing) Hardcover – 20 Sep 2013

Course Outcomes: After the course students will be able:

1. **Appreciate** various design process procedure.
2. **Analyze** different tools used in Design thinking.
3. **Identify** the significance of Design thinking for Business Process Modeling.
4. **Identify** the significance of Design thinking for Design Thinking for strategic innovations.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3												3			
	CO2	3												3			
	CO3	3												3			
	CO4	3												3			
	CO5	3												3			

ಬಳಕೆ ಕನ್ನ ಡ **Balake Kannada (Kannada for Usage)**

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC03-AT	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Create the awareness regarding the necessity of learning local language for comfortable and healthy life.
2. Enable learners to Listen and understand the Kannada language properly.
3. Speak, read and write Kannada language as per requirement.
4. Train the learners for correct and polite conservation.
5. Know about Karnataka state and its language, literature and General information about this state.

UNIT I

1. Introduction, Necessity of learning a local language, Methods to learn the Kannada language.

2. Easy learning of a Kannada Language: A few tips, Hints for correct and polite conservation, Listening and Speaking Activities, Key to Transcription.

3. ವೈಯಕ್ತಿ ಕ, ಸ್ವಾ ಮ್ಯ ಸೂಚಕ/ಸಂಬಂಧಿತ ಸರ್ವನಾಮ್ಗಳು ಮ್ತ್ತು ಪ್ರ ಶ್ನಾ ರ್ಥಕ ಪ್ದಗಳು - Personal Pronouns, Possessive Forms, Interrogative words.
03 Hrs

UNIT II

1. ನಾಮ್ಪ್ದಗಳ ಸಂಬಂಧಾರ್ಥ ರೂಪ್ಗಳು, ಸಂದೇಹಾಸಪ ದ ಪ್ರ ಶ್ನಾ ಗಳು ಮ್ತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮ್ಪ್ದಗಳು - Possessive forms of nouns, doubtive question and Relative nouns.

2. ಗುಣ, ಪ್ರಮಾಣ ಮತ್ತು ಬಣ್ಣ ವಿಶೇಷಣಗಳು, ಸಂಖ್ಯೆಯ ವಾಚಕಗಳು - Qualitative, Quantitative and Colour Adjectives, Numerals.

3. ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು - ಸರ್ವನಾಮ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ - (ಆ, ಅದು, ಅವು, ಅಲ್ಲಿ) - Predictive Forms, Locative Case.
03 Hrs

UNIT III

1. ಚತುರ್ಥಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯದ ಬಳಕೆ ಮತ್ತು ಸಂಖ್ಯೆಯ ವಾಚಕಗಳು - Dative cases and Numerals.

2. ಸಂಖ್ಯೆಯ ಗುಣವಾಚಕಗಳು ಮತ್ತು ಬಹುವಚನ ನಾಮಪ್ರತ್ಯಯಗಳು - Ordinal Numerals and Plural markers.

3. ನ್ಯೂನ/ ನಿಷೇಧಾರ್ಥಕ ಕ್ರಿಯಾಪದಗಳು ಮತ್ತು ಗುಣವಾಚಕಗಳು - Defective / Negative verbs and Colour Adjectives.
03 Hrs

UNIT IV

1. ಅಪ್ಪಣೆ/ಒಪ್ಪಿಗೆ, ನಿರ್ದೇಶನ, ಪ್ರೋತ್ಸಾಹ ಮತ್ತು ಒತ್ತಾಯದ ಅರ್ಥರೂಪ ಪದಗಳು ಮತ್ತು ವಾಕ್ಯಗಳು Permission, Commands, Encouraging and Urgin words (Imperative words and sentences)

2. ಸಾಮಾನ್ಯ ಸಂಭಾಷಣೆಗಳಲ್ಲಿ ದ್ವಿತೀಯ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ಸಂಭವನೀಯ ಪ್ರಕಾರಗಳು Accusative cases and Potential Forms used in General Communication.

3. "ಇರು ಮತ್ತು ಇರಲ್ಲಿ" ಸಹಾಯಕ್ರಿಯಾಪದಗಳು, ಸಂಭಾವ್ಯ ಸೂಚಕ್ ಮತ್ತು ನಿಷೇಧಾರ್ಥಕ್ ಕ್ರಿಯಾಪದಗಳು Helping verbs 'iru and iralla'. Corresponding Future and Negation verbs.

4. ಹೋಲ್ಲಿಕೆ (ತ್ರಿತ್ವ), ಸಂಬಂಧ ಸೂಚಕ್, ವಸ್ತು ಸೂಚಕ್ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ನಿಷೇಧಾರ್ಥಕ್ ಪದಗಳ ಬಳಕೆ Comparative, Relationship, Identification and Negation words.
03 Hrs

UNIT V

1. ಕಾಲ್ ಮತ್ತು ಸಮಯದ ಹಾಗೂ ಕ್ರಿಯಾಪದಗಳ ವಿವಿಧ ಪ್ರಕಾರಗಳು - Different types of Tense, Time and Verbs.

2. -ದ್, -ತ್, -ತ್ತ, -ಇತ್ತ, -ಆಗಿ, -ಅಲ್ಲಿ, -ಗ್, -ಕ್, ಇದೆ ಕ್ರಿಯಾ ಪ್ರತ್ಯಯಗಳೊಂದಿಗೆ ಭೂತ್, ಭವಿಷತ್ ಮತ್ತು ವರ್ತಮಾನ ಕಾಲ್ ವಾಕ್ಯ ರಚನೆ - Formation of Past, Future and Present Tense Sentences with Verb Forms.

3. ಸಂಭಾಷಣೆಯಲ್ಲಿ ದ್ವನೋಪ್ಯೋಗಿ ಕ್ನನ ಡ ಪದಗಳು - Kannada Vocabulary List. Kannada Words in Conversation.

03 Hrs

TEXT BOOKS :

1	ಬಳಕೆ ಕನ್ನ ಡ - ಡಾ. ಎಲ್. ತಿಮ್ಮ ೇಶ ಪ್ರ ಕಟಣೆ : ಪ್ರ ಸ್ವರಾಂಗ, ವಿಶ್ವಾ ೇಶಾ ರಯಯ ತಾಂತಿರ ಕ ವಿಶಾ ವಿದ್ಯಯ ಲಯ, ಬೆಳಗಾವಿ. ಸೂಚನೆ : ಹೆಚ್ಚಿ ನಮಾಹಿತಿ ಮತ್ತು ವಿರ್ಣಣೆಗಳಿಗೆ ಡಾ. ಎಲ್. ತಿಮ್ಮ ೇಶ (9900832331) ಇರ್ನಾ ಸಂಪ್ಕ್ತವಸಿ. ಮಾದರಿ ಪ್ರ ಶ್ನಾ ಪ್ತಿರ ಕೆ, ಕೇರ್ಸವ ಆಯ್ಕೆ ಮಾಹಿತಿ, ಅಧಯ ಯನ ಸ್ವಮ್ಸ್ರರ ಮತ್ತು ಬಹು ಆಯ್ಕೆ ಮಾದರಿಯ ಪ್ರ ಶ್ನಾ ಗಳ ಕೈಪಿಡಿಗಾಗ್ರ ವಿಶಾವಿದ್ಯಯ ಲಯದ ವೆಬ್ಸೈಟ್ ನೋಡುವುದು.

Course Outcomes: After the course students will be able:

1. Familiarize the necessity of learning of local language for comfortable life.
2. Speak, read and write Kannada language as per requirement.

3. Communicate (converse) in Kannada language in their daily life with Kannada speakers.
4. Listen and understand the Kannada language properly.
5. Speak in polite conservation.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3						3
	CO2										3						3
	CO3										3						3
	CO4										3						3
	CO5										3						3

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ **Samskruthika Kannada**

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC04-AT	Exam Mode	:	Theory

Course Objectives : This course will enable students to:

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು:

- ವೃತ್ತಿಪರ ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.
- ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಪರಿಚಯಿಸುವುದು.
- ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಮೂಡಿಸುವುದು.
- ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳು ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.
- ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.

ಘಟಕ - 1

ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ಮತ್ತು ಭಾಷೆ ಕುರಿತಾದ ಲೇಖನಗಳು — 03 ಗಂಟೆಗಳು

1. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ – ಹಂ.ಪ. ನಾಗರಾಜಯ್ಯ
2. ಕರ್ನಾಟಕದ ಏಕೀಕರಣ – ಒಂದು ಅಪೂರ್ವ ಚರಿತ್ರೆ – ಜಿ. ವೆಂಕಟಸುಬ್ಬಯ್ಯ
3. ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ – ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ ಮತ್ತು ಪ್ರೊ. ವಿ. ಕೇಶವಮೂರ್ತಿ

ಘಟಕ - 2

ಆಧುನಿಕ ಪೂರ್ವದ ಕಾವ್ಯ ಭಾಗ — 03 ಗಂಟೆಗಳು

1. ವಚನಗಳು – ಬಸವಣ್ಣ, ಅಕ್ಕಮಹಾದೇವಿ, ಅಲ್ಲಮಪ್ರಭು, ಆಯ್ದಕ್ಕಿ ಮಾರಯ್ಯ, ಜೇಡರ ದಾಸಿಮಯ್ಯ, ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮ
2. ಕೀರ್ತನೆಗಳು: ಅದರಿಂದೇನು ಫಲ ಇದರಿಂದೇನು ಫಲ – ಪುರಂದರದಾಸರು ತಲ್ಲಣಿಸದಿರು ಕಂಡ್ಯ ತಾಳು ಮನವೇ – ಕನಕದಾಸರು
3. ತತ್ವಪದಗಳು : ಸಾವಿರ ಕೊಡಗಳ ಸುಟ್ಟು – ಶಿಶುನಾಳ ಶರೀಫ

ಘಟಕ - 3

ಆಧುನಿಕ ಕಾವ್ಯ ಭಾಗ **03 ಗಂಟೆಗಳು**

1. ಡಿವಿಜಿ ರವರ ಮಂಕುತಿಮ್ಮನ ಕಗ್ಗದಿಂದ ಆಯ್ದ ಕೆಲವು ಭಾಗಗಳು
2. ಕುರುಡು ಕಾಂಚಾಣ: ದ.ರಾ. ಬೇಂದ್ರೆ
3. ಹೊಸಬಾಳಿನ ಗೀತೆ : ಕುವೆಂಪು

ಘಟಕ - 4

ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ **03 ಗಂಟೆಗಳು**

1. ಡಾ. ಸರ್ ಎಂ. ವಿಶ್ವೇಶ್ವರಯ್ಯ: ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯ – ಎ.ಎನ್. ಮೂರ್ತಿರಾವ್
2. ಕರಕುಶಲ ಕಲೆಗಳು ಮತ್ತು ಪರಂಪರೆಯ ವಿಜ್ಞಾನ – ಕರೀಗೌಡ ಬೀಚನಹಳ್ಳಿ

ಘಟಕ – 5

ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಕಥೆ ಮತ್ತು ಪ್ರವಾಸ ಕಥನ **03 ಗಂಟೆಗಳು**

1. ಯುಗಾದಿ : ವಸುಧೇಂದ್ರ
2. ಮೆಗಾನೆ ಎಂಬ ಗಿರಿಜನ ಪರ್ವತ : ಹಿ.ಚಿ. ಬೋರಲಿಂಗಯ್ಯ

TEXT BOOKS :

1	**ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ** – ಡಾ. ಹಿ.ಚಿ. ಬೋರಲಿಂಗಯ್ಯ ಮತ್ತು ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ ಪ್ರಕಟಣೆ: ಪ್ರಸಾರಾಂಗ, ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ. **ಸೂಚನೆ :** ಹೆಚ್ಚಿನ ಮಾಹಿತಿ ಮತ್ತು ವಿವರಣೆಗಳಿಗೆ ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ (9900832331) ಇವರನ್ನು ಸಂಪರ್ಕಿಸಿ. ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ, ಕೋರ್ಸ್ ಆಯ್ಕೆ ಮಾಹಿತಿ, ಅಧ್ಯಯನ ಸಾಮಗ್ರಿ ಮತ್ತು ಬಹು ಆಯ್ಕೆ ಮಾದರಿಯ ಪ್ರಶ್ನೆಗಳ ಕೈಪಿಡಿಗಾಗಿ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವೆಬ್‌ಸೈಟ್ ನೋಡುವುದು.

Course Outcomes :

After the completion of this course, students will be able to:

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ನಂತರ ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ:

CO1 : ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಕುರಿತು ಅರಿವು ಮೂಡಿರುತ್ತದೆ.

CO2 : ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಕಲಿತು ಹೆಚ್ಚಿನ ಓದಿಗೆ ಮತ್ತು ಜ್ಞಾನಕ್ಕೆ ಸ್ಫೂರ್ತಿ ಮೂಡುತ್ತದೆ.

CO3 : ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿ ಹೆಚ್ಚಾಗುತ್ತದೆ.

CO4 : ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳು ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ತಿಳಿದುಕೊಂಡು ನಾಡಿನ ಇನ್ನಿತರ ವ್ಯಕ್ತಿಗಳ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳುವ ಕೌತುಕತೆ ಹೆಚ್ಚಾಗುತ್ತದೆ.

CO5 : ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3						3
	CO2										3						3
	CO3										3						3
	CO4										3						3
	CO5										3						3

SIDDAGANGA INSTITUTE OF TECHNOLOGY
Tumakuru-572103

(An Autonomous Constituent Institution of Visvesvaraya Technological University, Belagavi)

SCHOOL OF ARCHITECTURE

DETAILED SYLLABUS FOR
SECOND SEMESTER
B. ARCHITECTURE

ARCHITECTURAL DESIGN - I

Contact Hours/Week	:	07	Credits	:	7.0
Total Lecture Hours	:	45	CIE Marks	:	50
Total Studio Hours	:	60	SEE Marks	:	50
Course Code	:	2ATS01	Exam Mode	:	Viva

Course Objectives: This course will enable students to:

1. Nurture ideation of a functional space crafted by robust elements in an aesthetic manner.
2. Observe and analyze three dimensional forms in natural and built environments.
3. Explore architectural drawings as a medium of representation of an architectural intent.
4. Create architectural spaces with simple functional requirements.

COURSE OUTLINE:

- Spatial Interpretations – Movement, transformation, visual connections, linkages, volumetric relationships.
- Relationship of activities to space – Users data, circulation diagrams, deriving optimum areas. Various activities and their relationship with space.
- Generation of 3D form – Study of form development of historical monuments learnt earlier with respect to philosophy, principles, elements, context, and materials. Observation and analysis of natural or organic forms. Exercises to derive three dimensional forms with strong conceptual framework.
- Projects involving organization of multiples of single unit space with horizontal and vertical movement as well as single use public buildings of small scale.
- Types of projects: House for myself, Farmhouse, Villa, Architect's Office, Personal workspaces, post office/ Taluk office
- Detailing of any building element like staircase, skylight, courtyard, entrance lobby etc. of the project handled.

NOTE:

a. Exercises related to each unit have to be carried out distinctively.
b. Relevant case studies and literature studies can be given by the studio teachers and a report has to be compiled by the students.
c. One or more design exercises can be carried out as group work to explore possibilities of students working as teams.
d. Vertical studio involving other semesters can be encouraged to carry out one full or part project.
e. The portfolio covering the above topics shall be presented viva.
f. Projects to be presented with the help of drawings, sketches, and models. Application of techniques learnt in visual arts and architectural graphics must be incorporated.
g. The projects listed in the syllabus are only to state the scale and complexity. The projects of similar scope can be introduced by the teachers.

REFERENCE BOOKS:

1.	Maurice de Sausmarez	Basic Design - The Dynamics of Visual Form, Bloomsbury USA, 2009 ISBN : 9780713683660
2.	Ernest E. Burden	Design Communication- Developing Promotional Material for Design Professionals, McGraw-Hill Bk. Company, 1987, ISBN : 9780070089327, 0070089329
3.	John Hancock Callender	Time-saver Standards for Architectural Design Data, McGraw-Hill, 1974 ISBN : 9780070096479, 0070096473
4.	Charles George Ramsey, Harold Reeve Sleeper	Architectural Graphic Standards; Wiley Publishers, 1998 ISBN : 9780471247623, 0471247626
5.	Yatin Pandya	Elements of Space Making; Mapin Publishing, 2013 ISBN : 9781935677307, 1935677306
5.	Francis D. K. Ching	Architecture Form, Space, & Order; Wiley, 2014 ISBN : 9781118745083, 1118745086

Course Outcomes: After the completion of this course, students will be able to:

1. **Derive** three dimensional forms with strong conceptual framework inspired from historic studies.
2. **Interpret** various spatial characteristics and volumetric relationships.
3. **Demonstrate** space creation with horizontal and vertical movement through single use public building of small scale.
4. **Design** and detail appropriate building elements for the project.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1			3				3			3			3			
	CO2		2	2										2			
	CO3			3		2		2			3			3			
	CO4							2			3			3			

BUILDING MATERIALS AND CONSTRUCTION - II

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	15	SEE Marks	:	50
Total Studio Hours	:	45	CIE marks	:	50
Course Code	:	2ATS02	Exam mode	:	Viva

Course Objectives: This course will enable students to:

1. Get introduced to timber as building material.
2. Familiarize with conventional types of doors and windows with carpentry joinery details.
3. Get introduced to various flooring and paving materials.

COURSE OUTLINE:

- **Wood** - Natural, hard and soft wood; quality, properties; joints in wood.
- **Timber** - Quality of Timber used in buildings External and Internal, defects, seasoning and preservation.
- **Wooden doors** - Types of wooden Doors: Doors with Frames, Doors on Pivot, Single & Double shutters, Wood with Glass shutters.
- **Wooden windows** - Types of wooden windows & ventilator; Casement, Top Hung & Fixed types, joinery details.
- **Timber Roof** - Lean to roof, Collared Roof, King post roof, Queen Post Roof; details of joinery.
- **Staircase** - Anthropometry of stairs, types of Staircases.
- **Timber Stairs** - Single and Double Stringer stairs: construction methods and joinery.
- **Traditional roofing** - Jack Arch, Madras terrace, stone slab roof, inverted earthen pot roof, 'Guna' roof (burnt clay vaulted roof).
- **Introduction to Floor finishes** - Mud flooring, Murrum flooring, and Stone flooring in marble, granite, tandur/kota stone, other flooring in mosaic, terrazzo, ceramic tiles, wooden flooring and polished concrete, low embodied (grey) energy and sustainable flooring: Laying, Fixing and Finishes.
- **Introduction to Paving** - Cast in situ concrete including vacuum dewatered flooring, concrete tiles, interlocking blocks, clay tiles, brick and stone.

NOTE:

a. Minimum one plate on each construction topic and study of material in the form of portfolio.
b. Miniature models to scale should be done for the construction related topics.
c. Site visits to timber yards, Saw mills, Carpentry workshops, and case studies of timber staircases, roofs and trusses to be arranged by studio teachers and report to be compiled by students.
d. Market survey of materials should be carried out by students.
e. The entire portfolio on construction and materials shall be presented for viva.

REFERENCE BOOKS:

1.	Chudley	Construction Technology, Prentice Hall, 1993, ISBN: 978-0131286429
2.	Barry	Construction Of Buildings, Volume- 5, East West Press, 1999, ISBN: 978-8176710053
3.	W.B. Mc Kay	Building construction, Pearson Education India, 2013. ISBN: 978-8131504291
4.	Glenn M Hardie	Building Construction - Principles, Practices and Materials Pearson, 1995, ISBN: 0133505707

Course outcomes: After the completion of the course, students will be able to:

1. **Explore** timber and its application in buildings.
2. **Interpret** conventional types of timber doors, windows and staircases.
3. **Identify** the types of flooring and paving materials used.
4. **Illustrate** the details of timber roof trusses.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3											3		3		
	CO2	3									3		3		3		
	CO3	3											3		3		
	CO4	3									3		3		3		

ARCHITECTURAL GRAPHICS - II

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Studio Hours	:	45	SEE Marks	:	50
Course Code	:	2ATS03	Exam Mode	:	Term Work

Course Objectives: This course will enable students to:

1. Get introduced to fundamental principles of development of surfaces and section of solids.
2. Understand the methods of sketching free hand perspectives.
3. Familiarize with construction techniques of one point and two-point perspectives.
4. Understand the principles of Sciography and graphical representation methods.

COURSE OUTLINE:

- **3D-Projections** - exercises in 3D representation of exploded isometric and axonometric views of objects, furniture and built forms.
- **Development of surfaces** - architectural roof forms, built enclosures and envelopes such as tents, upholstery etc..
- **Section of Solids** - of geometrical solids and construction of true shapes.
- **Interpenetration** of geometric solids, combination of different forms in architectural compositions.
- **Introduction to perspectives** - Principles of perspective drawings and varying visual effects of three-dimensional objects. Study and understanding of picture plane, cone of vision, center of vision, station point, ground level, horizon level or eye level, vanishing points, their variations and resultant effects.
- **Introduction to the methods of constructing perspective drawings** – Free hand sketches of one-point, two-point and three-point perspectives of building exterior with surroundings and interior view of a room.
- **Construction of one-point perspective** drawings of building elements and Building forms.
- **Construction of two-point perspective** drawing of any buildings, corridors, interiors etc.
- **Principles of Sciography** - study and understanding of light, shade and shadow. Standardization of direction of light and graphical representation methods of constructing shadow patterns. Construction of shadow patterns of planes and solids at different positions, different shapes and their combinations.
- **Construction of shadow patterns for Buildings** - Plans, Elevations, Perspective views and develop the site plan for different time of the day.

NOTE:

a. Exercises related each unit has to be carried out precisely.
b. Relevant teaching aids can be presented by the studio teachers and report has to be compiled by the students.
c. Two-point perspectives of an interesting building with sloped roofs against suitable background or fore ground with trees & other street furniture to be depicted in the exercises.
d. The portfolio covering above topics shall be presented for viva.

REFERENCE BOOKS:

1	Francis D.K. Ching	Architectural Graphics, 4th Edition, John Wiley, 2015, ISBN-10: 111903566X, SBN-13: 978-1119035664
2	I. H. Morris	Geometrical Drawing for Arts Students, Orient, 2006, ISBN-10: 8125026096
3	Robert.W.Gill	Rendering with pen and ink, Thames & Hudson, 1984, ISBN-10: 9780500680261, ISBN-13: 978-0500680261
4	Milind Mulik	Perspective, Jyotsna Prakashan, 2006, ISBN-10: 8179251349, ISBN-13: 978-8179251348

Course Outcomes: After the completion of this course, students will be able to**:**

1. **Illustrate** the basic principles of surface development of solids.
2. **Apply** the skills in drafting sections and interpenetration of solids.
3. **Develop** perspective drawings for various building forms.
4. **Implement** the principles of Sciography for constructing shadow patterns.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1										3						3
	CO2										3						3
	CO3										3						3
	CO4										3						3

DESIGN THEORY AND PRINCIPLES

Contact Hours/Week	:	04	Credits	:	4.0
Total Lecture Hours	:	15	SEE Marks	:	50
Total Studio Hours	:	45	CIE marks	:	50
Course Code	:	2ATS04	Exam mode	:	Viva

Course Objectives: This course will enable students to:

1. Get introduced to the basic design principles in Architectural design.
2. Interpret the applications of organizing principles in design.
3. Familiarize with types of Ornamentation and their characteristics.
4. Identify the characteristics of building materials and architectural styles.

COURSE OUTLINE:

- **Principles of Architectural composition**- Unity, Balance, Proportion, scale, contrast, harmony, accentuation, restraint, definition, repose, vitality, strength. Illustrations and application to the practice of design in historical and contemporary buildings.
- **Organizing principles of Architectural composition**- Symmetry, Asymmetry, Hierarchy, Datum, Axis, Rhythm, Repetition. Illustrations and application to the practice of design.
- **Spatial organizations of masses in Architecture** -Linear, centralized, radial, clustered and grid organization. Illustrations and application to the practice of design in historical and contemporary buildings.
- **Ornamentation in Architecture** - Historical perspective of the use of ornament in buildings. Use and need of ornament in architectural design. Different types of ornamentation in buildings. Colour in Architecture- Effect of colour in architecture, colour symbolism in various culture.
- **Materiality & Style in Architecture** - Materials in architecture - Use of different building materials like brick, timber, stone, concrete and glass for aesthetic and structural purposes. Style in architecture – Definition and aspects that contribute to characterize a style. Various factors for evolution of styles. Basis for classification of styles.

NOTE:

a. Discussions, presentations, Study models, case studies & Activities will be part of the studio work.
b. The portfolio covering all the progressive and final works shall be presented for Viva.

c. Submission will include Idea generation, Study models, Sketches, and drawings to achieve the desired results.

REFERENCE BOOKS:

1.	Francis D. K. Ching	"Architecture: Form, Space, & Order", Wiley, 2014. ISBN: 9781118745083, 1118745086
2.	Parmar V S	"Design Fundamentals In Architecture", Somaiya Publications Pvt. Ltd., 1997. ISBN: 978-8170391708
3	Paul Alan Johnson	"Theory Of Architecture: Concepts, Themes And Practices" , Wiley, 2018. ISBN: 978-8126572021
4	Yatin Pandya	"Elements Of Space Making", Grantha Corporation, 2014. ISBN: 978-1935677307
5	Jon Lang	"Creating Architectural Theory: Role Of Behavioural Sciences In Environmental Design", John Wiley & Sons Inc, 1987. ISBN: 978-0442259815

Course Outcomes: After the completion of the course, students will be able to:

1. **Apply** the different fundamental principles of design to create abstract compositions.
2. **Interpret** various principles of spatial organisation to the given problem.
3. **Comprehend** architectural styles through historic and contemporary examples.
4. **Explore** the possibilities of using different materials as structural and aesthetic components in a building.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3															3
	CO2	2		3													3
	CO3	2															3
	CO4	3		3													3

SITE SURVEYING AND ANALYSIS

Contact Hours/Week	:	02	Credits	:	2.0
Total Lecture Hours	:	-	CIE Marks	:	50
Total Practical Hours	:	30	SEE Marks	:	50
Course Code	:	2ATS05	Exam Mode	:	Term Work

Course Objectives: This course will enable students to:

1. Gain the knowledge and skills related to surveying and levelling principles.
2. Explore the methods of surveying and prepare survey plans.

COURSE OUTLINE:

- **Introduction to Surveying** – Definition, classification, principles of surveying, character of work, shrunk scale. Introduction to Chain Surveying Instruments – Chain and its types, Ranging Rod, Tapes, pegs.
- **Chain Surveying 1** – Ranging and Types of Ranging. Chain Surveying 2 – Setting out angles, erecting perpendicular, Obstacles in chain surveying, calculation of area by offsets.
- **Plane Table Surveying** – Accessories used advantages and disadvantages, Methods of plane table surveying (radiation and intersection).
- **Levelling** – Definition, Classification, booking and reduction of levels (HI Method, Rise and Fall Method).Levelling – Profile levelling – Calculation of depth of cutting and filling. Contouring: Characteristics of contours, direct and indirect methods of contours, interpolation and uses of contours.
- **Introduction to Contemporary Survey Instruments** – Theodolite, Total Station, GPS, Theodolite – Basic Concepts, Measuring horizontal and vertical angles. Total Station – Accessories used, uses of total station and applications, Introduction to GPS
- **Observation and Analysis of a Site** – Survey without instruments using geometry and anthropometric measures. To learn a terrain on site factors like topography, hydrology, soils, landforms, vegetation, climate and micro climate and influence of water bodies.

- **Studying Survey Drawing** – Learning to read a land survey drawing, types of land survey drawing, scale and north, legends and symbols.

REFERENCE BOOKS:

1	B C Punmia	Surveying Volume I, Firewall Media, 2005
2	K R Arora	Surveying, Standard Book House,7th edition.
3	R. Subramanian	Fundamentals of Surveying and Levelling, Oxford Uni. Press., 2014.
4	S K Duggal	Surveying, Vol 1, 14th Edition, McGraw Hill Education, 2013.
5	TP Kanetkar, SV Kulkarni	Surveying and Levelling (Part-1), PuneVidyarthi Griha Prakashan, 2014.

Course Outcomes: After the completion of this course, students will be able to**:**

1. **Explore** the basic concepts of site survey and its importance in architecture.
2. **Analyze** the topographical characteristics of a given site for its effective use in site planning.

Mapping of Course Outcomes (cOs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3											3		3		
	CO2	3				3							3		3		

HISTORY OF ARCHITECTURE-II

Contact Hours/Week	:	03	Credits	:	3.0
Total Lecture Hours	:	45	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	2ATT01	Exam mode	:	Theory

Course Objectives: This course will enable students to:

1. Understand the evolution and philosophies of Ecclesiastical architecture in the Western world.
2. Recognize the architectural characteristics of Various Architectural Styles from the Renaissance period till Industrial Revolution.
3. Understand the influence of revivals on Architecture.
4. Analyze the impact of the industrial revolution on Architecture and the beginning of Modernism.

UNIT I

Evolution of **Ecclesiastical Architecture**: **Early Christian** - Study of Architectural Characteristics, the evolution of church plan and study of principles of design of buildings. Eg: - Basilicas: Old St Peter's Basilica, Basilica of St Clemente, Baptistery: Baptistry of Constantine, Rome

Byzantine Architecture - Study of Architectural Characteristics, structural concepts, material and ornamentation. Eg: Hagia Sophia at Constantinople and St. Marks Basilica at Venice. **08 Hrs**

UNIT II

Introduction to **Medieval architecture**- Italian, French, Anglo Saxon and Norman.

Italian Romanesque. Eg: -The Cathedral, The Campanile and The Baptistery, Pisa

French Romanesque. Eg: Angouleme Cathedral, France, The Abbey Church of Sainte-Foy in Conques, France

Ecclesiastical: **Gothic** - Study of Architectural Characteristics, structural concepts and ornamentation. Concept of the pointed arch, the ribbed vault and the flying buttress and aesthetic elements. Examples: Chartres Cathedral, West Minster abbey, London, Notre Dame, Paris, Reims Cathedral, Reims (France). **09 Hrs**

UNIT III

Background and influences on **Renaissance Architecture**. Characteristics of Renaissance Architecture in general. Filippo Brunelleschi -The dome of the Cathedral of Santa Maria del Fiore (the Duomo) in Florence, Leon Alberti -St Andrea Mantua and Palazzo Rucellai, Palladio -Villa Rotunda, Michelangelo-St. Peter's Rome, Sir Christopher Wren- St. Paul's London. General characteristics of Baroque -St Peter/s Piazza by Bernini and Rococo Styles-Hermitage Winter Palace in St. Petersburg. **08 Hrs**

UNIT IV

Transitional period -A brief account of the situations before the changeover to modern architecture, in Europe. **REVIVALS:** Palladia revival in Britain-Chiswick House, London, Mere-worth castle, Kent, Greek revival -St Pancras Church, London, British Museum, London and Gothic Revival-West Minister Palace, London, Strawberry Hill House, London. Impact of Industrial Revolution in Europe- The Social, Economic and Political changes affected, new requirements of the society, new materials and technological developments. Early Industrial Buildings The Eiffel Tower, Paris, Crystal Palace, London **10 Hrs**

UNIT V

The Chicago School, works of Sullivan- Wain Wright Building, St Louis, Guaranty Building, Buffalo. Contributions of Bauhaus- Bauhaus school at Dessau, De Stijl movement -Schroder house by Rietveld, **Italian Futurism**-Antonio Sant' Elias Station for Airplanes and Trains, **Art Nouveau**- Casa Batlo, Sagrada Familia, Tassel House, Brussels, Arts and Crafts movement- Red House London. **10 Hrs**

NOTE:

a. Assignments to include study of concepts relating to cultural and religious beliefs and structure.
b. Models, sketches and analytical studies can be carried out individually or in groups.

REFERENCE BOOKS:

1.	Banister Fletcher	A History of Architecture on the Comparative Method for Students, Craftsmen & Amateur; B.T. Batsford, Limited, 1901, ISBN: 9781343929623, 1343929628
2.	HenriStierlin, Anne Stierlin	Greece - From Mycenae to the Parthenon, Taschen, 1997, ISBN: 9783822885789, 3822885789
3.	Henri Stierlin, Anne Stierlin	The Roman Empire - From the Etruscans to the Decline of the Roman Empire, Taschen, 2002, ISBN: 9783822817780, 3822817783
4.	Spiro Kostof	The City Shaped Urban Patterns and Meanings Through History , Thames & Hudson,1999, ISBN: 9780500280997, 0500280991
5.	Marco Bussagli	Italian Renaissance Architecture, July 2019, ISBN: 9783741922275, 3741922277
6.	Henry-Russell Hitchcock	Architecture - Nineteenth and Twentieth Centuries, Yale University Press, 1987, ISBN: 9780300053203, 0300053207
7.	Kenneth Frampton	Modern Architecture - A Critical History, WW Norton, September 2020, ISBN: 9780500204443, 0500204446

Course Outcomes: After the completion of this course, students will be able to:

1. **Elucidate** the evolution of the Church during early Christian Architecture.
2. **Comprehend** the architectural characteristics of building technologies of medieval period.
3. **Appreciate** the architectural characteristics, design principles and innovations occurred during Renaissance, Baroque and Rococo periods.
4. **Recognize** the influences and their interpretations in the buildings built during transitional period.
5. **Analyse** the Impact of the Industrial Revolution and its effect on evolution of various styles of architecture.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	2														3	
	CO2	2														3	
	CO3	3														3	
	CO4	2														3	
	CO5	3														3	

BUILDING STRUCTURES - I

Contact Hours/Week	:	03	Credits	:	3.0
Total Lecture Hours	:	45	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	2ATT02	Exam mode	:	Theory

Course Objectives: This course will enable students to:

1. Get introduced to various structural elements and systems.
2. Identify various loads acting on a building and the support reactions.
3. Familiarize with concepts of Force systems and Equilibrium of Forces.
4.

UNIT I

Introduction to structural systems – An overview into evolution of structures through history with examples.
Different construction materials with emphasis on structural properties viz. steel , concrete, wood, glass, aluminium. Different types of loads, the structure is being subjected to as per IS 875 Part I & II. **09 Hrs**

UNIT II

Mechanics - Classification of mechanics, force, characteristics of force, classification of force system, Resultant of force, Composition of force, Axioms in mechanics, Principles of transmissibility, Moment of force, Resultant of coplanar concurrent force system, and Free body diagrams. **09 Hrs**

UNIT III

Resultant of coplanar noncurrent force system, couple & characteristics of couple, different types of loads, different types of beams, statically determinate & statically indeterminate, different types of supports, problems on support reactions, Equilibrium of Co-planar Concurrent and Non-Concurrent forces.
Note: In the numerical pertaining to support reactions, loading on the beam shall be restricted to only point load & uniformly distributed load. **09 Hrs**

UNIT IV

Center of gravity, centroid, to locate the centroid of composite section from the 1st principles. Moment of inertia, radius of gyration, parallel axis theorem, perpendicular axis theorem. Numericals on determination of moment of inertia of composite section about any defined axis. **09 Hrs**

UNIT V

Truss - Triangulation concept, different types of trusses, assumption made in the analysis of truss. Analysis of the truss by the "Method of Joints" (Simple problems) to calculate the dead weight of the truss from given data. **09 Hrs**

REFERENCE BOOKS:

1.	S. S. Bhavikatti	Elements of Civil Engineering (4th Edition), Vikas Publishing House, New Delhi. ISBN-13 : 978-8125918288, ISBN-10 :8125918280
2.	Dr. R K Bansal	Engineering Mechanics (8th edition), Laxmi Publications, ISBN: 9788131808559
3.	Basavarajaiah & Mahadevappa	Strength of materials (3rd Edition), Khanna Publishers, New Delhi. ISBN-10 : 8173714584, ISBN-13 : 978-8173714580
4.	Martin Bechthold and Daniel L Schodek	STRUCTURES, Pearson Education, New Delhi. 7th Edition, 2014, ISBN (13): 978-0-13-255913-3, ISBN (10):0-13-255913-3
5.	Robers A Heller and Deborah J Oakley	Salvadori's Structure in Architecture, 4th Edition - Pearson Education, New Delhi. 2017, ISBN (13): 978-0-13-280320-5, ISBN (10):0-13-280320-8

Course Outcomes: After the completion of this course, students will be able to:

1. **Evaluate the** structural properties of materials, Specifications and applications as per IS Codes.
2. **Classify** forces, force systems, moment of force and draw free body diagrams.
3. **Calculate** the support reactions, equilibrium of Co-planar Concurrent and Non-Concurrent forces.
4. **Determine** centroid, Moment of Inertia, Radius of gyration of various sections.
5. **Predict** the dead weight of truss considering various materials and joining parameters.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1	3													3		
	CO2	3			3										3		
	CO3	3													3		
	CO4	3													3		
	CO5	3													3		

PROFESSIONAL WRITING SKILLS IN ENGLISH

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC02-AT	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Identify the Common Errors in Writing and Speaking of English.
2. Achieve better Technical writing and Presentation skills for employment.
3. Read Technical proposals properly and make them to write good technical reports.
4. Acquire Employment and Workplace communication skills.
5. Learn about Techniques of Information Transfer through presentation in different level.

UNIT I

Identifying Common Errors in Writing and Speaking English: Common errors identification in parts of speech, Use of verbs and phrasal verbs, Auxiliary verbs and their forms, Subject Verb Agreement (Concord Rules), Common errors in Subject-verb agreement, Sequence of Tenses and errors identification in Tenses. Words Confused/Misused. **03 Hrs**

UNIT II

Nature and Style of sensible writing: Organizing Principles of Paragraphs in Documents, Writing Introduction andConclusion, Importance of Proper Punctuation, Precise writing and Techniques in Essay writing, Sentence arrangementsand Corrections activities. Misplaced modifiers, Contractions, Collocations, Word Order, Errors due to the Confusion of words. **03 Hrs**

UNIT III

Technical Reading and Writing Practices: Technical writing process, Introduction to Technical Reports writing,Significance of Reports, Types of Reports. Introduction to Technical Proposals Writing, Types of Technical Proposals,Characteristics of Technical Proposals. Scientific Writing Process. Grammar – Voices and Reported Speech, Spotting Error& Sentence Improvement, Cloze Test and Theme Detection Exercises. **03 Hrs**

UNIT IV

Professional Communication for Employment: Listening Comprehension, Types of Listening, Listening Barriers,Improving Listening Skills. Reading Comprehension, Tips for effective reading. Job Applications, Types ofofficial/employment/business Letters, Resume vs. Bio Data, Profile, CV. Writing effective resume for employment, Emails,Blog Writing and Memos. **03 Hrs**

UNIT V

Professional Communication at Workplace: Group Discussion and Professional Interviews, Characteristics and Strategiesof a GD and PI's, Intra and Interpersonal Communication Skills at workplace, Non-Verbal Communication Skills and itsimportance in GD and Interview. Presentation skills and Formal Presentations by Students, Strategies of Presentation Skills. **03 Hrs**

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning:

- Contents related activities (Activity-based discussions)
- For active participation of students instruct the students to prepare Flowcharts and Handouts
- Organizing Group wise discussions Connecting to placement activities
- Quizzes and Discussions, Seminars and assignments
-

TEXT BOOKS:

1	"Professional Writing Skills in English" published by Fillip Learning - Education (ILS), Bangalore, 2022.
2	"Functional English" (As per AICTE 2018 Model Curriculum) (ISBN-978-93-5350-047-4) Cengage learning India Pvt Limited [Latest Edition 2019]

REFERENCE BOOKS:

1.	N.P. Sudharshana and C.Savitha	English for Engineers, Cambridge University Press -2018
2.	Gajendra Singh Chauhan and Et al	Technical Communication , Cengage learning India Pvt. Limited [Latest Revised Edition] – 2019, (ISBN-978-93-5350-050-4),
3.	Meenakshi Raman and Sangeetha Sharma	Technical Communication — Principles and Practice, Third Edition, Oxford University Press 2017.
4.	Wren and Martin	High School English Grammar & Composition, S Chandh & Company Ltd, 2015.
5.	M Ashraf Rizvi	Effective Technical Communication - Second Edition, McGraw Hill Education (India) Private

INDIAN CONSTITUTION

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC05-AT	Exam Mode	:	Theory

Course Objectives: This course will enable the students to:

1. Know about the basic structure of Indian Constitution.
2. Know the Fundamental Rights (FR's), DPSP's and Fundamental Duties (FD's) of our constitution.
3. Know about our Union Government, political structure & codes, procedures.
4. Know the State Executive & Elections system of India.
5. Learn the Amendments and Emergency Provisions, other important provisions given by the constitution.

UNIT I

Indian Constitution: Necessity of the Constitution, Societies before and after the Constitution adoption. Introduction to the Indian constitution, Making of the Constitution, Role of the Constituent Assembly. **03 Hrs**

UNIT II

Salient features of India Constitution. Preamble of Indian Constitution & Key concepts of the Preamble. Fundamental Rights (FR's) and its Restriction and limitations in different Complex Situation building. **03 Hrs**

UNIT III

Directive Principles of State Policy (DPSP's) and its present relevance in Indian society. Fundamental Duties and its Scope and significance in Nation, Union Executive : Parliamentary System, Union Executive – President, Prime Minister, Union Cabinet. **03 Hrs**

UNIT IV

Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Judicial System of India, Supreme Court of India and other Courts, Judicial Reviews and Judicial Activism. **03 Hrs**

UNIT V

State Executive and Governor, CM, State Cabinet, Legislature - VS & VP, Election Commission, Elections & Electoral Process. Amendment to Constitution, and Important Constitutional Amendments till today. Emergency Provisions.
03 Hrs

TEXT BOOKS:

1	"Constitution of India" (for Competitive Exams) - Published by Naidhruva Edutech Learning Solutions, Bengaluru - 2022.
2	"Introduction to the Constitution of India", (Students Edition.) by Durga Das Basu (DD Basu) : Prentice Hall, 2008

REFERENCE BOOKS:

1.	Shubham Singles, Charles E. Haries, and et al	"Constitution of India, Professional Ethics and Human Rights", Cengage Learning India, Latest Edition - 2019.
2.	Merunandan K B	"The Constitution of India", Merugu Publication, Second Edition, Bengaluru.

3.	Justice H N Nagamohan Dhas, Sahayana, kerekon	"Samvidhana Odu" - for Students & Youths by.
4.	M. Govindarajan, S. Natarajan, V.S. Senthilkumar	"Engineering Ethics", Prentice Hall, 2004.

Course Outcomes: The students will be able to:

1. **Analyze** the basic structure of Indian Constitution.
2. **Remember** their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
3. **Know** about our Union Government, political structure & codes, procedures.
4. **Understand** our State Executive & Elections system of India.
5. **Remember** the Amendments and Emergency Provisions, other important provisions given by the constitution.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1											2					3
	CO2											2					3
	CO3											2					3
	CO4											2					3
	CO5											2					3

SCIENTIFIC FOUNDATIONS OF HEALTH

Contact Hours/Week	:	01	Credits	:	1.0
Total Lecture Hours	:	15	CIE Marks	:	50
Total Tutorial Hours	:	--	SEE Marks	:	50
Course Code	:	CC07-AT	Exam Mode	:	Theory

Course Objectives: This course will enable students to:

1. Know about Health and wellness (and its Beliefs) & It's balance for positive mindset.
2. Build the healthy lifestyles for good health for their better future.
3. Create a Healthy and caring relationships to meet the requirements of good/social/positive life.
4. Learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future
5. Prevent and fight against harmful diseases for good health through positive mindset

UNIT I

Good Health &its balance for positive mindset: Health -Importance of Health, Influencing factors of Health, Health beliefs, Advantages of good health, Health & Behavior, Health & Society, Health & family, Health & Personality, Psychological disorders- Methods to improve good psychological health, changing health habits for good health. **03 Hrs**

UNIT II

Building of healthy lifestyles for better future: Developing healthy diet for good health, Food & health, Nutritional guidelines for good health, Obesity & overweight disorders and its management, Eating disorders, Fitness components for health, Wellness and physical function, How to avoid exercise injuries **03 Hrs**

UNIT III

Creation of Healthy and caring relationships : Building communication skills, Friends and friendship - Education, the value of relationship and communication skills, Relationships for Better or worsening of life, understanding of basic instincts of life (more than a biology), Changing health behaviors through social engineering. **03 Hrs**

UNIT IV

Avoiding risks and harmful habits: Characteristics of health compromising behaviors, Recognizing and avoiding of addictions, How addiction develops, Types of addictions, influencing factors of addictions, Differences between addictive people and non addictive people & their behaviors. Effects of addictions, how to recover from addictions. **03 Hrs**

UNIT V

Preventing & fighting against diseases for good health: How to protect from different types of infections, How to reduce risks for good health, Reducing risks & coping with chronic conditions, Management of chronic illness for Quality of life, Health & Wellness of youth :a challenge for upcoming future, Measuring of health & wealth status. **03 Hrs**

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

- Contents related activities (Activity-based discussions)
- For active participation of students instruct the students to prepare Flowcharts and Handouts
- Organizing Group wise discussions Connecting to placement activities
- Quizzes and Discussions, Seminars and assignments

TEXT BOOKS:

1.	"Scientific Foundations of Health" – Study Material Prepared by Dr. L Thimmesha, Published in VTU- University Website.
2.	"Scientific Foundations of Health", (ISBN-978-81-955465-6-5) published by Infinite Learning Solutions, Bangalore – 2022.
3.	Health Psychology - A Textbook, FOURTH EDITION by Jane Ogden McGraw Hill Education (India) Private Limited - Open University Press.

REFERENCE BOOKS:

1.	Charles Abraham, Mark Conner, Fiona Jones and Daryl O'Connor	Health Psychology (Second edition) , Routledge 711 Third Avenue, New York, NY 10017.
2.	SHELLEY E. TAYLOR	HEALTH PSYCHOLOGY (Ninth Edition) , McGraw Hill Education (India) Private Limited - Open University Press
3.		SWAYAM / NPTL/ MOOCS/ We blinks/ Internet sources/ YouTube videos and other materials / notes.
4.		Scientific Foundations of Health (Health & Welness) - General Books published for university and colleges references by popular authors and published by the reputed publisher.

Course Outcomes: Students will be able to:

1. **Understand** and analyze about Health and wellness (and its Beliefs) &its balance for positive mindset.
2. **Develop** the healthy lifestyles for good health for their better future.
3. **Build** a Healthy and caring relationships to meet the requirements of good/social/positive life.
4. **Learn** about Avoiding risks and harmful habits in their campus and outside the campus for their bright future.
5. **Prevent** and fight against harmful diseases for good health through positive mindset.

Mapping of Course Outcomes (COs) to Program Specific Outcomes (PSOs)

		POs												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
COs	CO1												3				3
	CO2												3				3
	CO3												3				3
	CO4												3				3
	CO5												3				3