

Architectural Design Studio I			
Course Code	2BAT101	Scheme	2026
Type of Course	IPCC	Semester	1
Teaching Hours/Week (L:T:P)	: :	CIE Marks	100
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	: : : :	SEE Marks	100
Credits	10	Total Marks	200
Examination type (SEE)	Viva- Voce	Exam Hours	-
Course objectives: 1. Acquainting students with the fundamentals of visual thinking, design thinking, processes of ideation and processes of making. 2. Cultivating a sense of design literacy through incremental exercises that balance intuitive approaches towards exploration with structured methods and iterative processes. 3. Encouraging curiosity and experimentation through inquiry that goes beyond problem-solving. This studio provides a foundation in bridging across visual thinking, design principles, spatial narratives & visualization of architectural space. The core of the course dwells on the idea of abstraction and how the principles of design are thematic notions that enable the association of narrative & function with designed spaces and objects.			
Module-1			
The Interrelationship between Art & Design <i>Anyone who uses a properly designed object feels the presence of an artist who has worked for (them), bettering (their) living conditions and encouraging (them) to develop (their) taste and sense of beauty.</i> - Bruno Munari (26, Design as Art) Understanding the basics of composition, the relationship between context, narrative and medium through studying selected works of art from various art movements or art cultures across time and geographies. The art studied will primarily be paintings. Introduction to colour theory and its applications in graphic design, space design and public installations. Short exercises - 2 weeks Teaching-Learning Methods: Input sessions: Introduce the work of various well-known and influential artists, demonstrate how paintings can be studied (visual layers, layers of metaphor & meaning, context in time, role of the medium used). The study of graphics for advertisements, movie posters, logo design etc. Screening of documentaries on art and design. Possible exercise formats: Ice-breaker exercises for exploratory free-hand sketching. Studying art movements (presented as seminars). Workshops introducing various mediums of representation (water colours, acrylic colours, graphite, charcoal, dry pastels, etc.). Colour studies through sketching, blending, patternmaking, collaging, etc. Designing posters, logos, stage backdrops etc. to explore formats of composition and to initiate discussions on the principles of design. Suggested Deliverables: medium-exploration sheets, presentations on specific art movements / works of art, designed posters			
Module-2			

Point, Line & Plane as the Fundamental Units of Pattern & Design

Point, line, plane as the basic units of design-making. Studying patterns and textures in nature, art forms and buildings to understand the role of repetition, variation and disruption.

Short/incremental exercises - 2 weeks

Teaching-Learning Methods:

Input sessions: Interpreting the idea of point, line and plane through various examples from art and architecture, using images and simple diagrammatic models. Examples discussed in the previous module can be extended to this exercise. Discussing patterns and textures through relevant examples in art and architecture (patterns in nature, surface-ornamentation of buildings, structural and spatial modules of buildings etc.)

Possible exercise formats: Workshops to introduce diagramming through simple line drawings and models. Diagrammatic studies of interpretations of point, line and plane. Sketch-noting. Nature-walks and heritage walks for on-site sketching, observation and recording of patterns and textures. Making diagrammatic models. Comparing architectural examples through diagrams.

Suggested Deliverables: Sketch-noting studio journal, photographic study sheets, diagrammatic models using millboard and/or scrap, digital/hand-done compilations of pattern studies.

Module-3

Principles of Design & Organization, Abstraction, Narrative-building & Form-making

Understanding the role of narratives in design, and how these narratives can be translated into 2-dimensional and 3-dimensional explorations. Introduction to basic principles of design (including but not limited to balance, rhythm, contrast, restraint, symmetry, accentuation, etc.) and organization (linear, axial, radial, clustered, etc.) to be understood through studies and exercises.

Model-making as a tool for iterative design explorations and form-making through additive and subtractive methods. Working with the possibilities and limitations of various model-making materials.

Short/incremental exercises - 3 weeks

Teaching-Learning Methods:

Input sessions:

Narratives and applications of principles of design and organization through various examples (e.g. painting, sculpture, furniture, graphics, architectural spaces). Showing examples of the applications of the principles of design and organization in architecture, using photographs and drawings. The principles of design could become an entry point to narrative-building.

Demonstrating the significance of storytelling and narrative-building in design through various selected examples (e.g. through reading works of fiction with descriptions of spaces). Presentations to demonstrate abstraction as a tool for architectural design (e.g., begin with object studies and layer on complexity to talk about architectural space). Workshops introducing various materials and techniques for model-making.

Possible exercise formats: Reading selected texts to visualize and represent qualities of architectural space through sketches and drawings, which could be further explored through models. Translation and/or Interpretation of 2-dimensional compositions into 3-dimensional forms (e.g. understanding a 2-D pattern/painting in terms of lineweights, depths and textures and translating it into a 3-D interpretive model). Model-making through subtractive methods of sculpting stereotomic solids (e.g. using modelling clay, plaster of Paris, concrete, etc.) and additive methods of combining composite materials (e.g. different grades of paper, mill-board, foam-board, plywood, scrap metal, etc.) to create spatial models. The model-making exercise could also be used for interpreting the principles of design.

Suggested Deliverables: Sketch sheets, conceptual models without the constraints of scale and/or function

Module-4

Space & Perception of Space through the Body

Discussing and exploring how space is experienced by our bodies. Size, Scale and the distinction between them. Understanding how the body's range of motion and functional requirements influence and determine the relative dimensions of designed space, while introducing the notion of degrees of comfort. Introduction to standards for designing spaces (Neufert's, Timesaver Standards, etc.)

Short/incremental exercises - 2 weeks

Teaching-Learning Methods:

Input sessions: Introduction to anthropometry through in-class demonstrations and 1:1 studies. Visiting various locations within the city (e.g. public transport, markets, clinics, small commercial establishments etc.) for on-site engagement and discussions. Demonstrating ways to use our own bodies to measure and record spatial dimensions.

Possible exercise formats: Photographic, sketched and dimensioned anthropometric studies of various formats of single-user and multi-user spaces. Short exercises with dimensioned drawings for spatial modules/furniture whose dimensions are derived from formats of human usage. Building temporary 1:1 spatial installations within the campus for the use of people / building 1:1 furniture/stall prototypes.

Module-5

Interpreting User Needs, Constraints and Form-making to design Functional Space

Designing a single-user space / small multi-user space for up to 5 users (the typologies explored could include but not be limited to: a home for one person, office/study/studio space for 2-3 people, vending kiosk/small eatery/public pavilion/transit point etc.). The process of design must integrate function-based requirements, user studies and form exploration based on material systems.

Continuous design exercise - 4-5 weeks

Teaching-Learning Methods:

Studio discussions: The discussions will build upon layers including interpreting spatial requirements and user needs, building a narrative for design, requisite furniture layouts, space optimization, exploration of form and material systems. Spatial qualities and their appropriateness to the function assigned (e.g. inside-outside, degrees of enclosure, quality of light & ventilation)

Deliverables: Including but not limited to : Ideation process drawings and models, design development drawings and/or mixed-media explorations (e.g. model-making montages with annotations) presentation sheets and models.

Suggested Learning Resources: (Textbook/ Reference Book/ Manuals):

Reference books / Manuals:

1. Bruno Munari, 'Design as Art', Penguin Classics, 2008
2. John Berger, 'Ways of Seeing', Penguin Books, 2008
3. Josef Albers, 'Interaction of Color', Yale University Press, 2013
4. Neil Bingham, '100 years of Architectural Drawing', Yale University Press, 2013
5. Christine Chitnis, 'Patterns of India: A Journey Through Colors, Textiles, and the Vibrancy of Rajasthan', Clarkson Potter, 2020
6. Matthew Wilson, 'Art Unpacked: 50 Works of Art: Uncovered, Explored, Explained, Thames Hudson, 2023
7. Francis D.K. Ching, 'Architecture: Form, Space, and Order', John Wiley, John Wiley, 2023
8. Simon Unwin, 'Analysing Architecture: The universal language of place-making', 5th Ed, Routledge, 2020
9. Eric J. Jenkins, 'Drawn to Design: Analyzing Architecture Through Freehand Drawing', Birkhauser, 2013
10. Nao Saito, 'Travels Through', Tara Books, 2018

COURSE METHODOLOGY:

The foundation studio intends to cultivate a holistic approach towards observing, interpreting, analyzing, recording, discussing and finally applying the various factors that need to be considered for the act of design. It acknowledges the role of interdisciplinarity in shaping how design evolves.

To that end, the studio format must enable processes of research, ideation and designing that are both intuitive and iterative, where the intuitive can unlock creative possibilities while the iterative refines responses based on constraints and considerations. The exercises may be interconnected and incremental, building complexity over the semester. The guidance offered must encourage free discussion of ideas between students and faculty, peer-engagement and individual exploration.

Suggested Deliverables: Scaled human posture studies for various day-to-day activities, schematic drawings for furniture/spatial modules (e.g. study area, sleeping area, kitchen garden etc.). Compilation of these drawings for ready-reference.

Group-based 1:1 spatial installation (e.g. rest area on campus, design of storage for studio etc.) **if attempted** must be supported with process sketches and photo-documentation of making, installation and usage.

COURSE OUTCOME:

The Foundation Studio will ensure that the students acquire basic skills of sketching and diagramming for abstraction and design thinking, effective composition and organization of visual and textual content, and are familiarized with various mediums, materials and techniques of representation & model-making.

The course will help build in students the competence to distil complex ideas into explorations of form and space, effectively communicating design processes through representation.

Sl. No.	Key Modules Covered + Skill Enhancement	Bloom's Taxonomy Level
1.	The Interrelationship between Art & Design Basic sketching skills, building familiarity with mediums	BL 01-02
2.	Introduction to Principles of Design & Organization Analysis through comparative study, simplifying complex ideas into diagrams	BL 02 / BL 04
3.	Abstraction, Narrative-building & Form-making Interpreting text and images, explorative model-making, deciding suitability of materials based on constraints given	BL 02 / BL 04
4.	Space & Perception of Space through the Body Making accurate scaled drawings, understanding and critiquing existing spatial standards	BL 03 / BL 05
5.	Interpreting User Needs, Constraints and Form-making to design Functional Space Synthesizing requirements, choosing material systems for form-exploration, designing a compact space	BL 06

Assessment Structure:

The assessment in each course is divided equally between Continuous Internal Evaluation (CIE) and the Semester End Examination (SEE), with each carrying 50% weightage.

- To qualify and become eligible to appear for SEE, in the **CIE**, a student must score at least **40 % of maximum marks for CIE**.
- To pass the **SEE**, a student must score at least **50% of Maximum marks for SEE**.
- Notwithstanding the above, a student is considered to have **passed the course**, provided the combined total of **CIE and SEE** is at least **50% out of 100 marks**.

Continuous Internal Evaluation (CIE): Rubrik for Evaluation

A comprehensive portfolio of exercise outcomes over the semester is to be compiled in a suitable format. The final design exercise must be supported with adequate process sheets, presentation sheets, study models and presentation models.

Progressive grading of initial exercises: 40 % (Skill Enhancement: 20, Creative Thinking: 20)

Final design exercise : 60 (Ideation Process: 20, Appropriate Response to Design Considerations : 20, Effective Representation: 20)

In the initial exercises, skill development could be given greater consideration. In the design exercise, greater consideration must be given to the ability to effectively demonstrate one's understanding of key concepts and ideation processes.

Its recommended to call the practicing architects to intermediately for reviews, to give the students practical exposure/ approach

Semester End Examination (SEE):

Semester End Examination:

1. The student needs to submit his/her works done throughout the semester, including rough sheets for the Viva examination, at least one day prior to the Viva work examination to the course teacher/coordinator.
2. The Viva-voce will be evaluated by an external faculty appointed by the University along with course faculty or an internal examiner.
3. The SEE marks list generated is to be signed by both internal and external examiners and submitted to VTU in the sealed cover through the principal of the institution.

Materials and Construction – I / Stereotomic Construction Systems			
Course Code	2BAT102	Scheme	2026
Type of Course	IPCC	Semester	1
Teaching Hours/Week (L:T:P)	28: 00: 42: 80	CIE Marks	100
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	150 hrs	SEE Marks	100
Credits	05	Total Marks	200
Examination type (SEE)	Theory (Drawing)	Exam Hours	4
Course Learning objectives: This course introduces students to stereotomic construction systems and the philosophy of architecture as an expression of mass and compression. It develops an understanding of masonry materials, construction assemblies, and traditional earth-based building systems and their influence on building form and envelope. It aims at enabling students to evaluate their structural behaviour, climatic response, sustainability, and architectural expression.			

Module 1 - Architectural Logic, Material Origin & History (1 Week - 2:0:3:5)	
Introduction to Stereotomic Construction Systems: • Introduction of stereotomic and tectonic systems and their influence on built form. • Definition of stereotomic construction systems as an expression of mass and compression. • Tracing masonry traditions and their logic, from the Eurasian practices to medieval India and Karnataka. • Role of masonry in shaping settlements through case examples.	
Teaching - Learning Process	Theory with relevant examples for masonry traditions. Field visit to explore masonry traditions.
Module 2 - Material in Basic Unit Form, its Properties & Structural Behaviour (2 Weeks - 4:0:6:10)	
Masonry units and Substructure: • Materials in their basic unit form - brick, stone, CSEB, Clay blocks, Cement blocks • Understanding material properties - density, durability, moisture movement and porosity and relating it to thermal comfort. • Awareness of Indian codes like IS 1077 - Common Burnt Clay Building Bricks, IS 1905 - Code of Practice for Structural Use of Unreinforced Masonry. • Understanding the types of mortars and their applications - lime-based, mud and cement mortar • Understanding the foundation system through the lens of load transfer, bearing capacity, settlement and selection criteria in brick and stone. Necessity of a damp-proof course and plinth.	
Teaching - Learning Process	Theory with demonstrative sessions in the studio/material lab. Students should touch, weigh, measure, and test the materials. Group discussions to explore and understand codes on masonry materials. Site visits to explore plinth construction and demonstrate the application of damp proof courses.
Module 3 - Material Assembly, Fenestration & Surface Finishes (3 Weeks - 6:0:9:20)	
Wall Assembly and Openings: • Introduction to basic structural systems - Load Bearing, Framed and Composite Systems and their load path. • Comparison of load-bearing wall systems including rat trap bond, cavity walls and multi-leaf (composite) walls through the lenses of structural logic, construction sequence and thermal performance. • Spanning techniques for fenestrations - corbelling, arches, lintels and lattice screen windows (jaali). • Understanding and application of Finishes & Wall Protection Measures - plastering, pointing and washes, using lime, mud & cement.	
Teaching - Learning Process	Theory with demonstrative sessions in the studio/material lab to analyse loading patterns in structural systems Workshop exercises to explore masonry techniques in fenestrations.
Module 4 - Roof / Floor System, Vertical Circulation (4 Weeks - 8:0:12:20)	

Horizontal Spanning: • Identification of roof and floor spanning systems. • Principles of Arches, Vaults and Domes through thrust and load path. • Methods of construction - Jack Arches, Madras Terrace, Rohtak Dome, Stone Slab Terrace, Lime Concrete, and Hollow Block Slabs. • Floor finishes and Weatherproofing - Lime Concrete, Brick Bat Coba, stone, brick and oxides Vertical circulation • Masonry Staircases and support systems - Arches, Vaults • Application of finishes in staircases - stone, lime, brick and oxides.	
Teaching - Learning Process	Theory with demonstrative sessions in the studio to understand spanning systems. Measure drawing as a tool to explore the logic of the staircase.
Module 5 - Composite masonry forms & Construction Process (4 Weeks - 8:0:12:25)	
Composite Masonry: • Overview of Composite masonry assemblies - Kath Kuni, Geo-polymer Masonry, Interlocking Block Masonry, Earth Bags, 3D-printed Earth walls, Poured Earth, Rammed Earth, Precast Poured Earth, Reinforced Masonry, Gabions. Sustainability: • Parameters of sustainability for Design Decisions - Material Origin, Embodied Energy, Thermal Performance, Density, Durability, and Life cycle thinking. Synthesis: • Studio exercise to develop a comprehensive masonry wall section. Students can choose material for the wall section, synthesising the masonry construction sequence from all modules.	
Teaching - Learning Process	Student seminar/Group discussion on advanced masonry systems. Theory inputs and group discussion on sustainable parameters.

Course Outcomes At the end of the course the student will be able to:		
Sl. No.	Particulars	Blooms Level
CO1	Understand the relevance of stereotomic construction and its importance in the historic evolution of masonry and earth-based constructions.	BL 02
CO2	Understand the physical, structural, and thermal properties of masonry materials (brick, stone, CSEB, clay, rammed earth) and identify appropriate material selection criteria for a given construction condition.	BL 01 - 02
CO3	Distinguish between spanning and vertical circulation methods and apply basic principles of load path and thrust behaviour to compare the structural suitability of different systems for a given span or loading condition	BL 03 - 04
CO4	Evaluate material suitability against parameters of Embodied Energy, Material Life-Cycle, Density and Durability, to support informed material selection in architectural design	BL 03 - 04
CO5	Develop a complete, detailed drawing of a masonry wall section that integrates construction sequence, finishes, and sustainability considerations.	BL 04 - 05

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50%, and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/course if the student secures not less than 50% in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

1. Students will be required to produce a portfolio, compiled with exercises from all modules and topics, for assessment at the end of the semester. The portfolio will be a mix of hand-drafted sheets, seminar assignments, case study/site visit/workshop reports and any other assignments and documentation proposed by the studio faculty.
2. Methods of CIE can be defined topic wise i.e. - Submission of construction drawing sheets, Journal of materials, Multiple Choice Question, Quizzes, open-book test, Seminar or micro project
3. The subject faculty, at the beginning of the semester, shall decide the method and weightage of evaluation, which should total to 100 marks.
4. Suggested assignments can be on the lines of
 - a. Module 1 - Material Narratives (Graphic Narrative to understand timelines and evolution). **Suggested method:** Seminar/ graphic narrative sheet. **CO mapping:** CO1
 - b. Module 2 - Combining and interpreting learnings from all masonry traditions | Addressing the logic of wall assembly | Representations of foundation systems + DPC systems. **Suggested method:** Journal of materials, Construction drawing for foundation systems and DPC, requiring students to select a material based on a stated thermal/durability condition. **CO mapping:** CO1, CO2
 - c. Module 3 - Exploration of logic and types of masonry, fenestration and plaster finishes. **Suggested method:** Measured drawing or workshop exercises. **CO mapping:** CO2, CO3
 - d. Module 4 - Exploring the logic of spanning techniques along with interpreting and understanding the anthropometry, constraints and work-arounds in masonry staircases. **Suggested method:** Construction drawing/measure drawing for spanning techniques and staircase | Workshop exercises to experiment with various spanning techniques. **CO mapping:** CO4
 - e. Module 5 - Wall Section synthesising construction sequence, finishes, sustainability parameters and other learning from previous modules. **Suggested method:** Micro-project/Construction sheets requiring students to demonstrate all learning from the previous semester. **CO mapping:** CO5

Semester End Examination:

The student will sit for a written+drafting (drawing sheet to be provided) examination, administered by the university in alignment with other theory examinations. Suggested scheme for the Question Paper

Module 1: Question 1 - Theory | Question 2 - Theory Module

2: Question 3 - Theory | Question 4 - Drafting Module 3:

Question 5 - Drafting | Question 6 - Drafting Module 4:

Question 7 - Drafting | Question 8 - Drafting Module 5:

Question 9 - Drafting | Question 10 - Drafting

Suggested Learning Resources:

Books

Core references

1. Francis Ching, D. K. '*Building Construction Illustrated*'. 7th Ed. Hoboken, NJ: Wiley, 2025.
2. Francis Ching, D. K., Barry S. Onouye, and Douglas Zuberbuhler. '*Building Structures Illustrated: Patterns, Systems, and Design*'. 2nd Ed. Hoboken, NJ: Wiley, 2014.
3. Roy Chudley, Roger Greeno, and Karl Kovac. '*Chudley and Greeno's Building Construction Handbook*'. 13th Ed. New York: Routledge, 2024.
4. Andrea Deplazes, ed. '*Constructing Architecture: Materials, Processes, Structures — A Handbook*'. 5th ed, Basel: Birkhäuser Architecture, 2018.
5. Madan Mehta, Walter Scarborough, and Diane Armpriest, '*Building Construction: Principles, Materials, and Systems*'. 3rd Ed. Hoboken, NJ: Pearson, 2017.

Construction Philosophy

6. Kenneth Frampton, '*Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*'. Edited by John Cava. Cambridge, MA: MIT Press, 2001.
7. Eric Höweler, '*Design for Construction: Tectonic Imagination in Contemporary Architecture*'. New York: Routledge, 2025.
8. Chad Schwartz, '*Introducing Architectural Tectonics: Exploring the Intersection of Design and Construction*'. 2nd Ed. New York: Routledge, 2021.

Masonry & Earth Construction

9. Edward Allen, '*Stone Shelters*. Cambridge', MA: MIT Press, 1969. **OUT OF PRINT**
10. Gautam Bhatia, '*Laurie Baker: Life, Work and Writings*'. New Delhi: Penguin Books, 1994.
11. David Easton, '*The Rammed Earth House*'. Rev. ed. White River Junction, VT: Chelsea Green Publishing, 2007. (E-Copy available)
12. Otto Kapfinger, and Marko Sauer, eds. '*Martin Rauch: Refined Earth — Construction and Design of Rammed Earth*'. 3rd Ed. Munich, 2022.
13. Gernot Minke, '*Building with Earth: Design and Technology of a Sustainable Architecture*'. 5th Ed, Basel: Birkhäuser, 2025.

Sustainability

14. Conway, Ed. '*Material World: A Substantial Story of Our Past and Future*'. London: WH Allen, 2024.
15. David J. Lewis, Marc Tsurumaki, and Paul Lewis, '*Manual of Biogenic House Sections*'. San Francisco: ORO Editions, 2022.

Indian Context

16. Gambhir, M. L., and Neha Jamwal, '*Building Materials: Products, Properties and Systems*'. New Delhi: McGraw Hill Education (India), 2017
17. Central Building Research Institute (CBRI). '*Publications on Masonry, Earth Construction and Low-Cost Technologies*'. Roorkee: CBRI, various years.
18. Housing and Urban Development Corporation (HUDCO). '*Appropriate Building Materials and Technologies*'. New Delhi: HUDCO

Web links and Video Lectures (e-Resources):

Webpages

1. Auroville Earth Institute. "Arches, Vaults & Domes (AVD) Construction."
2. Auroville Earth Institute. "Stability Notions."
3. Auroville Earth Institute. "Stabilised Rammed Earth Walls."

PDFs

4. Bureau of Indian Standards. IS 1077: Common Burnt Clay Building Bricks — Specification. New Delhi: BIS. (Available for purchase/download through the BIS e-portal.)
5. Bureau of Indian Standards. IS 1905: Code of Practice for Structural Use of Unreinforced Masonry. New Delhi: BIS. (Available for purchase/download through the BIS e-portal.)

HISTORY OF ARCHITECTURE I																			
Course Code	2BAT103	Scheme	2026-27																
Type of Course	PCC	Semester	01																
Teaching Hours/Week (L:T:P)	03	CIE Marks	100																
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	90	SEE Marks	100																
Credits	03	Total Marks	200																
Examination type (SEE)	Theory	Exam Hours	03																
Global Architectural History - 100,000 BCE - 330 CE Overview of world architectural histories to establish a broad global framework of concepts, movements, and contexts. - Prioritize conceptual understanding. - Focus on the architecture of the Indian subcontinent within a broader Global South context. Course outcome: At the end of the course, the student will be able to interpret: Architecture and Ritual - Examines how religious, civic, and ceremonial practices influence architectural design. Settlement and Urban Form - Looks at how geography, economy, and culture shape urban patterns. Sacred Architecture - Explains symbolism, spatial organization, and ritual functions. Domestic Architecture - Considers family life, privacy, and social organization. Public and Monumental Architecture - Architecture as an expression of political power and collective identity. Continuity and Change – Evolution of architectural traditions through innovation, technology, and cultural exchange.																			
Module-1																			
First Societies: Hunter- Gatherers, Pastoral, Agriculture; Cave, Hut & Tent																			
<table><tr><th colspan="2">Framework for Module 1 & 2</th></tr><tr><th>Theme</th><th>Evolution</th></tr><tr><td>Setting</td><td>Natural landscape → modified settlement</td></tr><tr><td>Shelter</td><td>Cave → Hut → Tent → Permanent dwelling</td></tr><tr><td>Settlement</td><td>Temporary camps → Villages → Ritual landscapes</td></tr><tr><td>Materials</td><td>Natural materials → Composite construction systems</td></tr><tr><td>Space</td><td>Functional shelter → Social and symbolic space</td></tr><tr><td>Architecture</td><td>Survival need → Cultural expression</td></tr></table> Origins of Built Form - Early Human Settlements and the Emergence of Architecture Evolution of primitive shelters, settlements, and communal spaces: Temporary shelters and dwellings, Early permanent settlements, Collective and ritual landscapes Examples: Oval Hut, Nice – Early evidence of human shelter and spatial organization. Çatalhöyük Settlement, Turkey – Dense Neolithic settlement demonstrating domestic organization, community life, and symbolic spaces. Megalithic Architecture – Early monumental structures associated with burial and ritual practices: - Dolmen tombs - Gallery graves - Passage graves Henge Monuments – Ceremonial landscapes and astronomical alignments, Stonehenge, England Number of Hours: 06				Framework for Module 1 & 2		Theme	Evolution	Setting	Natural landscape → modified settlement	Shelter	Cave → Hut → Tent → Permanent dwelling	Settlement	Temporary camps → Villages → Ritual landscapes	Materials	Natural materials → Composite construction systems	Space	Functional shelter → Social and symbolic space	Architecture	Survival need → Cultural expression
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Module-2																			
First Societies of the Global South: Hunter- Gatherers, Pastoral, Agriculture; Cave, Hut & Tent																			

<table><tr><th>Theme</th><th>Example</th></tr><tr><td>Cave / Natural Shelter</td><td>Bhimbetka</td></tr><tr><td>Hut / Early Settlement</td><td>Çatalhöyük</td></tr><tr><td>Pastoral / Mobile Architecture</td><td>Maasai Manyatta</td></tr><tr><td>Agricultural Village</td><td>Mehrgarh</td></tr><tr><td>Ritual Monument</td><td>Göbekli Tepe</td></tr><tr><td>Early Urban Centre</td><td>Jericho; Caral</td></tr><tr><td>Monumental Indigenous Settlement</td><td>Great Zimbabwe</td></tr></table>	Theme	Example	Cave / Natural Shelter	Bhimbetka	Hut / Early Settlement	Çatalhöyük	Pastoral / Mobile Architecture	Maasai Manyatta	Agricultural Village	Mehrgarh	Ritual Monument	Göbekli Tepe	Early Urban Centre	Jericho; Caral	Monumental Indigenous Settlement	Great Zimbabwe	Number of Hours: 06
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Module-3																	
River Valley Civilizations																	
Framework for Module 3,4 & 5																	
SYNOPTIC STUDY																	
Civilization / Period																	
↓																	
Regional Character (Setting, Rituals, Resources)																	
↓																	
Form + Building Materials + Construction Systems																	
↓																	
Characteristic Examples + Anomalous Examples																	
↓																	
Continuity + Change																	
Mesopotamia - Ziggurats at Warka, Ur and Tchoga Zanbil, Palace of Sargon																	
Egypt - Mastabas, Great Pyramid of Giza, Temple of Khons																	
Indus Valley - Layout of Mohenjo-Daro, Great Bath, Granary, Dholavira, Lothal																	
China – Banpo, Erlitou, Yinxu (Anyang), timber-frame and Rammed-earth fortifications																	
Number of Hours: 12																	
Module-4																	
Pre-Classical & Greek Civilization: Mycenaean, Etruscan, Persian & Greek																	
Pre-Classical																	
Mycenaean, Etruscan, Persian (Achaemenid) E.g.: Lion Gate and Treasury of Atreus, Mycenae; Palace of Tiryns (Megaron), Etruscan Temples (Juno Sospita, Lanuvium), Tomb of Cyrus, Palace of Persepolis.																	
Greek Civilization																	
Characteristic features - Doric, ionic and Corinthian orders and optical correction.																	
Acropolis, Parthenon, Theatre at Epidaurus, Agora																	
Number of Hours: 09																	
Module-5																	
Roman Civilization																	
Roman Civilization																	
Characteristic features - Tuscan and composite order																	
Pantheon, Colosseum, Thermae of Caracalla, Pont du Gard, Nimes, Basilica of Trajan.																	
Apartments, Civic Space – Triumphal Arches, Commemorative Columns, Forum																	
Number of Hours: 09																	
Suggested Learning Resources: (Text Book/ Reference Book/ Manuals):																	
Text books:																	
1. Francis DK Ching, Mark Jarzombek, and Vikramaditya Prakash, ‘A Global History of Architecture’, 3 rd Ed, Wiley, 2017																	
2. Spiro Kostof, ‘A History of Architecture: Settings and Rituals’, Oxford University Press, 1985																	
3. John Summerson, ‘The Classical Language of Architecture’, MIT Press, 1966																	
4. Sir Banister Fletcher, ‘History of Architecture’, 20 th Ed, CBS Publishers, 1999																	
Reference books / Manuals:																	
1. Roger H. Clark, Michael Pause, ‘Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis’, 4 th Ed, John Wiley, 2012																	

2. Francis D. K. Ching, 'Architecture Form Space And Order', 5Ed, John Wiley, 2023
3. Eric J. Jenkins, 'Drawn to Design: Analyzing Architecture Through Freehand Drawing', Birkhauser, 2013
4. Bertrand Russell, 'History Of Western Philosophy, Routledge, 2020

Web links and Video Lectures (e-Resources):

Precedent, Diagram, and the Activation of History, ROBERT WEDDLE, Drury University

Learning Resources

- Integrate site visits, archives, and local case studies.
- Leverage digital archives, GIS, photogrammetry, and virtual tours.
- Encourage engagement with primary sources alongside textbooks

Suggested Learning Activities:

Method and Design Integration

- Shift from information recall to interpretation.
- Encourage abstraction, diagramming, and analytical thinking.
- Emphasize spatial, climatic, structural, and cultural ideas over stylistic classification.
- Foster comparative analysis across periods, regions, and building types to connect history with contemporary design.

Skills Development

- Strengthen visual literacy through analytical drawing and diagramming.
- Develop research, writing, presentation, and graphic communication skills.

Learning Resources

- Integrate site visits, archives, and local case studies.
- Leverage digital archives, GIS, photogrammetry, and virtual tours.
- Encourage engagement with primary sources alongside textbooks.

Assessment Structure:

The assessment in each course is divided equally between Continuous Internal Evaluation (CIE) and the Semester End Examination (SEE), with each carrying 50% weightage.

- To qualify and become eligible to appear for SEE, in the **CIE**, a student must score at least **40% of maximum marks for CIE**,.
- To pass the **SEE**, a student must score at least **50 % of Maximum marks for SEE**.
- Notwithstanding the above, a student is considered to have **passed the course**, provided the combined total of **CIE and SEE** is at least **50 out of 100 marks**.

Continuous Internal Evaluation (CIE):

Assessment

- Reduce reliance on memory-based examinations.
- Use iterative assignments that value inquiry, process, and critical exploration.

Semester End Examination (SEE):

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (duration 03 hours)

1. The question paper will have ten questions. Each question is set for 20 marks.
 2. There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), should have a mix of topics under that module.
- The students have to answer 5 full questions, selecting one full question from each module. Marks scored by the student will be scale down to 50 Marks

Graphics and Visual Representation			
Course Code	2BAT104	Scheme	2026
Type of Course	PCC	Semester	01
Teaching Hours/Week (L: T:P)	0:0:56:0	CIE Marks	100
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	120	SEE Marks	100
Credits	04	Total Marks	200
Examination type (SEE)	Theory (Drawing)	Exam Hours	04
Course Learning objectives: Architectural Graphics introduces the principles and discipline of manual architectural drafting. Through geometric construction and graphical representation, students should develop the ability to accurately communicate architectural ideas using the conventions of the profession.			

Module 1 - Foundations of Manual Drafting (1 Week)	
Introduction to: • Drawing and Drafting Instruments and Conventions • Line Weights and Hierarchy • Sheet Composition / Sheet Template • Introduction to Fonts and lettering	
Teaching - Learning Process	Students shall develop familiarity with drafting instruments, drawing conventions, and sheet organisation through guided studio exercises focusing on precision, line quality, and graphical discipline
Module 2 - Geometric construction (2 Weeks)	
• Understanding the basics of Point, Line and Plane • Basics of solid geometry and surface Development: Cube, Cuboid, Pyramid, Prism, Cylinder etc.	
Teaching - Learning Process	Students shall undertake manual construction of fundamental geometrical forms and curves through studio exercises, relating geometric principles to simple architectural applications.
Module 3 - Orthographic Representations (3 Weeks)	
• Projection Principles: Introduction to Orthographic Projections such as Plans, Sections and Elevations in Architectural representations. • Introduction to Scales and Dimensions	
Teaching - Learning Process	Students shall learn to read and manually draft plans, elevations, and sections of simple objects and built forms through progressive studio exercises. Freehand sketches and physical models may be used to strengthen spatial understanding.
Module 4 - Three-dimensional Representation (4 Weeks)	

Overview and Principles of: ● Isometric drawings ● Axonometric drawings ● Exploded Isometric or Axonometric Drawings	
Teaching-Learning Process	Students shall manually construct isometric and axonometric representations of simple architectural forms to develop three-dimensional visualization and graphical communication. Freehand sketches may supplement the drafting process. The same object/forms from Module 3 can be continued.
Module 5 - Perspective and Presentation (4 Weeks)	
Overview and Principles of: ● One-point perspective ● Two-point perspective ● Overview of Principles of shade and shadow (basics of Sciography) Graphical presentation: Introduction to the basics of rendering	
Teaching-Learning Process	Students shall produce perspective drawings and introductory graphical presentations of simple built forms through manual drafting, supported by freehand sketches and observational studies where appropriate. Only an overview of Rendering and Presentation can be presented. Alternatively, faculty can use the same set of simple built forms for all Modules 3, 4 and 5 as a continuous engagement.

Course Learning Outcomes		
At the end of the course the student will be able to:		
C01	Apply the principles and conventions of manual architectural drafting using appropriate drawing instruments, line hierarchy, lettering and scales.	BL01
C02	Construct and represent geometrical forms and architectural elements with accuracy using manual drafting techniques.	BL02
C03	Represent simple architectural forms through orthographic, isometric, axonometric and perspective drawings.	BL02
C04	Demonstrate visual communication through manual drafting supported by freehand sketching and graphical presentation.	BL03
C05	Compile a portfolio of manually drafted drawings that demonstrates precision, clarity and graphical quality in architectural representation.	BL04
Assessment Details (both CIE and SEE)		
The weightage of Continuous Internal Evaluation (CIE) is 50%, and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/course if the student secures not less than 50% in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together. Continuous Internal Evaluation: - Students will be required to produce a portfolio, compiled with exercises from all modules and topics, for assessment at the end of the semester. The portfolio will be a mix of hand-drafted sheets, and if any other assignments and documentation proposed by the studio faculty. - Methods of CIE can be defined topic wise i.e.- Submission of drawing sheets, support sketches and models wherever necessary. - The subject faculty, at the beginning of the semester, shall decide the method and weightage of evaluation, which should total to 100 marks. Semester End Examination (SEE): The student will sit for a written+ drafting (drawing sheet to be provided) examination, administered by the university in alignment with other theory examinations. Theory SEE will be conducted by university as per the scheduled timetable, with common question papers for the subject (duration 03 hours) - The question paper will have ten questions. Each question is set for 20 marks. - There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), should have a mix of topics under that module. - The questions shall be answered by drafting or sketching (to scale) the solution The students must answer 5 full questions, selecting one full question from each module.		
Suggested Learning Resources:		
Books		
- Paolo Belardi, 'Why Architects Still Draw'. Cambridge, MA: MIT Press, 2014. - Neil Bingham, '100 Years of Architectural Drawing: 1900–2000'. London: Thames & Hudson Publishing, 2013. - Francis Ching, D. K. 'Architectural Graphics'. 6th Ed. Hoboken, NJ: John Wiley & Sons, 2020. - Francis Ching, D. K., and Steven P. Juroszek. 'Design Drawing'. 3rd Ed. Hoboken, NJ: John Wiley & Sons, 2019. - Edward Hutchison, 'Drawing for Landscape Architecture: Sketch to Screen to Site'. London: Thames & Hudson, 2019. - Eric Jenkins, J. 'Drawn to Design: Analysing Architecture through Freehand Drawing'. Basel: Birkhäuser Architecture, 2012. - Lewis, Paul, Marc Tsurumaki, and David J. Lewis. 'Manual of Section'. New York: Princeton Architectural Press, 2016. - Rendow Yee, 'Architectural Drawing: A Visual Compendium of Types and Methods'. 4th Ed. Hoboken, NJ: John Wiley & Sons, 2020. - Mo Zell, 'The Architectural Drawing Course: Understand the Principles and Master the Practices'. London: B E S Pub Co, 2008.		

Semester End Examination – Model Question Paper

I Semester – Graphics and Visual Representation

Course Code: 2BAT104

Max. Marks: 100

Time: 03 hours

Instructions:

- Answer **any** one question from each Module. All questions carry 20 marks.
- Drawings shall be neat, accurate and properly proportioned.
- Use appropriate drawing instruments, line weights, lettering and graphical conventions wherever required.
- All sketches/drawings should be properly titled and dimensioned wherever applicable.

Q. No.	Question	CO	BL	Marks
Module 1				
Q1(a)	Explain the purpose and use of drawing/drafting instruments and architectural drawing conventions.	C01	L2	6
Q1(b)	Prepare a standard architectural drawing sheet/template showing margins, title block, line weights, hierarchy and lettering.	C01	L3	14
OR				
Q2(a)	Explain the importance of line weights, line hierarchy and architectural lettering conventions.	C01	L2	8
Q2(b)	Demonstrate different line types/weights and architectural lettering on a suitable drawing sheet.	C01	L3	12
Module 2				
Q3(a)	Explain the basic concepts of point, line and plane.	C02	L2	6
Q3(b)	Construct cube, cuboid, pyramid and prism using appropriate manual drafting techniques.	C02	L3	14
OR				
Q4(a)	Explain the principles involved in the construction of basic solid geometrical forms.	C02	L2	6
Q4(b)	Construct and represent a cylinder, square pyramid and triangular prism using suitable construction methods.	C02	L3	14
Module 3				
Q5(a)	Explain the principles of orthographic projection, including plans, sections and elevations.	C03	L2	6
Q5(b)	Prepare the plan, elevation and section of a given simple built form using suitable scale, dimensions and line hierarchy.	C03	L3	14
OR				
Q6(a)	Explain the importance of scale and dimensions in architectural	C01/	L2	6

	representation.	C03		
Q6(b)	Produce a complete orthographic representation of a simple architectural form with plan, elevation and section.	C03	L3	14

Module 4

Q7(a)	Explain the principles of isometric and axonometric representation.	C03	L2	6
Q7(b)	Prepare an isometric drawing of a simple architectural/built form using appropriate construction and line hierarchy.	C03	L3	14

OR

Q8(a)	Explain the principles of exploded isometric/axonometric representation.	C03	L2	6
Q8(b)	Prepare an exploded isometric or axonometric drawing of a simple architectural form, clearly representing its components.	C03/ C04	L3	14

Module 5

Q9(a)	Explain the principles of one-point perspective and identify the important elements involved in its construction.	C03	L2	6
Q9(b)	Prepare a one-point perspective of a simple architectural space/built form and present it using basic rendering techniques.	C03/ C04	L3	14

OR

Q10(a)	Explain the principles of two-point perspective and the basic principles of shade and shadow.	C03	L2	8
Q10(b)	Prepare a two-point perspective of a simple architectural built form incorporating basic shade and shadow and graphical presentation.	C03/ C04	L3	12

Digital Tools I			
Credits	03	Exam Hours	-
Course Code	2BAT105	Scheme	2026
Type of Course	PCC	Semester	01
Teaching Hours/Week (L:T:P)	0:0:3:0	CIE Marks	100
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	45	SEE Marks	-
Credits	03	Total Marks	100
Examination type (SEE)	-	Exam Hours	-
Course Objectives			
At the end of the course, students will be able to: - Understand the history, evolution, and fundamental concepts of Artificial Intelligence and its relevance to architecture and design. - Explore the applications of AI in architectural ideation, visualization, design evaluation, and digital workflows. - Develop a conceptual understanding of generative AI, computational design, and responsible AI practices, including ethical considerations and bias. - Apply AI-assisted design methods and basic prompt writing to support creative exploration while critically evaluating AI-generated outputs. - Acquiring foundational skills in AutoCAD for creating accurate two-dimensional architectural drawings and digital documentation.			
Teaching–Learning Process			
- Demonstrations, diagrams and analogies to build concepts before tools. - Guided workshops on prompting, iteration and curation; structured critique of outputs. - Case studies from historical architectural practice. - A continuous ethical-reflection thread through every assignment.			
Module 1 : History and Fundamentals of Artificial Intelligence			
- Introduces the history, evolution, and fundamental concepts of Artificial Intelligence (AI). - Explores the transition from rule-based AI systems to modern generative AI technologies. - Examines how AI is transforming creative disciplines and architectural design workflows. - Explains the two fundamental approaches to generative systems: Deterministic generation – where explicit rules define and verify outcomes. Probabilistic generation – where outputs are generated from learned patterns and data. - Introduces traditional Indian generative knowledge systems, including: <i>Mayamata</i> and <i>Manasara</i> proportional (Talamana) systems. - Geometric principles of the <i>Sūlba Sūtras</i>. - Traditional measurement systems such as <i>Hasta</i> and <i>Padmanabha</i>. <i>Kolam</i> grammars as examples of algorithmic pattern generation. - Establishes AI as a continuation of historical generative design thinking rather than an entirely new concept. Provides the conceptual foundation for understanding AI in architecture and design.			
Module 2 · AI in Architectural Design – Applications and Creative Practice			

AI in Architectural Design – Applications and Creative Practice

- Introduces the role of AI throughout the architectural design process.
- Explores AI applications in:
 - Design ideation and concept development.
 - Visualization and image generation.
 - Performance analysis and design evaluation.
 - Documentation and workflow automation.
- Discusses the opportunities, benefits, and emerging challenges AI presents to architectural practice.
- Familiarizes students with contemporary AI platforms and tools, including:
 - Conversational AI assistants.
 - Text-to-image generation tools.
 - Image-to-image editing tools.
 - Emerging AI-powered video generation technologies.
- Introduces AI as a collaborative design partner that supports, rather than replaces, human creativity.
- Develops an understanding of prompt writing as a design brief for AI-assisted ideation.
- Emphasizes critical evaluation, curation, and refinement of AI-generated outputs.
- Encourages responsible, ethical, and creative integration of AI into architectural workflows.

Module 3 · Understanding Generative AI and Digital Design

- Introduces the conceptual working principles of generative AI without requiring programming knowledge.
- Explains the "black box" of AI sufficiently for students to critically interpret and evaluate AI-generated outputs.
- Describes the working of form models using simple diagrams and real-world analogies.
- Introduces generative video and motion generation as an extension of probabilistic AI models over time.
- Places generative AI within the broader context of computational and digital design workflows.
- Differentiates between rule-based computational design and generative AI, emphasizing that AI learns patterns rather than explicit rules.
- Develops students' ability to critically assess AI-generated content instead of accepting outputs at face value.

Module 4 · Responsible AI and AI-Assisted Architectural Design

- Introduces the role of data, training datasets, and bias in AI for architecture.
- Explains how data quality influences AI-generated outputs and design decisions.
- Identifies cultural, stylistic, gender, and geographic biases in AI models.
- Discusses ethical and responsible use of AI in architectural practice.
- Introduces rule-based generative design and its applications in architectural composition.
- Explores transformation rules, spatial organization, and computational form generation.
- Uses generative AI for ideation, prompt-based design exploration, and iterative refinement.
- Emphasizes the architect's role in critically evaluating and refining AI-generated designs.
- Studio Assignment: Analyze the bias of a selected AI model and apply rule-based and AI-assisted methods to develop and evaluate an architectural design proposal.

Module 5 · Introduction to AutoCAD for Architectural Drafting

- Introduces the AutoCAD interface, workspace, and coordinate systems.
- Explains basic drawing and editing commands for 2D drafting.
- Develops skills in layers, object properties, snaps, and drawing accuracy.
- Introduces dimensioning, annotation, hatching, and text tools.
- Demonstrates architectural drafting of simple plans, elevations, and sections.
- Covers layouts, scales, plotting, and preparation of printable drawings.

Course Outcomes (Semester I)

At the end of the course, students will be able to:

- **CO1:** Explain the evolution, fundamental principles, and applications of Artificial Intelligence in architecture and distinguish between deterministic and probabilistic generative systems.
- **CO2:** Demonstrate an understanding of AI-assisted architectural workflows by using AI tools for concept development, visualization, and creative exploration.
- **CO3:** Analyze AI-generated outputs by evaluating their underlying concepts, limitations, bias, ethical implications, and suitability within architectural design.
- **CO4:** Apply rule-based thinking, prompt writing, and AI-assisted methods to generate, assess, and refine architectural design alternatives responsibly.
- **CO5:** Produce accurate two-dimensional architectural drawings using AutoCAD by applying fundamental drafting, annotation, layer management, and plotting techniques.

Assessment — Continuous Internal Evaluation (CIE – 100 Marks)

No Semester End Examination. The Year-1 (Sem I-II) scheme is fixed at 40 / 30 / 30:

Component Weight Evaluated on

Module assignments (Algorithm as Design Process · Which Generative? · Data & Bias · 100 Variations) 40%

Conceptual clarity · critical engagement · quality of reflection

Studio integration (with the Architectural Design studio)

30% Appropriate use of AI · curation · digital-to-physical making (co-evaluated)

Critical essay (1,500 words · year-level) 30% The personal AI learning journey and ethical framework

Grading rule: “No partial credit for ‘impressive’ AI outputs without critical engagement.”

Suggested Learning Resources

Books

- Melanie Mitchell, ‘Artificial Intelligence: A Guide for Thinking Humans’ (2019) — accessible fundamentals’.Audio, **Pelican, 2020**
- George Stiny, Shape: Talking about Seeing and Doing (MIT Press, 2006) — rule-based design and shape grammar, **MIT Press OUT OF PRINT**
- Kim Plofker, ‘Mathematics in India- the Śulba Sūtras and India's geometric traditions’, **Princeton University Press, 2008**

Papers

- G. Stiny & J. Gips, “Shape Grammars...” (1971); G. Siromoney et al., “Array Grammars and Kolam” (1974).
https://pure.tue.nl/ws/portalfiles/portal/58416877/Gooren_0675173.pdf
- **Read as explainers: Goodfellow et al. (GANs, 2014); Ho et al. (diffusion, 2020); Vaswani et al. (transformers, 2017).**

Digital instruments and articles

- Talamana — the open prerequisite-graph of AI literacy for design students (Logika · RBDS AI Lab), forthcoming.
- J. Alammam, “The Illustrated Transformer”; <https://jalammar.github.io/illustrated-transformer/>
- L. Weng, “What Are Diffusion Models?”; <https://lilianweng.github.io/posts/2021-07-11-diffusion-models/>
- 3Blue1Brown, Neural Networks series.
https://www.youtube.com/playlist?list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi

Communicative English			
Course Code	2BAT106 /21ENG28	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	2:1:0:0 Hours	SEE Marks	----
Total Hours of Pedagogy	02 Hours/Week	Total Marks	50
Credits	00 (PP)	Exam Hours	02 hours
Course objectives: The course will enable the students, - To know about Fundamentals of Communicative English and Communication Skills in general. - To train to identify the nuances of phonetics, intonation and enhance pronunciation skills for better communication skills. - To impart Basic English grammar and essentials of important language skills. - To enhance English vocabulary and language proficiency for better communication skills. - To learn about Techniques of Information Transfer through presentation.			
Language Lab : To augment LSRW, grammar, and Vocabulary skills (Listening, Speaking, Reading, Writing and Grammar, Vocabulary) through tests, activities, exercises etc., comprehensive web-based learning and assessment systems can be referred as per the AICTE /VTU guidelines.			
Teaching-Learning Process (General Instructions) These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes. - Teachers shall adopt suitable pedagogy for effective teaching - learning process. The pedagogy shall involve the combination of different methodologies which suit modern technological tools and software's to meet the present requirements of the Global employment market. - Direct instructional method (Low /Old Technology), - Flipped classrooms (High/advanced Technological tools), - Blended learning (combination of both), - Enquiry and evaluation based learning, - Personalized learning, - Problems based learning through discussion, - Following the method of expeditionary learning Tools and techniques, - Use of audio visual methods through language Labs in teaching of LSRW skills. - Apart from conventional lecture methods, various types of innovative teaching techniques through videos, animation films may be adapted so that the delivered lesson can progress the students In theoretical applied and practical skills in teaching of communicative skills in general.			
Module-1			
Introduction to Communicative English: Introduction, Language as a Tool, Fundamentals of Communicative English, Process of Communication, Barriers to Effective Communicative English, Different styles and levels in Communicative English (Communication Channels). Interpersonal and Intrapersonal Communication Skills, How to improve and Develop Interpersonal and Intrapersonal Communication Skills.			

Teaching-Learning Process	Chalk and talk method, Videos, PowerPoint presentation to teach Communication skills (LSRW Skills), Creating real time stations in classroom discussions, Giving activities and assignments (Connecting Campus s community with companies real time situations).
Module-2	
Introduction to Phonetics : Introduction, Phonetic Transcription, English Pronunciation, Pronunciation Guidelines Related to consonants and vowels, Sounds Mispronounced, Silent and Non-silent Letters, Syllables and Structure, Word Accent and Stress Shift, – Rules for Word Accent, Intonation – purposes of intonation, Spelling Rules and Words often Misspelt – Exercises on it. Common Errors in Pronunciation.	
Teaching-Learning Process	Chalk and talk method, Videos, PowerPoint presentation and Animation videos to teach phonetics in Practical method, creating real time stations in classroom discussions, Giving activities and assignments (Connecting Campus s community with companies real time situations).
Module-3	
Basic English Communicative Grammar and Vocabulary PART - I : Grammar: Basic English Grammar and Parts of Speech - Nouns, Pronouns, Adjectives, Verbs, Adverbs, Conjunctions, Articles and Preposition. Preposition, kinds of Preposition and Prepositions often Confused. Articles: Use of Articles – Indefinite and Definite Articles, Pronunciation of ‘The’, words ending ‘age’, some plural forms. Introduction to Vocabulary, All Types of Vocabulary –Exercises on it.	
Teaching-Learning Process	Chalk and talk method, Videos, PowerPoint presentation to teach Grammar, Animation videos on communication and language skills, creating real-time stations in classroom discussions, Giving activities and assignments (Connecting Campus s community with companies real time situations).
Module-4	
Basic English Communicative Grammar and Vocabulary PART - II: Question Tags, Question Tags for Assertive Sentences (Statements) – Some Exceptions in Question Tags and Exercises, One Word Substitutes and Exercises. Strong and Weak forms of words, Words formation - Prefixes and Suffixes (Vocabulary), 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.	
Teaching-Learning Process	Chalk and talk method, PowerPoint presentation to teach Grammar and phonetics, Animation videos on communication and language skills, creating real time stations in classroom discussions, Giving activities and assignments (Connecting Campus s community with companies real time situations).
Module-5	
Communication Skills for Employment: Information Transfer: Oral Presentation - Examples and Practice. Extempore / Public Speaking, Difference between Extempore / Public Speaking, Communication Guidelines for Practice. Mother Tongue Influence (MTI) – South Indian Speakers, Various Techniques for Neutralization of Mother Tongue Influence – Exercises. Reading and Listening Comprehensions – Exercises.	
Teaching-Learning Process	Chalk and talk method, Videos, PowerPoint presentation to teach Grammar and phonetics, Animation videos on communication and language skills, creating real time stations in classroom discussions, Giving activities and assignments (Connecting Campus s community with companies real time situations).

Course outcome (Course Skill Set)

At the end of the course(21EGH18) the student 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. To 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.

Assessment Details (both CIE and SEE)

(methods of CIE need to be defined topic wise i.e.- MCQ, Quizzes, written test, Reports writing, Seminar and activities). The weightage for Continuous Internal Evaluation (CIE) is 50% and that for Semester End Exam (SEE) is 50%. The student has to obtain a minimum of 50% of the maximum marks of CIE and 40 % of maximum marks of SEE to pass a course. The average marks of CIE and SEE put together shall not be less than 50% of the marks of course. Based on the marks scored in CIE+SEE, grades for the course will be included in the grade card.

Continuous Internal Evaluation (CIE) :

Three Unit Tests each of **20 Marks (duration 01 hour)**

1. First test at the end of 7th week of the semester
2. Second test at the end of the 14th week of the semester

All the tests are preferred similar to SEE pattern; however, teacher may follow test pattern similar to other theory courses of Engineering

Two assignments each of **10 Marks**

3. First assignment at the end of 4th week of the semester
4. Second assignment at the end of 6th week of the semester

Report writing /Group discussion/Seminar any one of three suitably planned to attain the COs and POs for **20 Marks (duration 01 hours)**

5. At the end of the 13th week of the semester

The sum of two tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be **scaled down to 50 marks**

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Suggested Learning Resources:

- 1) Sanjay Kumar and Pushp Lata, “**Communication Skills**” 3rd Ed, Oxford University Press - 2016. **OUT OF PRINT**
- 2) N.P.Sudharshana and C.Savitha, “**English for Engineers**” Cambridge University Press – 2018. **OUT OF PRINT**
- 3) **Prof. Victor & Thimmesh** “**A Textbook of English Language Communication Skills**”, Rev Ed, Infinite Learning Solutions, 2026.
- 4) **Praveen Sam, KN Shoba**, “**A Course in Technical English**” Cambridge University Press – 2020.
- 5) Gajendra Singh Chauhan et al, “**Technical Communication**” Cengage learning India Pvt Limited - 2018.
- 6) **Y. Prabhavathi** “**English Language Communication Skills – Lab Manual cum Workbook**” Cengage learning India Pvt Limited – 2022.
- 7) Michael Swan “**Practical English Usage**” 4th Ed, Oxford University Press – 2016.
- 8) Meenakshi Raman and Sangeetha Sharma” **Technical Communication – Principles and Practice**” 3rd Ed, Oxford University Press 2017.

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
- ✓ Organising Group wise discussions Connecting to placement activities
- ✓ Quizzes and Discussions
- ✓ Seminars and assignments

Suggested Learning Resources:

- 1) **Communication Skills** by Sanjay Kumar and Pushp Lata, Oxford University Press - 2019.
- 2) **English for Engineers** by N.P.Sudharshana and C.Savitha, Cambridge University Press – 2018.
- 3) **A Textbook of English Language Communication Skills**, Infinite Learning Solutions–(Revised Edition) 2021.
- 4) **A Course in Technical English–D Praveen Sam, KN Shoba**, Cambridge University Press – 2020.
- 5) **Technical Communication** by Gajendra Singh Chauhan and Et al, Cengage learning India Pvt Limited [Latest Revised Edition] - 2019.
- 6) **English Language Communication Skills – Lab Manual cum Workbook**, Cengage learning India Pvt Limited [Latest Revised Edition] – 2019.
- 7) **Practical English Usage** by Michael Swan, Oxford University Press – 2016.
- 8) **Technical Communication – Principles and Practice**, Third Edition by Meenakshi Raman and Sangeetha Sharma, Oxford University Press 2017.

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ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ			
ವಿಷಯ ಸಂಕೇತ (Course Code)	2BAT107A	ನಿರಂತರ ಆಂತರಿಕ ಮೌಲ್ಯಮಾಪನದ ಅಂಕಗಳು	50
ಒಂದು ವಾರಕ್ಕೆ ಬೋಧನಾ ಅವಧಿ (Teaching Hours / Week (L:T:P: S))	0:2:0:1	ಸೆಮಿಸ್ಟರ್ ಅಂತ್ಯದ ಪರೀಕ್ಷೆಯ ಅಂಕಗಳು	
ಒಟ್ಟು ಬೋಧನಾ ಅವಧಿ Total Hours of Pedagogy	25 ಗಂಟೆಗಳು	ಒಟ್ಟು ಅಂಕಗಳು	50
ಕ್ರೆಡಿಟ್ಸ್ (Credits)	PP	ಪರೀಕ್ಷೆಯ ಅವಧಿ	01 ಗಂಟೆ
ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಪಠ್ಯದ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು: 1. ವೃತ್ತಿಪರ ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು. 2. ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಪರಿಚಯಿಸಿ ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಮೂಡಿಸುವುದು. 3. ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು. 4. ಕನ್ನಡ ಶಬ್ದಸಂಪತ್ತಿನ ಪರಿಚಯ ಮತ್ತು ಕನ್ನಡ ಭಾಷೆಯ ಬಳಕೆ ಹಾಗೂ ಕನ್ನಡದಲ್ಲಿ ಪತ್ರ ವ್ಯವಹಾರವನ್ನು ತಿಳಿಸಿಕೊಡುವುದು.			
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವ್ಯವಸ್ಥೆ (Teaching-Learning Process - General Instructions) : These are sample Strategies, which teacher can use to accelerate the attainment of the course outcomes. 1. ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡವನ್ನು ಬೋಧಿಸಲು ತರಗತಿಯಲ್ಲಿ ಶಿಕ್ಷಕರು ಪ್ರಸ್ತುತ ಪುಸ್ತಕ ಆಧಾರಿಸಿ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನವನ್ನು ಅನುಸರಿಸುವುದು. ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ತಯಾರಿಸಲು ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ಪ್ರೇರೇಪಿಸುವುದು ಮತ್ತು ತರಗತಿಯಲ್ಲಿ ಅವುಗಳನ್ನು ಚರ್ಚಿಸಲು ಅವಕಾಶ ಮಾಡಿಕೊಡುವುದು. 2. ಇತ್ತೀಚಿನ ತಂತ್ರಜ್ಞಾನದ ಅನುಕೂಲಗಳನ್ನು ಬಳಸಿಕೊಳ್ಳುವುದು - ಅಂದರೆ ಕವಿ-ಕಾವ್ಯ ಪರಿಚಯದಲ್ಲಿ ಕವಿಗಳ ಚಿತ್ರಣ ಮತ್ತು ಲೇಖನಗಳು ಮತ್ತು ಕಥೆ ಕಾವ್ಯಗಳ ಮೂಲ ಅಂಶಗಳಿಗೆ ಸಂಬಂಧಪಟ್ಟ ಧ್ವನಿ ಚಿತ್ರಗಳು, ಸಂಭಾಷಣೆಗಳು, ಈಗಾಗಲೇ ಇತರ ವಿಮರ್ಶಕರು ಬರೆದಿರುವ ವಿಮರ್ಶಾತ್ಮಕ ವಿಷಯಗಳನ್ನು ಟಿಪಿಟಿ, ಡಿಜಿಟಲ್ ಮಾಧ್ಯಮಗಳ ಮುಖಾಂತರ ವಿಶ್ಲೇಷಿಸುವುದು. 3. ನವೀನ ಮಾದರಿಯ ಸಾಹಿತ್ಯ ಬೋಧನೆಗೆ ಸಂಬಂಧಪಟ್ಟ ವಿಧಾನಗಳನ್ನು ಶಿಕ್ಷಕರು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಅನುಕೂಲವಾಗುವ ರೀತಿಯಲ್ಲಿ ಅಳವಡಿಸಿಕೊಳ್ಳಬಹುದು.			
ಘಟಕ -1 ಲೇಖನಗಳು			
1. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ - ಹಂಪ ನಾಗರಾಜಯ್ಯ 2. ಕರ್ನಾಟಕದ ಏಕೀಕರಣ : ಒಂದು ಅಪೂರ್ವ ಚರಿತ್ರೆ - ಜಿ. ವೆಂಕಟಸುಬ್ಬಯ್ಯ 3. ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ - ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ ಮತ್ತು ಪ್ರೊ. ವಿ. ಕೇಶವಮೂರ್ತಿ			
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.		

ಘಟಕ -2 ಆಧುನಿಕ ಪೂರ್ವದ ಕಾವ್ಯ ಭಾಗ	
1. ವಚನಗಳು : ಬಸವಣ್ಣ, ಅಕ್ಕಮಹಾದೇವಿ, ಅಲ್ಲಮಪ್ರಭು, ಆಯ್ದಕ್ಕಿ ಮಾರಯ್ಯ, ಜೇಡರದಾಸಿಮಯ್ಯ, ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮ. 2. ಕೀರ್ತನೆಗಳು : ಅದರಿಂದೇನು ಫಲ ಇದರಿಂದೇನು ಫಲ - ಪುರಂದರದಾಸರು ತಲ್ಲಣಿಸಿದಿರು ಕಂಡ್ಯ ತಾಳು ಮನವೇ - ಕನಕದಾಸರು 3. ತತ್ವಪದಗಳು : ಸಾವಿರ ಕೊಡಗಳ ಸುಟ್ಟು - ಶಿಶುನಾಳ ಶರೀಫ	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
ಘಟಕ -3 ಆಧುನಿಕ ಕಾವ್ಯಭಾಗ	
1. ಡಿವಿಜಿ ರವರ ಮಂಕುತಿಮ್ಮನ ಕಗ್ಗದಿಂದ ಅಯ್ಯ ಕೆಲವು ಭಾಗಗಳು 2. ಕುರುಡು ಕಾಂಚಾಣ : ದಾ.ರಾ. ಬೇಂದ್ರೆ 3. ಹೊಸಬಾಳಿನ ಗೀತೆ : ಕುವೆಂಪು	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
ಘಟಕ -4 ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ	
1. ಡಾ. ಸರ್. ಎಂ. ವಿಶ್ವೇಶ್ವರಯ್ಯ : ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯ - ಎ ಎನ್ ಮೂರ್ತಿರಾವ್ 2. ಕರಕುಶಲ ಕಲೆಗಳು ಮತ್ತು ಪರಂಪರೆಯ ವಿಜ್ಞಾನ : ಕರೀಗೌಡ ಬೀಚನಹಳ್ಳಿ	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
ಘಟಕ -5 ಕಥೆ ಮತ್ತು ಪ್ರವಾಸ ಕಥನ	
1. ಯುಗಾದಿ : ವಸುಧೇಂದ್ರ 2. ಮೆಗಾನೆ ಎಂಬ ಗಿರಿಜನ ಪರ್ವತ : ಹಿ.ಚಿ. ಬೋರಲಿಂಗಯ್ಯ	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಕಲಿಕೆಯಿಂದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಆಗುವ ಪರಿಣಾಮಗಳು (course

Outcomes):

1. ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯವಾಗುತ್ತದೆ.
2. ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳು ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಆಸಕ್ತಿಯು ಮೂಡುತ್ತದೆ.
3. ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.
4. ಕನ್ನಡ ಭಾಷಾಭ್ಯಾಸ, ಸಾಮಾನ್ಯ ಕನ್ನಡ ಹಾಗೂ ಆಡಳಿತ ಕನ್ನಡದ ಪದಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.

ಬಳಕೆ ಕನ್ನಡ - BaLake Kannada (Kannada for Usage) ಕನ್ನಡ ಕಲಿಕೆಗಾಗಿ ನಿಗದಿಪಡಿಸಿದ ಪಠ್ಯಪುಸ್ತಕ - (Prescribed Textbook to Learn Kannada)			
ವಿಷಯ ಸಂಕೇತ (Course Code)	2BAT107B	ನಿರಂತರ ಆಂತರಿಕ ಮೌಲ್ಯಮಾಪನದ ಅಂಕಗಳು (Continuous Internal Evaluation Marks)	50
ಒಂದು ವಾರಕ್ಕೆ ಬೋಧನಾ ಅವಧಿ (Teaching Hours / Week (L:T:P: S))	0:2:0:1	ಸೆಮಿಸ್ಟರ್ ಅಂತ್ಯದ ಪರೀಕ್ಷೆಯ ಅಂಕಗಳು (Semester End Examination Marks)	
ಒಟ್ಟು ಬೋಧನಾ ಅವಧಿ Total Hours of Pedagogy	25 ಗಂಟೆಗಳು	ಒಟ್ಟು ಅಂಕಗಳು (Total Marks)	50
ಕ್ರೆಡಿಟ್ಸ್ (Credits)	PP	ಪರೀಕ್ಷೆಯ ಅವಧಿ (Exam Hours)	01 ಗಂಟೆ
ಬಳಕೆ ಕನ್ನಡ ಪಠ್ಯದ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು (Course Learning Objectives): - To Create the awareness regarding the necessity of learning local language for comfortable and healthy life. - To enable learners to Listen and understand the Kannada language properly. - To speak, read and write Kannada language as per requirement. - To train the learners for correct and polite conservation.			
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವ್ಯವಸ್ಥೆ (Teaching-Learning Process - General Instructions) : These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes. - ಬಳಕೆ ಕನ್ನಡವನ್ನು ತರಗತಿಯಲ್ಲಿ ಶಿಕ್ಷಕರು ಬೋಧಿಸಲು ವಿಟಿಯು ಸೂಚಿಸಿರುವ ಪಠ್ಯಪುಸ್ತಕವನ್ನು ಉಪಯೋಗಿಸಬೇಕು. - ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ತಯಾರಿಸಲು ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ಉತ್ತೇಜಿಸುವುದು ಮತ್ತು ತರಗತಿಯಲ್ಲಿ ಅವುಗಳನ್ನು ಚರ್ಚಿಸಲು ಅವಕಾಶ ಮಾಡಿಕೊಡುವುದು. - ಪ್ರತಿ ವಿದ್ಯಾರ್ಥಿ ಪುಸ್ತಕವನ್ನು ತರಗತಿಯಲ್ಲಿ ಬಳಸುವಂತೆ ನೋಡಿಕೊಳ್ಳುವುದು ಮತ್ತು ಪ್ರತಿ ಪಾಠ ಮತ್ತು ಪ್ರವಚನಗಳ ಮೂಲ ಅಂಶಗಳಿಗೆ ಸಂಬಂಧಪಟ್ಟಂತೆ ಪೂರಕ ಚಟುವಟಿಕೆಗಳಿಗೆ ತೊಡಗಿಸತಕ್ಕದ್ದು. - ಡಿಜಿಟಲ್ ತಂತ್ರಜ್ಞಾನದ ಮುಖಾಂತರ ಇತ್ತೀಚೆಗೆ ಡಿಜಿಟಲೀಕರಣ ಗೊಂಡಿರುವ ಭಾಷೆ ಕಲಿಕೆಯ ವಿಧಾನಗಳನ್ನು ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ಮುಖಾಂತರ ಚರ್ಚಿಸಲು ಕ್ರಮಕೈಗೊಳ್ಳುವುದು. ಇದರಿಂದ ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ತರಗತಿಯಲ್ಲಿ ಹೆಚ್ಚು ಏಕಾಗ್ರತೆಯಿಂದ ಪಾಠ ಕೇಳಲು ಮತ್ತು ಅಧ್ಯಯನದಲ್ಲಿ ತೊಡಗಲು ಅನುಕೂಲವಾಗುತ್ತದೆ. - ಭಾಷಾಕಲಿಕೆಯ ಪ್ರಯೋಗಾಲಯದ ಮುಖಾಂತರ ಬಹುಬೇಗ ಕನ್ನಡ ಭಾಷೆಯನ್ನು ಕಲಿಯಲು ಅನುಕೂಲವಾಗುವಂತೆ ಕಾರ್ಯಚಟುವಟಿಕೆಗಳನ್ನು ಮತ್ತು ಕ್ರಿಯಾ ಯೋಜನೆಗಳನ್ನು ರೂಪಿಸುವುದು.			
Module-1			
- Introduction, Necessity of learning a local language. Methods to learn the Kannada language. - Easy learning of a Kannada Language: A few tips. Hints for correct and polite conservation, Listening and Speaking Activities - Key to Transcription. - ವೈಯಕ್ತಿಕ, ಸ್ವಾಮ್ಯಸೂಚಕ/ಸಂಬಂಧಿತ ಸಾರ್ವನಾಮಗಳು ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥಕ ಪದಗಳು - Personal Pronouns, Possessive Forms, Interrogative words			

ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
Module-2	
1. ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು, ಸಂದೇಹಾಸ್ಪದ ಪ್ರಶ್ನೆಗಳು ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು - Possessive forms of nouns, dubitive question and Relative nouns 2. ಗುಣ, ಪರಿಮಾಣ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು, ಸಂಖ್ಯಾವಾಚಕಗಳು Qualitative, Quantitative and Colour Adjectives, Numerals 3. PÁgÁPÀ gÀÆÀUÀ%ÄÄ ÄÄvÄÄÜ «"sÀQÜ ¥ÄævÄÄAiÄÄUÀ%ÄÄ – ,ÀÄÜ«Ä «"sÀQÜ ¥ÄævÄÄAiÄÄ – (D, CzÄÄ, CÄÄÄ, C"è) Predictive Forms, Locative Case	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
Module-3	
1. ZÄvÄÄyð «"sÀQÜ ¥ÄævÄÄAiÄÄZÄ §%ÄPÉ ÄÄvÄÄÜ ,ÄASÄÄÄZÄPÄUÀ%ÄÄ - Dative Cases, and Numerals 2. ,ÄASÄÄUÄtÄZÄPÄUÀ%ÄÄ ÄÄvÄÄÜ §ÄÄÄZÄÄÄ £ÄÄÄgÄÆÀUÀ%ÄÄ - Ordinal numerals and Plural markers 3. £ÄÆÄ£Ä / µÉÄzsÄxÄðPÄ QæAiÄiÄ¥ÄZÄUÀ%ÄÄ ÄÄvÄÄÜ Ätð UÄÄtÄZÄPÄUÀ%ÄÄ Defective / Negative Verbs and Colour Adjectives	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
Module-4	
1 ಅಪ್ಪಣೆ / ಒಪ್ಪಿಗೆ, ನಿರ್ದೇಶನ, ಪ್ರೋತ್ಸಾಹ ಮತ್ತು ಒತ್ತಾಯ ಆರ್ಥರೂಪ ಪದಗಳು ಮತ್ತು ವಾಕ್ಯಗಳು Permission, Commands, encouraging and Urging 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 ಇರಲ್ಲ” ಸಹಾಯಕ ಕ್ರಿಯಾಪದಗಳು, ಸಂಭಾವ್ಯಸೂಚಕ ಮತ್ತು ನಿಷೇಧಾರ್ಥಕ ಕ್ರಿಯಾ ಪದಗಳು - Helping Verbs “iru and iralla”, Corresponding Future and Negation Verbs 4. ಹೋಲಿಕೆ (ತರತಮ), ಸಂಬಂಧ ಸೂಚಕ ಮತ್ತು ವಸ್ತು ಸೂಚಕ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ನಿಷೇಧಾರ್ಥಕ ಪದಗಳ ಬಳಕೆ- Comparative, Relationship, Identification and Negation Words	
ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
Module-5	
1. ಕಾಲ ಮತ್ತು ಸಮಯದ ಹಾಗೂ ಕ್ರಿಯಾಪದಗಳ ವಿವಿಧ ಪ್ರಕಾರಗಳು - ifferent types of forms of Tense, Time and Verbs 2. ದ್, -ತ್, - ತು, - ಇತು, - ಆಗಿ, - ಅಲ್ಲ, - ಗ್, -ಕ್, ಇದೆ, ಕ್ರಿಯಾ ಪ್ರತ್ಯಯಗಳೊಂದಿಗೆ ಭೂತ, ಭವಿಷ್ಯತ್ ಮತ್ತು ವರ್ತಮಾನ ಕಾಲ ವಾಕ್ಯ ರಚನೆ - Formation of Past, Future and Present Tense Sentences with Verb Forms 3. Kannada Vocabulary List : ಸಂಭಾಷಣೆಯಲ್ಲಿ ದಿನೋಪಯೋಗಿ ಕನ್ನಡ ಪದಗಳು - Kannada Words in Conversation	

ಬೋಧನೆ ಮತ್ತು ಕಲಿಕಾ ವಿಧಾನ	ಪುಸ್ತಕ ಆಧಾರಿತ ಬ್ಲಾಕ್ ಬೋರ್ಡ್ ವಿಧಾನ, ಪ್ರಮುಖ ಅಂಶಗಳ ಚಾರ್ಟ್ ಗಳನ್ನು ಬಳಸುವುದು, ಪಿಪಿಟಿ ಮತ್ತು ದೃಶ್ಯ ಮಾಧ್ಯಮದ ವಿಡಿಯೋಗಳನ್ನು ಬಳಸುವುದು, ವಿದ್ಯಾರ್ಥಿಗಳೊಂದಿಗೆ ಚಟುವಟಿಕೆಗಳ ಮುಖಾಂತರ ಚರ್ಚಿಸುವುದು.
ಬಳಕೆ ಕನ್ನಡ ಪಠ್ಯದ ಕಲಿಕೆಯಿಂದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಆಗುವ ಅನುಕೂಲಗಳು ಮತ್ತು ಫಲಿತಾಂಶಗಳು: course Outcomes (Course Skill Set): At the end of the Course, The Students will be able 1. To understand the necessity of learning of local language for comfortable life. 2. To Listen and understand the Kannada language properly. 3. To speak, read and write Kannada language as per requirement. 4. To communicate (converse) in Kannada language in their daily life with kannada speakers. 5. To speak in polite conversation.	

PCC: Professional Core Course			
Architectural Design 02 – Enclosure and Environment			
Course Code	2BAT 201	CIE Marks	100
Teaching Hours/Week (L:T:P: S)	10 Hours	SEE Marks – Viva Voce	100
Total Hours of Pedagogy	140 Hours	Total Marks	200
Credits	10	Exam Hours	-

COURSE OBJECTIVES:

To understand the nature of ‘Enclosure’ in an environment and how the sense of enclosure is fundamental in the process of space making. Through this process, students will get exposed to the grammar of creating architectural space and form - layering it with the reading of Immediate context and environmental factors like, land, water, light, wind, view including the study of movement, transformation, scale and structure.

COURSE CONTENT:

*... I wonder: what is this **Magic of the Real** – Café at a student’s hostel, a thirties picture by Baumgartner. Men, just sitting around – and they’re enjoying themselves too. And I ask myself: can I achieve that as an architect – an atmosphere like that, its intensity, its mood. And if so, how do I go about it? – Excerpt from Atmospheres by Peter Zumthor.*

1. To build a vocabulary of **fundamentals of space making** - each element to be discussed individually – Horizontal surface (base plane and overhead plane), Vertical surface, frame and enclosure – this is studied in conjunction with ordering principles such as Scale, Proportion, Transition, Orientation, Boundary, Hierarchy, Axis, Datum, Grid etc. - Short Exercises – 2 Weeks

Method of Learning – Input Lectures, Sketch-noting, Guided peer discussions, Collective reading, Observational sketches, Short Hands-on Exercise(s) to explore the relationships between the elements of space-making and impact of scale | Degrees of enclosure.

Suggestive Exercises – Blooms Taxonomy Level 01,02 and 03

- (i) Exercises can be designed to build into the next two themes as a continuum.
- (ii) Exercises that explore the potential of each of the Horizontal and Vertical Planes (Floor / Wall/ Roof)– (re)Design a verandah (House or shop front) / Pavilion / Ground modulation in a Courtyard/cafe – Consider a real or a hypothetical situation which can be modified or added on to, using the fundamental elements of space making.

2. To further the learnings from module one by layering it with (i) **Introduction to tectonics of form** – Geometry, Volume, Transparency, opacity, density, porosity, deliberations of Nature of Openings, ideas of liminal spaces and material logic. - Short Exercises – 2 Weeks

Method of Learning – Input Lectures, Guided peer discussions, Collective reading, Observational sketches, the exercises can be an extension to the previous module. Emphasis on Model Making - Learning to choose appropriate mediums for model making.

Suggestive Exercises – Blooms Taxonomy Level 01,02 and 03

- (i) Design exercise with focus on the Material attributes and assembly, Nature of openings and thresholds. Can be a layered extension of the first exercise or an abstract exercise in a hypothetical condition.
- (ii) Exercises that explore the design potential of the Pavilion as a tectonic space – Yoga pavilion, Terrace extension to a house, Canteen seating area and so on.

3. To further the learnings from module one by layering it with (ii) **Introduction to the poetics of space** – role of Light, shadow/shade, temperature, texture and sound (sensory perception), plinth modulation, Ideas of intimacy, social geometry, bodily comfort, and so on and their impact on the experience of space. - Short Exercises – 2-3 Weeks

Method of Learning – Input Lectures, Guided peer discussions, Collective reading, Observational sketches, the exercises can be an extension to the previous module. Emphasis on Drawing with different mediums to express the quality of space – Charcoal, water colors, dry pastel, wax pastels. Learning to choose appropriate mediums of representation

Suggestive Exercises – Blooms Taxonomy Level 01,02 and 03

- (i) Design exercise with focus on the atmosphere of the space and its relation to sensory and emotional perceptions. Can be a layered extension of the first exercise or an abstract exercise to in a hypothetical condition.
- (ii) Exercises that explore the design potential of the enclosure as a stereotomic space – Personal space design, workspace for specific professionals (musician, artist, acrobats, author, etc.)

4. To understand **the importance of immediate environment** in the making of architecture. Students should be taught how read the geography of the site, what to draw from it and most importantly how it impacts design decisions. Define a real or hypothetical context with specific site conditions - including the study of physical (unbuilt) and natural elements such as landform, sunlight and sun movement, heat, wind direction and wind movement, water bodies, presence of flora and fauna etc. - Exercises leading to Final Design Task – 2-3 Weeks

Method of Learning – Input Lectures, Guided peer discussions, Observational sketches, Site Visits. The exercises should lead to the final design task. Diagramming and Writing as a key tool to understand, analyze and infer from the site environment (Context Vicinity to be within 1000sqm). Students should be encouraged to write and narrate their experiences of the site.

Suggestive Exercises – Blooms Taxonomy Level 01,02 and 04

- (i) Mixed Media exercises to observe and analyze the site environment including Sketching, Diagramming, Writing, Photo annotation, Model Making etc. – Site Studies must aid the final task in a comprehensive manner

5. **Application and demonstration of learnings** from Modules 01 – 04 through a neighborhood scale, multi-user and multi-function project. The user group can be defined by the students. The aim is to distill the learnings from the semester and organizing a sequence of spaces that responds to its environment and function effectively. – Final Design Task – 4-6 Weeks

Method of Learning – Input Lectures, Guided peer discussions, Observational sketches, Writing, concept note and design intent. Emphasis on guided Case studies, and drawing of Plans, sections and elevations along with physical models. The Project scale can range between 200-250sqm.

Suggestive Exercises – Blooms Taxonomy Level 03,05 and 06

- (i) Design Project can be a multi-generational residence, Primary health care center, kindergarten, any small scale neighborhood project of the specified scale.
- (ii) The exercises can be curated like game play, with each step adding further complexities and levels of understanding/ learning building it up to the final task
- (iii) Peer engagement to be encouraged at all stages.

METHOD OF EVALUATION:

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50%, and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 50% in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

As a foundational studio, the evaluation method should consider consistent progressive growth of the students along with the representational skills.

CIE: GRADING SCHEME:

All Minor Projects: **50 %**

Final Design Project: **50 %**

For each task the grading rubric must be as follows:

Weekly progressive grades – **40 %** weightage

Skill Enhancement – **30 %** weightage

Understanding and ability to demonstrate of concepts – **30 %** weightage

SEE: VIVA VOCE

COURSE METHODOLOGY:

The studio will be fully guided as it is a foundational course – Each Module will be supplemented with lecture presentations, Informal discussions, Peer engagement, on-location deliberation, guided sketching and diagramming and making physical models.

The Smaller exercises can be curated such that it may build towards the final task and the learnings can be made visible to the student. Studio Tutors are encouraged to look for opportunities to integrate the Exercises with other courses such as Building Construction, History of Architecture, Architectural Graphics and Digital tools.

Students should be made aware of the *stages of thinking – Noticing, Recognizing, Interpreting, Coding and Decoding – Les Staves*.

COURSE OUTCOME:

The perception of spatial relationships (between built spaces, between built and open spaces). Conceptualizing spatial experience by modulating the built elements - Wall, Floor, Roof, Openings and Sequencing of Spaces.

Sl no	Key Topics covered + Skill Enhancement	Blooms Taxonomy Level
1	Fundamentals of Space making Sketching to scale, Relate experience to drawing	BL 01 – BL 03
2	Tectonics of Form Model Making, Assimilating and correlating multiple concepts together	BL 01 – BL 03
3	Poetics of Space Drawing to Express feeling, recognizing and applying intangibles in design process.	BL 01 – BL 03
4	Importance of reading Site environment Ability to extract important inferences from site environment and use that to make informed design decisions.	BL 01 – BL 02 BL 04
5	Application and demonstration of learnings Schematic Design Drawings – Plan/Section/Elevation/Site Plan.	BL 03 BL 05 BL 06

REFERENCES:

1. Architecture Without Architects by Bernard Rudofsky
2. A Pattern Language by Christopher Alexander and Murray Silverstein
3. Conversations with Form: A Workbook for Students of Architecture by Jonathan Teicher and N. John Habraken
4. Conversations with Form by N John Habraken, Andres Mignucci, Jonathan Teicher
5. Analysing Architecture by Simon Unwin
6. Twenty-five buildings every architect should understand by Simon Unwin
7. Drawn to Design by Eric J Jenkins
8. Landscape architecture: a manual of environmental planning and design by, John Ormsbee Simonds, Barry W Starke
9. Form Follows Love: Building by Intuition – from Bangladesh to Europe and Beyond by Anna Haringer and Dominique Gauzin-Muller
10. Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis by Michael Pause and Roger H. Clark
11. Indian Anthropometric Dimensions for Ergonomic Design Practice by Debkumar Chakrabarti
12. Lessons for Students in Architecture by Herman Hertzberger
13. Site less: 1001 Building Forms by François Blanciak
14. Tree houses. Fairy tale castles in the air by Philip Jodidio
15. Form, Function and Design by Paul Jacques Grillo
16. What is Design? by Paul Jacques Grillo
17. Notes on the Synthesis of Form by Christopher Alexander

Materials and Construction – II / Tectonic Construction Systems - I			
Course Code	2BAT202	CIE Marks	100
Teaching Learning hours (L: T:S:SL)	28: 00: 42: 80	SEE Marks	100
Total Hours of Teaching and Learning	150 hrs	Total Marks	200
Credits	05	Exam Hours	4
Course Learning objectives: This course introduces students to tectonic construction systems and the philosophy of architecture as an expression of frame and bending. It develops an understanding of timber and bamboo materials, construction assemblies, and vernacular and contemporary frame-based building systems and their influence on building form and envelope. It aims at enabling students to evaluate their structural behaviour, climatic response, sustainability, and architectural expression.			

Module 1 - Architectural Logic, Material Origin & History (2 Weeks - 4:0:6:10)	
Introduction to Tectonic Construction Systems: ● Introduction of stereotomic and tectonic systems and their influence on built form ● Definition of tectonic construction systems as an expression of frame, tension and compression. ● Tracing timber construction systems across different cultures through case examples (Japan, Norway, the Netherlands, Kerala, Himachal Pradesh, Gujarat and Karnataka).	
Teaching-Learning Process	Theory with relevant examples for timber construction traditions. Interactive exercises to explore timber cultures in various countries. Field visit to explore timber traditions.
Module 2 - Material in Basic Unit Form, its Properties and Structural Behaviour (1 Week - 2:0:3:5)	
Material Behaviour and Classification: ● Classification of Natural Timber (Soft and Hardwood), Processed Timber (sections, planks, boards), Engineered Timber (CLT, Glu Lam, LVL) and Bamboo (Laminated Bamboo, Bamboo Boards) ● Understanding material properties - density, durability, shrinkage, strength to weight ratio, seasoning, fire behaviour and other relevant precautionary treatments ● Awareness of Indian codes like IS 883 - Design of Structural Timber in Buildings: Code of Practice	
Teaching-Learning Process	Factory visit to understand materials and their process. Students should touch, weigh, measure, and test the materials. Theory with demonstrative sessions in the studio/material lab.
Module 3 - Material Assembly and Fenestrations (4 Weeks - 8:0:12:25)	
Assembly Systems: ● Introduction to framed (post and beam) systems in timber, balloon frame and timber platform assemblies with necessary connections, their load path, bracing and lateral stability. ● Learning and using carpentry connections - Mortice & Tenon, Dovetail, Half lap, Scarf, Wedge and any other relevant connection techniques. Fenestration Systems: ● Door - Overview of types and detailing techniques in timber - Battened, Panelled, Flush, with its relevant mechanisms and hardware ● Windows - Overview of types and detailing techniques in timber - Sliding, folding, top-hung, side-hung, pivot, fixed, louvres	

Teaching-Learning Process	Theory with demonstrative sessions in the studio/material lab. Factory visit / Field visit to understand the making of fenestration. Workshop exercises to explore carpentry techniques in fenestration.
Module 4 - Substructures, Roof and Floor Systems (4 Weeks - 8:0:12:25)	
Substructures: - Understanding sub-structure systems - raised timber platforms along with composite masonry, timber-masonry junction in composite foundations. Necessity of a damp-proof course and plinth. Horizontal Spanning: - Identify and classify roof and floor spanning systems in timber - Principles of timber truss systems and its types w.r.t spanning, like lean-to, King post, Queen Post, Collared, Fink - Principles of timber floor and roof systems w.r.t. application of Engineered timber like CLT, Glu-Lam. Vertical circulation - Understanding timber and composite staircases with support systems.	
Teaching-Learning Process	Theory with demonstrative sessions in the studio to understand spanning systems. Measure drawing as a tool to explore the logic of the truss.
Module 5 - Advanced Form Systems (3 Weeks - 6:0:12:15)	
Alternate Construction in Timber: - Exploring alternate forms of timber construction systems like straw bale, hempcrete, et. al. - Exploring recent advances in timber tectonics systems i.e. CLT, GluLam, Engineered Bamboo, LVL, and composite timber steel assemblies. Sustainability: - Parameters of sustainability for design decisions - Sustainable Forestry, Carbon Storage, Timber certification, Embodied Energy, Density, Durability, and Life Cycle thinking. Synthesis: - Studio exercise to develop a comprehensive timber wall section. Students must choose timber and masonry construction systems by synthesising the learning outcomes from Material and Construction I and II.	
Teaching-Learning Process	Student seminar/Group discussion on alternate timber systems. Theory inputs and group discussion on sustainable parameters.

Course Outcomes		
At the end of the course the student will be able to:		
Sl. No.	Particulars	Blooms Level
CO1	Understand the relevance of tectonic construction, as distinct from stereotomic systems, and its application in spatial quality of architectural design	BL 02
CO2	Understand the physical and structural properties of natural timber, bamboo, and engineered timber.	BL 01 - 02
CO3	Apply principles of timber and bamboo construction by developing appropriate structural assemblies and joinery details based on load path, stability, and construction sequence.	BL 03 - 04
CO4	Evaluate contemporary timber construction systems and sustainable design strategies to support informed material selection in architectural design.	BL 04 - 05
CO5	Develop a complete, detailed drawing of a timber and masonry construction system that integrates construction sequence from substructure to superstructure including finishes.	BL 05

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50%, and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 50% in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

1. Students will be required to produce a portfolio, compiled with exercises from all modules and topics, for assessment at the end of the semester. The portfolio will be a mix of hand-drafted sheets, seminar assignments, case study/site visit/workshop reports and any other assignments and documentation proposed by the studio faculty.
2. Methods of CIE can be defined topic wise i.e.- Submission of construction drawing sheets, Journal of materials, Multiple Choice Question, Quizzes, open-book test, Seminar or micro project
3. The subject faculty, at the beginning of the semester, shall decide the method and weightage of evaluation, which should total to 100 marks.
4. Suggested assignments can be on the lines of
 - a. Module 1 - Material Narratives (Graphic Narrative to understand timelines and evolution). **Suggested method:** Site visit, Seminar/ graphic narrative sheet. **CO mapping:** CO1
 - b. Module 2 - Addressing the distinctions between, Natural, processed, Engineered Timber and Bamboo. **Suggested method:** Journal of materials,. **CO mapping:** CO2
 - c. Module 3 - Exploration of logic and types of fenestration and connections. **Suggested method:** Construction drawing/measure drawing for door and windows. | Models for carpentry joinery in studio/material lab. **CO mapping:** CO3
 - d. Module 4 - Exploring the logic of spanning techniques along with interpreting and understanding the mechanical properties and constraints. **Suggested method:** Construction drawing/measure drawing for spanning techniques | Workshop exercises to experiment with various spanning techniques. **CO mapping:** CO4
 - e. Module 5 - Hand-drafted wall section synthesising construction sequence, finishes, and other learning from previous modules, including representations of foundation systems + DPC systems. Case Studies covering alternative and advanced Timber construction systems. **Suggested method:** Micro-project/Construction sheets requiring students to demonstrate all learning from the previous modules. | Seminars and Group Discussions **CO mapping:** CO5

Semester End Examination:

The student will sit for a written-drafting examination, administered by the university in alignment with other theory examinations. Suggested scheme for the Question Paper

Module 1: Question 1 - Theory | Question 2 - Theory

Module 2: Question 3 - Theory | Question 4 - Theory

Module 3: Question 5 - Drafting | Question 6 - Drafting

Module 4: Question 7 - Drafting | Question 8 - Drafting

Module 5: Question 9 - Drafting | Question 10 - Drafting

Suggested Learning Resources:

Books

Core References

1. Ching, Francis D. K. **Building Construction Illustrated**. 7th ed. Hoboken, NJ: Wiley, 2025.
2. Ching, Francis D. K., Barry S. Onouye, and Douglas Zuberbuhler. **Building Structures Illustrated: Patterns, Systems, and Design**. 2nd ed. Hoboken, NJ: Wiley, 2013.
3. Chudley, Roy, Roger Greeno, and Karl Kovac. **Chudley and Greeno's Building Construction Handbook**. 13th ed. New York: Routledge, 2024.
4. Deplazes, Andrea, ed. **Constructing Architecture: Materials, Processes, Structures — A Handbook**. 3rd, extended ed. Basel: Birkhäuser, 2013.
5. Mehta, Madan, Walter Scarborough, and Diane Armpriest. **Building Construction: Principles, Materials, and Systems**. 3rd ed. Hoboken, NJ: Pearson, 2017.

Construction Philosophy

6. Frampton, Kenneth. **Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture**. Edited by John Cava. Cambridge, MA: MIT Press, 2001.
7. Höweler, Eric. **Design for Construction: Tectonic Imagination in Contemporary Architecture**. New York: Routledge, 2025.
8. Schwartz, Chad. **Introducing Architectural Tectonics: Exploring the Intersection of Design and Construction**. 2nd ed. New York: Routledge, 2021.

Timber, Joinery & Mass Timber Systems

9. Herzog, Thomas, Julius Natterer, Roland Schweitzer, Michael Volz, and Wolfgang Winter. **Timber Construction Manual**. Basel: Birkhäuser, 2004.
10. Pryce, Will. **Architecture in Wood: A World History**. London: Thames & Hudson, 2016.
11. Seike, Kiyosi. **The Art of Japanese Joinery**. New York: Weatherhill, 1977.
12. Waugh, Andrew, and Anthony Thistleton. **100 Projects UK CLT. London**: Waugh Thistleton Architects, 2018.
13. Minke, Gernot. **Building with Bamboo: Design and Technology of a Sustainable Architecture**. 3rd, rev. ed. Berlin: Birkhäuser, 2023.
14. Hidalgo-López, Oscar. **Bamboo: The Gift of the Gods**. Bogotá: D'Vinni Editorial Ltda., 2003.

Sustainability

15. Conway, Ed. **Material World: A Substantial Story of Our Past and Future**. London: WH Allen, 2024.
16. Lewis, David J., Marc Tsurumaki, and Paul Lewis. **Manual of Biogenic House Sections: Materials and Carbon**. San Francisco: ORO Editions, 2022.

Web links and Video Lectures (e-Resources):

PDFs

1. Swedish Wood. The CLT Handbook: CLT Structures — Facts and Planning. Stockholm: Swedish Wood, 2019.
2. Swedish Wood. The Glulam Handbook. 4 vols. Stockholm: Swedish Wood, 2024.
3. Bureau of Indian Standards. IS 883: Design of Structural Timber in Buildings — Code of Practice. New Delhi: BIS.

HISTORY OF ARCHITECTURE II			
Course Code	2BAT203	Scheme	2026-27
Type of Course	PCC	Semester	02
Teaching Hours/Week (L:T:P)	03	CIE Marks	100
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	90	SEE Marks	100
Credits	03	Total Marks	200
Examination type (SEE)	Theory	Exam Hours	03

Global Architectural History - 330 CE - 2000 CE

Overview of world architectural histories to establish a broad global framework of concepts, movements, and contexts. Study architecture through its **context, setting, rituals, and social structures** as primary influences on the built form.

Diagramming as an analytical tool to interpret:

- Composition principles
- Organisation Principles
- Scale & Proportion Systems
- Ordering systems
- Circulation
- Light
- Plasticity (elevation)

Use **comparative analysis** to examine architectural responses across different geographies within similar historical timelines.

Course outcome (Course Skill Set)

At the end of the course, the student will be able to:

- Overview of world architectural histories to establish a broad global framework of concepts, movements, and contexts.
- Exposure to seminal works and periods in architecture
- Transformations of conceptual and intellectual concerns to architecture
- Architecture as a product of people, place and time
 - Form
 - Building materials
 - Method of construction
 - Characteristic & anomalous examples - recognizing continuity, innovation, and departures from conventions.

Module-1

Early Christian, Byzantine, Islamic, Romanesque & Gothic Architecture

Framework for Module 1 & 2

SYNOPTIC STUDY

Civilization / Period

↓

Regional Character (Setting, Rituals, Resources)

↓

Form + Building Materials + Construction Systems

↓

Characteristic Examples + Anomalous Examples

↓

Continuity + Change

Early Christian Architecture - St. Peters Basilica as a prototype

Byzantine Architecture - Characteristic features, Hagia Sophia and St. Marks Venice. Islamic - Prototype of the mosque as an evolution of the Prophet's house with an open courtyard, prayer hall, and community functions. Romanesque - Pisa Cathedral and civic space Gothic - Notre Dame (Paris), Chartres Cathedral Number of Hours: 06
Module-2
Renaissance Architecture, Baroque, Rococo, Revival Styles, Industrial Revolution, Arts & Crafts, Art Nouveau Movements, Modernism Renaissance - Florence Cathedral, St Andrea (Mantua), Palazzo Rucellai, Villa Rotunda (Capra), St Peters' (Michelangelo, Rome) Baroque, Rococo, Revival Styles - St. Peters' Piazza (Bernini), St. Pauls Cathedral (London) Industrial Revolution - Crystal Palace, Eiffel Tower, Exhibitions in London & Paris. Arts & crafts, Art Nouveau Movements – Sagrada Familia (1882), The Secession Building (1898) Modernism and The Bauhaus – Development from art, evolution and transition from Industrial and Revival styles. Chicago School & Skyscrapers – Auditorium Building (1889), Empire State Building (1930)
Module-3
Architecture of the 20th century - Modern Architecture Early Modernism – Evolution, philosophies, methods, characteristics and seminal architecture – Modern Masters - Works and evolution of ideas of: – Frank Lloyd Wright – Unity Temple (1908), Herbert Jacobs House (1936), Fallingwater (1939) – Walter Gropius – Fagus Factory (1925), Bauhaus School (1926), Gropius House (1938) – Mies van der Rohe – Barcelona Pavilion (1929), Farnsworth House (1951), Seagram Building (1958) – Le Corbusier – Villa Savoye (1929), Unite d'habitation (1945), Notre-Dame du Haut Ronchamp (1955) – Alvar Aalto – Villa Mairea (1939), Saynatsalo Town Hall (1952) – Louis Kahn – Exeter Library (1972), Salk Institute (1963), Escherick House (1961) – Schroeder House (1924) Number of Hours: 12
Module-4
Architecture of the 20th century – Post World War II - Modern Architecture

Synoptic Study and Characteristic Features of:

- **TWA Terminal** (1962) - Eero Saarinen
- **Yoyogi National Gymnasium** (1964)- Kenzo Tange
- **Habitat 67** (1967) - Moshe Safdie
- **Sydney Opera House** (1973)- Jorn Utzon
- **Archigram** – Plug-In City, Walking City & Instant City
- **Metabolism - Shizuoka Press and Broadcasting Center (1967), Yamanashi Culture Hall (1967), Nakagin Capsule Tower (1972)**

Postmodern Architecture - Evolution, philosophies, methods, characteristics and seminal architecture Works and evolution of ideas of:

- **Robert Venturi** – Vanna Venturi House (1964), Franklin Court (1976)
- **Charles Moore** –Piazza d'Italia (1978)
- **James Stirling** – Leicester Engineering Building (1963), Cambridge History Faculty Building (1967), Florey Building, Oxford (1971) Neue Staatsgalerie (1984)

Number of Hours: 09

Module-5

Architecture of the 20th century - Late Modern Architecture

Late Modernism & Hi-Tech Architecture - - Evolution, philosophies, methods, characteristics and seminal architecture. Works and evolution of ideas of:

- **Richard Rogers** – Centre Pompidou (1977), Lloyds Building (1986), Millennium Dome (1999),
- **Norman Foster** – HSBC Headquarters (1985), Great Court of British Museum, UK (2000), Reichstag Building (1999)
- **Renzo Piano** - Centre Pompidou (1977), The Menil Collection, Houston (1987), Jean-Marie Tjibaou Cultural Centre, Noumea (1998)
- **Tadao Ando** - Water temple, Hyogo, (1999), Church of Light, Osaka, (1999) Chichu Art Museum (2004)
- **Santiago Calatrava** - Milwaukee Art Museum (2001)

Deconstruction - Evolution, philosophies, methods, characteristics and seminal architecture Works and evolution of ideas of:

Frank Gehry – Guggenheim Bilbao (1997)
Peter Eisenman – Wexner Centre (1989)
Coop Himmelb(l)au – Rooftop Remodelling Falkenstrasse (1988)
Bernard Tschumi – Parc de la Villette (1987)
Rem Koolhaas – Seattle Central Library (2004)
Daniel Libeskind – Jewish Museum (2001)
Zaha Hadid – Vitra Fire Station (1993)

Number of Hours: 09

Suggested Learning Resources: (Text Book/ Reference Book/ Manuals):**Text books:**

1. A Global History of Architecture by Francis DK Ching, Mark Jarzombek, and Vikramaditya Prakash
Francis D. K. Ching, Mark M. Jarzombek, Vikramaditya Prakash, 'Global History of Architecture', 3rd Ed, Wiley, 2017
2. A History of Architecture: Settings and Rituals by Spiro Kostof
Spiro Kostof, Greg Castillo, Richard Tobias, 'A History of Architecture: Settings and Rituals', 2nd Ed, Oxford University Press, 1995
3. Classical Language of Architecture (World of Art) by John Summerson (Author)
John Summerson, 'The Classical Language of Architecture (World of Art)', Thames & Hudson, 1980
4. History of Architecture by Sir Banister Fletcher
Banister Fletcher, Dan Cruickshank, 'Sir Banister Fletcher's a History of Architecture', Routledge, 1996
5. Modern Architecture: A Critical History by Kenneth Frampton
Kenneth Frampton, 'Modern Architecture 4e: A Critical History (World of Art)', Thames & Hudson, 2007
6. Changing Ideals in Modern Architecture 1750–1950 by Peter Collins
Peter Collins, 'Changing Ideals in Modern Architecture 1750-1950, 2nd Ed, McGill Queens University, 1998

Reference books / Manuals:

1. Studies in Tectonic Culture by Kenneth Frampton
Kenneth Frampton, John Cava, 'Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture', MIT Press, 2005
2. Space, Time and Architecture: The Growth of a New Tradition by Siegfried Giedion
Siegfried Giedion, 'Space, Time and Architecture: The Growth of a New Tradition: 1938-1939 (The Charles Eliot Norton Lectures)', Harvard University Press, 1967
3. Theory and Design in the First Machine Age by Reyner Banham
Reyner Banham, 'Theory and Design in the First Machine Age', 2nd Ed, MIT Press, 1982

Web links and Video Lectures (e-Resources):

Precedent, Diagram, and the Activation of History, ROBERT WEDDLE, Drury University

Youtube - **@archimarathon**

Introduction to Architecture by Jeff Kipnis **@knowltonosu**

Learning Resources

- Integrate site visits, archives, and local case studies.
- Leverage digital archives, GIS, photogrammetry, and virtual tours.

Encourage engagement with primary sources alongside textbooks

Suggested Learning Activities:**Method and Design Integration**

- Shift from information recall to interpretation.
- Encourage abstraction, diagramming, and analytical thinking.
- Emphasize spatial, climatic, structural, and cultural ideas over stylistic classification.
- Foster comparative analysis across periods, regions, and building types to connect history with contemporary design.

Skills Development

- Strengthen visual literacy through analytical drawing and diagramming.
- Develop research, writing, presentation, and graphic communication skills.

Assessment Structure:

The assessment in each course is divided equally between Continuous Internal Evaluation (CIE) and the Semester End Examination (SEE), with each carrying 50% weightage.

- To qualify and become eligible to appear for SEE, in the **CIE**, a student must score at least **40% of maximum marks for CIE**.
- To pass the **SEE**, a student must score at least **50 % of Maximum marks for SEE**.
- Notwithstanding the above, a student is considered to have **passed the course**, provided the combined total of **CIE and SEE** is at least **50 out of 100 marks**.

Continuous Internal Evaluation (CIE):

Assessment

- Reduce reliance on memory-based examinations.

Use iterative assignments that value inquiry, process, and critical exploration.

Semester End Examination (SEE):

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (duration 03 hours)

1. The question paper will have ten questions. Each question is set for 20 marks.
 2. There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), should have a mix of topics under that module.
- The students have to answer 5 full questions, selecting one full question from each module.
Marks scored by the student will be scale down to 50 Marks

Building Structure I: Form and Forces			
Course Code	2BAT204	CIE Marks	50
Teaching Hours/Week (L:T:P:S)	2:1:0:0	SEE Marks (THEORY)	50
Total Hours of Pedagogy	40	Total Marks	100
Credits	03	Exam Hours	3
Course objectives: To equip students with foundational knowledge of structural systems, materials, and basic mechanics principles essential for architectural design and building construction, enabling them to analyze load paths, structural elements, and beam behaviors while understanding historical and practical applications			
Teaching-Learning Process (General Instructions) These are sample Strategies, which teachers can use to accelerate the attainment of the various course outcomes. 1. Use of theory, activities, sketches, drawings, assignment and tutorial for teaching. 2. Evaluation by quiz, tests, classroom activities.			
Module-1			5hrs
Structural Systems overview: Structure- Substructure, Superstructure, Basic Structural Systems- Load Bearing Wall System, Framed/Skeleton System, Wall-Frame (Dual) System. Structural elements- Foundation (Substructure), Vertical Members (Columns/Walls), Horizontal Members (Beams/Joists), Slabs/Floor Systems. Different types of Loads on the structure as per IS 875 (Dead, Live, Wind, Seismic). Load Path in building (Load bearing & Framed system).			
Teaching-Learning Process	1) The teacher can use PPTs, Videos to discuss the topic. 2) The students need to sketch and note the discussions. 3) Quizzes, models, seminars from students can be encouraged		
Module-2			5hrs
Material Properties: Different construction materials with emphasis on structural properties viz. steel , concrete, wood, glass, Aluminium in building construction. Basic principles of mechanics: Tension, compression, shear, bending, torsion; symbols and notations; force and stress (Importance, causes & effects on materials).			
Teaching-Learning Process	1) The teacher can use PPTs, Videos to discuss the topic. 2) The students need to sketch and note the discussions. 3) Quizzes, models, seminars from students can be encouraged		
Module-3			6hrs
Mechanics: Classification of mechanics, Force, characteristics of force, classification of force system, Resultant of force, Composition of force, Principles of transmissibility, Free body diagrams, Parallelogram law, Moment of force, Varignon's theorem of moments, Resultant of coplanar concurrent force system, Lami's			

Theorem (Numericals), Resultant of coplanar noncurrent force system(Numericals).	
Teaching-Learning Process	1) The teacher can use PPTs, Videos to discuss the topic. 2) The students need to sketch and note the discussions. 3) Quizzes, models, seminars from students can be encouraged
Module-4 5hrs	
Beams & Loads: Different types of loads(Concentrated, UDL, UVL, External moment, general loading), different types of beams, statically determinate & statically indeterminate, different types of supports, problems on support reactions. Note: In the numerical pertaining to support reactions, loading on the beam shall be restricted to only point load & uniformly distributed load for Cantilever, Simple support, Overhanging beam.	
Teaching-Learning Process	1) The teacher can use PPTs, Videos to discuss the topic. 2) The students need to sketch and note the discussions. 3) Quizzes, models, seminars from students can be encouraged
Module-5 5hrs	
Center of gravity, centroid , to locate centroid of the composite sections from 1st principles(Numericals). Moment of inertia , radius of gyration, parallel axis theorem, perpendicular axis theorem (No derivations). Numericals on determination of moment of inertia of sections (Box, T, I, L, hollow sections) about any defined axis (X & Y axis).	
Teaching-Learning Process	1) The teacher can use PPTs, Videos to discuss the topic. 2) The students need to sketch and note the discussions. 3) Quizzes, models, seminars from students can be encouraged
Course outcome (Course Skill Set) 1. Identify and differentiate basic structural systems (e.g., load-bearing walls, framed, dual, truss), elements (foundations, columns, beams, slabs), load types per IS 875, and load paths in buildings. 2. Explain material properties (steel, concrete, wood, glass, aluminum) and their structural applications, along with fundamental mechanics concepts like tension, compression, shear, bending, and torsion. 3. Analyze force systems, resultants, free body diagrams, moments, and theorems (e.g., Varignon's) for coplanar concurrent and non-concurrent forces. 4. Solve problems on beam support reactions for statically determinate beams under point and uniformly distributed loads, classifying beam types and supports. 5. Calculate centroids, centers of gravity, moments of inertia, radii of gyration, and apply parallel/perpendicular axis theorems for composite sections.	
Assessment Details (both CIE and SEE) The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The student has to obtain a minimum of 50% marks individually both in CIE and 40 % marks in SEE to pass. Semester End Exam (SEE) is conducted for 50 marks (Viva-voce) and a minimum of 50% (50 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together. Continuous Internal Evaluation: Three Unit Tests each of 20 Marks (duration 01 hour) First test at the end of 5th week of the semester Second test at the end of the 10th week of the semester Third test at the end of the 15th week of the semester Two assignments each of 10 Marks	

First assignment at the end of 4th week of the semester

Second assignment at the end of 9th week of the semester

Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for **20 Marks (duration 01 hours)**

At the end of the 13th week of the semester

The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be **scaled down to 50 marks**

(to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (**duration 03 hours**)

The question paper will have ten questions. Each question is set for 20 marks.

There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), **should have a mix of topics** under that module.

The students have to answer 5 full questions, selecting one full question from each module.

Theory paper will be out of 100 marks and will be scaled down to 50 marks.

Suggested Learning Resources:

Books/References:

1. R.K.Bansal, " A Textbook of Engineering Mechanics", 8th Ed, Laxmi Publications, 2011
- 2) S.S. Bhavikatti, " Engineering Mechanics", New Age International, 2026
- 3) S. Ramamrutham, "Engineering Mechanics ", Dhanpat Rai Publishing, New Delhi, 2016.
- 4) B.S.Basavarajaiah & P. Mahadevappa, "Strength of Materials", 3rd Ed, CRC Press, 2010.
- 5) R.S.Khurmi & N. Khurmi, " Strength of Materials", 26th Ed, S Chand Pub., 2018

Web links and Video Lectures (e-Resources):

- ☐ <https://ndl.iitkgp.ac.in>
- ☐ <https://www.youtube.com/watch?v=CcHPzDPYkho>
- ☐ https://www.youtube.com/watch?v=Hn_iozUo9m4
- ☐ https://www.youtube.com/channel/UCXAS_Ekkq0iFJ9dSUIkcAkw
- ☐ <https://ndl.iitkgp.ac.in>
- ☐ https://www.youtube.com/watch?v=arr_xwk-JsM
- ☐ <https://www.youtube.com/watch?v=WWkv4D2LHtk>

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

- 1) Visit a construction yard/site to understand uses of building materials in a structure.
- 2) 1) Visit to a construction site to analyse various forces acting on different components of a building.
- 3) Seminar by students in groups on their learnings.

Digital Tools II			
Course Code	2BAT205	CIE Marks	100
Teaching Hours/Week (L: T:P:S)	0:0:3:0	SEE Marks	--
Total Hours of Pedagogy	90	Total Marks	100
Credits	03	Exam Hours	-
Course Objectives			
• Develop proficiency in advanced AutoCAD drafting and basic SketchUp modeling for architectural representation. • Understand the role of Artificial Intelligence as a collaborative tool in architectural ideation, visualization, and creative design exploration. • Apply AI-assisted workflows to generate, refine, and evaluate architectural design concepts using contemporary AI tools. • Recognize the ethical, legal, and social implications of AI in architecture, including issues of bias, authorship, privacy, and responsible practice. • Document, communicate, and critically evaluate AI-assisted design processes and outcomes through structured presentations and reports.			
Module 1: Advanced AutoCAD and Introduction to SketchUp			
• Reviews fundamental AutoCAD drafting concepts and introduces advanced drawing and editing tools. • Develops proficiency in creating accurate architectural plans, elevations, and sections using layers, blocks, dimensions, and annotation. • Introduces the SketchUp interface, workspace, navigation, and modeling environment. • Explores basic 3D modeling tools, including drawing, push-pull, grouping, components, and materials. • Demonstrates the conversion of 2D AutoCAD drawings into simple 3D architectural models in SketchUp. • Introduces basic scene creation, styles, shadows, and model organization for architectural presentation.			
Module 2: AI-Assisted Architectural Ideation and Design Exploration			
• Introduces AI as a collaborative partner in architectural design and creative workflows. • Explores co-creation, associative ideation, and the architect's role as a critical curator. • Develops prompt writing to communicate design intent using descriptive, stylistic, and contextual prompts. • Encourages iterative design exploration through refinement, style references, and precedent-based ideation. • Emphasizes critical evaluation and refinement of AI-generated design alternatives while maintaining human creativity and design authorship.			
Module 3: AI Applications in Architectural Design			
• AI-assisted concept development using text-to-image tools. • Residential and spatial concept visualization. • Material, texture, façade, and lighting exploration. • Massing studies and design iterations. • Image-to-image transformation and design refinement. • Originality, plagiarism, and intellectual property in AI-assisted design.			
Module 4: Responsible AI in Architectural Practice			

• Ethical use of AI in architecture and design. • Authorship and plagiarism. • Bias and representation in AI-generated content. • Environmental impact of AI technologies. • Labour, attribution, privacy, and data rights. • Responsible integration of AI in architectural practice.
Module 5: Explainable Design and AI Documentation
• Understanding and explaining AI-assisted design decisions. • Documentation of AI-supported design workflows. • Critical evaluation of AI-generated outcomes. • Preparing AI-assisted design reports and presentations. • Developing a Personal Ethical Framework for responsible AI use. • Reflection on AI-assisted design processes and future architectural practice.
Course Outcomes (Semester II)
• CO1: Create accurate architectural drawings and basic three-dimensional models using advanced AutoCAD and SketchUp tools. • CO2: Apply AI-assisted ideation techniques, prompt writing, and iterative workflows to generate and refine architectural design concepts. • CO3: Utilize AI tools for architectural visualization, concept development, material exploration, massing studies, and image-based design refinement. • CO4: Evaluate AI-generated architectural content critically by considering ethical, legal, environmental, and intellectual property issues in professional practice. • CO5: Document, present, and justify AI-assisted design workflows and outcomes while demonstrating responsible and ethical use of AI in architectural design.
Assessment — CIE (100 Marks)
Assessed within the Year-1 40 / 30 / 30 scheme: module assignments (including Form Exploration) 40% · studio integration with the Architectural Design studio 30% the year-level 1,500-word critical essay 30%. Semester II carries the Personal Ethical Framework and the 500-word design justification. Grading rule: no partial credit for impressive outputs without critical engagement.
Suggested Learning Resources
Books • AI Fundamentals for Architects — Sahil Tanveer, RBDS AI Lab (forthcoming). • Delirious Architecture: Midjourney for Architects — Sahil Tanveer. Sahil Tanveer, ‘Delirious Architecture: Midjourney for Architects: Hallucinations and Reality’, Notion Press, 2024 • Neil Leach, Architecture in the Age of Artificial Intelligence (Bloomsbury, 2022). Neil Leach, ‘Architecture in the Age of Artificial Intelligence: An Introduction to AI for Architects’, Ava Pub Sa, 2025 Papers and reports • Bender, Gebru et al., “On the Dangers of Stochastic Parrots” (FAccT, 2021); Gebru et al., “Datasheets for Datasets.” • U.S. Copyright Office, Copyright and Artificial Intelligence, Part 2: Copyrightability (2025). Digital instruments and articles • Midjourney documentation and Runway Academy — for the generative-design workflow.

Site Surveying and Analysis			
Course Code	2BAT206	CIE Marks	50
Teaching Hours/Week (L:T:P:S)	2:1:0:0	SEE Marks (VIVA)	50
Total Hours of Pedagogy	40	Total Marks	100
Credits	03	Exam Hours	—
Course objectives: To develop the knowledge and skills related to surveying and levelling principles and practice and carrying out surveys of land of medium complexity and preparation of survey plans.			
Teaching-Learning Process (General Instructions) These are sample Strategies, which teachers can use to accelerate the attainment of the various course outcomes. 3. Use of theory, activities, sketches, drawings, assignment and tutorial for teaching. 4. Evaluation by quiz, tests, classroom activities.			
Module-1			6hrs
4) Introduction to Surveying – Definition, classification, principles of surveying, character of work, shrunk scale. 5) Levelling – Definition, Classification, Instruments, booking & reduction of levels using mobile applications (Like Level Book, Auto Level Calc, Smart Level Book etc). 6) Levelling – Profile levelling – understand plotting the profile with example.			
Teaching-Learning Process	4) The teacher can use PPTs, Videos to discuss the topic. 5) The students need to sketch and note the discussions. 6) Quizzes, models, seminars from students can be encouraged		
Module-2			4hrs
4. Introduction to Survey Instruments – Theodolite, Total Station, GPS Theodolite – Basic Concepts, Measuring horizontal and vertical angles, Total Station – Uses of total station and applications, Introduction to GPS			
Teaching-Learning Process	4) The teacher can use PPTs, Videos to discuss the topic. 5) The students need to sketch and note the discussions. 6) Quizzes, models, seminars from students can be encouraged		
Module-3			6hrs
5. Contouring : Contour, contour Interval, Characteristics of contours, direct and indirect methods of contours, interpolation and uses of contours. <i>Exercise of preparing the contour map using levelling instruments and interpolation by arithmetic calculation or using CAD software.</i>			
Teaching-Learning	4) The teacher can use PPTs, Videos to discuss the topic. 5) The students need to sketch and note the discussions.		

Process	3) Quizzes, models, seminars from students can be encouraged
Module-4 4hrs	
4) Observation of a Site – Aim is to sharpen observatory skills through visual, tactile and sensory means. For eg; Measurement through pacing, Tactile feel for texture of soil, sense of level differences through walk or quick checks on site using flow of water, direction of flow. 5) Analysis of a Site – Observe, document, analyse elements of a site; Topography: Landforms, contours, Types of soils, Types and location of existing vegetation, other existing site features, Broad climatic study and micro climate on site.	
Teaching-Learning Process	6. The teacher can use PPTs, Videos to discuss the topic. 7. The students need to sketch and note the discussions. 8. Quizzes, models, seminars from students can be encouraged
Module-5 4hrs	
6) Studying Survey Drawing – Learning to read a land survey drawing, types of land survey drawing, scale and north, legends and symbols. 7) Field work – Setting out works such as center lines of a building instruments used in center line marking (exercise setting up the marking of building layout using centerline method).	
Teaching-Learning Process	☐ The teacher can use PPTs, Videos to discuss the topic. ☐ The students need to sketch and note the discussions. ☐ Quizzes, models, seminars from students can be encouraged
Course outcome (Course Skill Set) 4) Apply principles of basic land surveying and levelling 5) Generate and interpret contour maps 6) Utilize contemporary surveying equipment 7) Conduct intuitive and measured site analyses 8) Read survey drawings and execute layout fieldwork	
Assessment Details (both CIE and SEE) The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The student has to obtain a minimum of 50% marks individually both in CIE and 40 % marks in SEE to pass. Semester End Exam (SEE) is conducted for 50 marks (Viva-voce) and a minimum of 50% (50 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together. Based on this grading will be awarded Continuous Internal Evaluation: Three Unit Tests each of 20 Marks (duration 01 hour) First test at the end of 5th week of the semester Second test at the end of the 10th week of the semester Third test at the end of the 15th week of the semester Two assignments each of 10 Marks First assignment at the end of 4th week of the semester Second assignment at the end of 9th week of the semester Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for 20 Marks (duration 01 hours) At the end of the 13th week of the semester The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be scaled down to 50 marks (to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).	

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

The student needs to submit his/her works done throughout the semester, including rough sheets for the Viva examination, at least one day prior to the Viva work examination to the course teacher/coordinator.

1. The Viva-voce will be evaluated by an external teacher appointed by the University along with Course teacher or an internal examiner.
2. The SEE marks list generated is to be signed by both internal and external examiners and submitted to VTU in the sealed cover through the Principal of the institution.

Suggested Learning Resources:

Books/References:

- 1) Surveying Vol I by DR PC Punmia
B.C. Punmia, Ashok Kumar Jain, Arun Kumar Jain, 'Surveying Vol.1', 17th Ed, Laxmu Publications, 2016
- 2) Surveying and Levelling (Part-1) by Kanetkar TP and Kulkarni SV
Kanetkar T.P, and Kulkarni S.V, 'Surveying and Levelling (Part-1)' Pune Vidyarthi Griha Prakashan

Web links and Video Lectures (e-Resources):

- ☐ <https://ndl.iitkgp.ac.in>
- ☐ <https://www.faro.com/en/Industries/Architecture-Engineering-and-Construction>
- ☐ <https://www.youtube.com/watch?v=-JgCfsooiu0>
- ☐ <https://www.youtube.com/watch?v=4hJs81gbl7o>
- ☐ <https://www.youtube.com/watch?v=ZGx37X7KXvc>
- ☐ https://www.youtube.com/watch?v=3ZQd0_fXrnU
- ☐ <https://www.youtube.com/watch?v=mdo2HuM9ciM>
- ☐ <https://www.youtube.com/watch?v=MEtAlrcjNc8>
- ☐ <https://www.youtube.com/watch?v=j8poe2vvD2Q>

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

- 1) Use of modern tools and technology in surveying to be encouraged.

Indian Constitution

Course Title:	Indian Constitution		
Course Code:	2BAT207	CIE Marks	50
Course Type(Theory/Practical/Integrated)	Theory	SEE Marks	
		Total Marks	50
Teaching Hours/Week(L:T:P:S)	1:0:0:0	Exam Hours	Theory
Total Hours of Pedagogy	15hours	Credits	00 (PP)
Course objectives: The course INDIAN CONSTITUTION (22ICO17/27) will enable the students, 1. To know about the basic structure of Indian Constitution. 2. To know the Fundamental Rights (FR's),DPSP's and Fundamental Duties (FD's)of our constitution. 3. To know about our Union Government, political structure & codes, procedures. 4. To know the State Executive & Elections system of India. 5. To learn the Amendments and Emergency Provisions, other important provisions given by the constitution.			
Teaching-Learning Process These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcome sand make Teaching –Learning more effective: Teachers shall adopt suitable pedagogy for effective teaching - learning process. The pedagogy shall involve the combination of different methodologies which suit modern technological tools. (i) Direct instructional method (Low / Old Technology), (ii) Flipped classrooms (High /advanced Technological tools), (iii) Blended learning (Combination of both), (iv) Enquiry and evaluation based learning, (v) Personalized learning, (vi) Problems based learning through discussion. (iii) Apart from conventional lecture methods, various types of innovative teaching techniques through videos, animation films may be adapted so that the delivered lessons can progress the students In theoretical applied and practical skills.			
Module-1 (03 hours of pedagogy) 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.			
Module-2 (03 hours of pedagogy) 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 Situations. building.			
Module-3 (03 hours of pedagogy) 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.			
Module-4 (03 hours of pedagogy) Parliament-L Sand R S, Parliamentary Committees, Important Parliamentary Terminologies. Judicial System of India, Supreme Court of India and other Courts, Judicial Reviews and Judicial Activism.			
Module-5 (03 hours of pedagogy) 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.			
Course out come(Course Skill Set) At the end of the course 22IC017/27 the student will be able to:			
CO1	Analyse the basic structure of Indian Constitution.		
CO2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.		
CO3	Know about our Union Government, political structure & codes, procedures.		
CO4	Understand our State Executive & Elections system of India.		
CO5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution.		

Assessment Details (both CIE and SEE)

The course is having only Continuous Internal Evaluation (CIE) is of 50. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50).

Continuous Internal Evaluation (CIE):**Two Unit Tests each of 30 Marks (duration 01 hour)**

- First test after the completion of 30-40% of the syllabus
- Second test after completion of 80-90% of the syllabus

One Improvement test before the closing of the academic term may be conducted if necessary. However best two tests out of three shall be taken into consideration

Two assignments each of 20 Marks

The teacher has to plan the assignments and get them completed by the students well before the closing of the term so that marks entry in the examination portal shall be done in time. Formative (Successive) Assessments include Assignments/Quizzes/Seminars/ Course projects/Field surveys/ Case studies/ Hands-on practice (experiments)/Group Discussions/ others. The Teachers shall choose the types of assignments depending on the requirement of the course and plan to attain the Cos and POs. (to have a less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).CIE methods /test question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

The sum of two tests, two assignments, will be out of 100 marks and will be scaled down to 50 marks

Suggested Learning Resources:**Text book:**

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. “**Constitution of India, Professional Ethics and Human Rights**” by Shubham Singles, Charles E. Haries, and etal: published by Cengage Learning India, Latest Edition – 2019.
2. “**The Constitution of India**” by Merunandan K B: published by Merugu Publication, Second Edition, Bengaluru.
3. “**Samvidhana Odu**”-for Students & Youths by Justice H N Nagamohan Dhas, Sahayana, kerekon.
4. M.Govinda rajan, S.Natarajan, V.S.Senthilkumar, “**Engineering Ethics**”, Prentice–Hall, 2004.

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 Hand outs
- ✓ Organizing Group wise discussions Connecting to placement activities
- ✓ Quizzes and Discussions
- ✓ Seminars and assignments

Traffic Awareness & Road Safety			
Course Code	2BAT208	Scheme	2026-27
Type of Course	HSMC	Semester	02
Teaching Hours/Week (L:T:P)	01	CIE Marks	50
Total Hours of Pedagogy per semester L /T/S/P/SL&TW:	14	SEE Marks	
Credits	-	Total Marks	50
Examination type (SEE)	CIE	Exam Hours	-
Course objectives: To Introduce the concept, principles, tools and aids of Road Safety and Civic Sense to the students of B Arch. To acquaint them with the design and safety standards for roads. Also inculcate the practice of safe road behaviour and civic sense among them.			
Teaching-Learning Process (General Instructions) These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes. 1. Use of theory, activities, sketches, drawings, assignment and tutorial for teaching. 2. Evaluation by quiz, tests, classroom activities.			
Module-1			
1) Introduction to Road Safety. Road as an active space, Types of users, User behaviour, Sensory Factors like Vision and Hearing in User Behaviour. Types of Vehicles: Heavy Vehicles, Light Motor Vehicle, Two Wheelers, Auto- Rickshaw, Bicycles and Cycle Rickshaws, Non Motorised Vehicles. Vehicle Characteristics: Dimensions, Weight, Turning Radii, Braking Distance, Lighting System, Tyres, etc. Types of Hazards: Conflicts and Accidents.			
Module-2			
2) Typology of Roads: Components and Design Road Classification: National Highways, State Highways, District Roads (MDR and ODR), Village Roads. Urban Road Classification: Expressways, Arterial, Sub-Arterial, Collector, Local, Service Roads, One-Way, Two-Way etc. Mountainous Roads. Speed Limits of Road types. Design of Roads: Cross Sectional Elements- Right of Way, Carriageway, Median, Shoulders, Side Walks, Lanes, Cycling Track, Green Strip, Curbs, Camber, etc. Spatial Standards for the Cross-Section Design. Relationship between Road design and Road Safety.			
3) Intersections Types of Road Intersections: Basic forms of at-grade Junctions (T, Y, Staggered, Skewed, Cross, Scissors, Rotary, etc. Grade Separated Junctions (with or without interchange): Three –Leg, Four-Leg, Multi-Leg, etc. Design of Intersections: Design and Spatial Standards for Traffic Islands, Turns, Turning Radii, Directional Lanes, Pedestrian Crossings, Median Openings, Traffic Calming Components like Speed Breakers and Table-Top Crossings etc. Design Considerations for Diverging, Merging and Weaving Traffic. Location and Design for Traffic Signals.			

Module-3
4) Pedestrian Circulation and Barrier Free Design Requirement of Pedestrian Infrastructure: Sidewalks and footpaths, Recommended Sidewalk widths, Pedestrian Crossing, Pedestrian Bridges, Subways, Cycle Tracks, etc. Barrier free design: Location and Design Standards for Ramps for wheel Chair Access, Other Provisions like Tactile for Visually Challenged etc. Safety Provisions: Pedestrian Railings, Anti-skid Flooring, Pedestrian Signal, Walk Button, etc.
Module-4
5) Traffic Signs and Road Markings Types of Traffic Signs: Principles and Types of Traffic Signs, Danger Signs, Prohibitory Signs, Mandatory Signs, Informatory Signs, Induction Signs, Direction Signs, Place Identification Signs, Route Marker Signs, etc. Reflective Signs, LED Signs, Static and Dynamic signs. Standards for Traffic Signs: Location, Height and Maintenance of Traffic Signs. Types of Road Markings: Centre Lines, Traffic Lane Lines, Pavement Edge Lines, No Overtaking Zone Markings, Speed Markings, Hazard Markings, Stop Lines, Pedestrian Crossings, Cyclist Crossings, Route Direction Arrows, Word Messages, Marking at Intersections, etc. Material, Colour, and Typography of the Markings. 6) Traffic Signals, Traffic Control Aids, Street Lighting Traffic Signals: Introduction, Advantages and Disadvantages Signal Indications: Vehicular, Pedestrian and Location of the Signals. Signal Face, Illustration of the Signals, Red, Amber, Green Signals and its significance, Flashing Signals Warrant of Signals, Co-ordinated Control of Signals. Traffic Control Aids: Roadway Delineators (Curved and Straight Sections) Hazard Markers, Object Markers, Speed Breakers, Table Top Crossings, Rumble Strips, Guard Rails and Crash Barriers etc. Street Lighting: Need for Street Lighting, Type of Lighting, Illumination Standard, Location and Intermediate Distance.
Module-5
7) Road Accidents Nature and Types of Road Accidents (Grievously Injured, Slightly Injured, Minor Injury, Non injury, etc) The Situation of Road Accidents in India (yearly), Fatality Rates, etc Factors (and Violations) that cause accidents. Prevention and First Aid to Victims. Collision Diagrams and Condition Diagram exercises. Traffic Management Measures and their influence in Accident Prevention. 8) Road Safety and Civic Sense Need for Road Category of Road Users and Road Safety Suggestions. Precautions for Driving in Difficult Conditions (Night, Rain, Fog, Skidding Conditions, Non Functional Traffic lights, etc.) Type of Breakdowns and Mechanical Failures. Accident Sign (Warning Light, Warning Triangle, etc.) Introduction to Concept of Civic Sense and its relationship to Road Safety: Importance of Civic Sense, Road Etiquettes and Road User Behaviour, Rules of Road, Right of the Way. Providing Assistance to Accident Victim. Sensitisation against Road Rage. 9) Traffic Regulations, Laws & Legislations

Indian Motor Vehicle Act (Chapter VIII: Control of Traffic to be discussed in detail) Regulation Concerning Traffic: Cycles, Motor Cycles and Scooters, Rules for Pedestrian Traffic, Keep to the Left Rule, Overtaking Rules, Turning Rules, Priority Rules, Hand Signals, etc. Speed and Hazard Management. Penal Provisions. National Road Safety Policy, Central Motor Vehicle Rules, State Motor Vehicle Rules. Introduction to
Course outcome (Course Skill Set) 1) The students will be able to learn various aspects of road safety. 2) The students will be able to apply technical details in design of various types of road and road geometrics. 3) The students will be able to understand legislations with respect to road safety. Practices.
Assessment Details (CIE) (methods of CIE need to be defined topic wise i.e.- Studio/ Class room/Tutorial discussions, Reviews, Time problems, test, Seminar or micro project) The weightage of Continuous Internal Evaluation (CIE) is 100% and there is no Semester End Exam (SEE) .The student has to obtain a minimum of 50% marks in CIE and is conducted for 100 marks. Based on the CIE marks grading will be awarded. Continuous Internal Evaluation: Methods suggested: 1. Studio discussions, Reviews, Time problems, CIE tests, Seminar or micro project, Quiz, report writing etc. 2. The class teacher has to decide the course of learning for the subject, in the beginning only. The teacher has to announce the methods of CIE for the subject in advance in writing. Semester End Examination: 1. There is no Semester End Exam (SEE) The CIE marks list generated is to be signed by the internal examiners and submitted to VTU as per the procedure through the Principal of the institution.
Suggested Learning Resources: Books 1. Introduction to Traffic Engineering, R Srinivasa Kumar 2. Traffic Engineering and Transport Planning, L R Kadiyali 3. Book on Road Safety Signage and Signs, Ministry of RoadTransport and Highways, Government of India. 4. MORT&H Pocketbook of Highway Engineers, 2019(Third Revision) 5. Publication by UTTIPEC namely, Street Design Guidelines, UTTIPEC guidelines for Road Marking, UTTIPEC guideline and specification for Crash Barriers, Pedestrian Railing and Dividers, UTTIPEC Standard Type Crossing Design. 6. Street Design Standards as provided in Timesavers, Neuferts etc. Publications by Indian Road Congress.
Web links and Video Lectures (e-Resources): - ī https://ndl.iitkgp.ac.in - ī https://www.youtube.com/watch?v=5sl9kDnFTbg - ī https://www.youtube.com/watch?v=imtg0SYq5IM - ī https://www.youtube.com/watch?v=BZQFNvYMAm8 https://www.youtube.com/watch?v=sCXtcXD17qU
Activity Based Learning (Suggested Activities in Class)/ Practical Based learning 1. Visit to Regional Transport office to observe variety of activities and discussion with officials. 2. Participation in Traffic Surveys. - ī Preparation of a street plan and drawings for pedestrian friendly environment.

