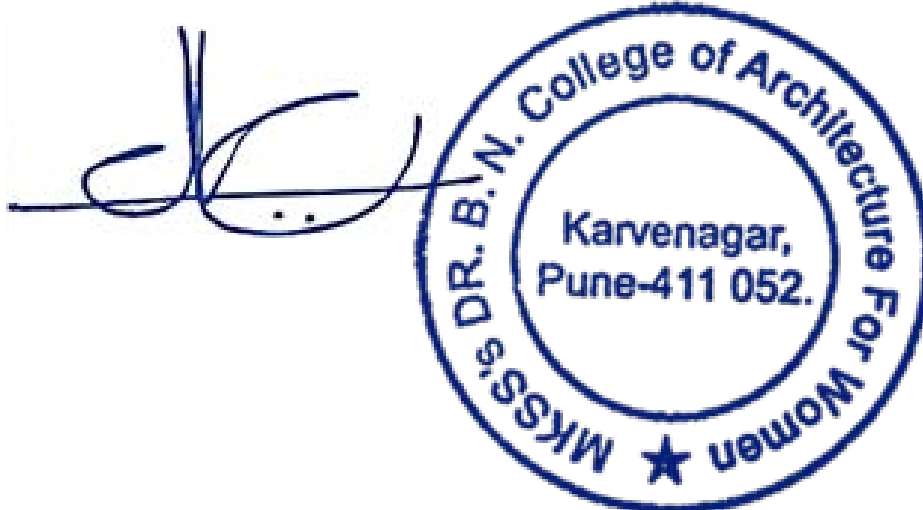
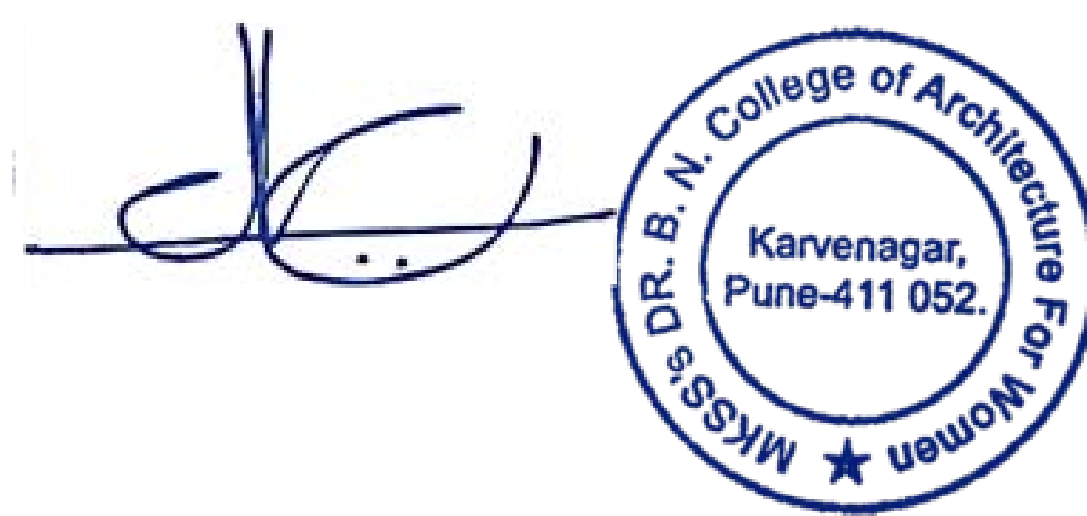


First Year Bachelor of Architecture															
CO - PO Mapping															
			Ability to communicate design using various representation tools	Design Architectural form working from a conceptual argument that is well articulated and presented and uses the principles of form making.	Ability to prepare a design brief that is presented as a detailed analysis of all the functions and associated activities.	Ability to employ appropriate Structural system with an understanding of its components and with due architectural considerations	Ability to resolve various associated services in response to the challenges posed by building typology / scale / site.	Ability to design a building using a variety of passive climate control strategies including orientation, site planning, and building envelope design	Ability to design outdoor space with a program and achieving a good integration of the inside and the outside	Ability to theoretically position a project as an argument for an issue of urban, cultural or architectural relevance	Ability to extensively analyse context of a project and explore a set of possible ways of responding to the social and cultural context	Preparing design documentation that is adequate for various requirements such as estimation, construction and regulatory approvals.	Ability to undertake research activity in any area related to the built environment	Ability to execute a project in a competent manner including client communication and collaboration with the various consultants	
Sem	Sub	CO / PO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
S01	BD	CO 1	Diagram the sensory experience of space												
S01	BD	CO 2	Identify spatial roles played by elements of space making												
S01	BD	CO 3	Explain a composition graphically using Gestalt vocabulary												
S01	BD	CO 4	Correlate various creativity techniques with design processes of given buildings - Matrix of Ideas, Abstraction, Mental Associations, Transformation												
S01	BD	CO 5	Analyse given entrances in terms of the sequential design moves involved												
S01	BD	CO 6	Design an entrance using a sequence of design moves												
S01	BD	CO 7	Associate Built form with emotional experience by analysing memorials												
S01	BD	CO 8	Explain life story of a chosen character through emotional highpoints												
S01	BD	CO 9	Compose a set of spatial forms to communicate experiences												
S01	BD														
S01	BD	CO 10	Understand schema as a way of organising architectural knowledge												
S01	BD	CO 11	Apply basic architectural schema to buildings and present that as parti diagrams												
S01	BCM1	CO1	Understanding of building components to illustrate them in an a building with load transfer diagrams	1											
S01	BCM1	CO2	Recognize types and characteristics of various materials. Quality tests of material used for construction of load bearing elements.	1			1								
S01	BCM1	CO3	Application of principles of masonry unit and understand process of construction for load bearing structures (masonry unit, mortar types , pointing, DPC, coping, tools used).	1			1								
S01	BCM1	CO4	Describe and graphically depict components of a strip foundation and the roles that they perform in function of the footing w.r.t soil type and bearing capacity.	1											
S01	BCM1	CO5	Resolve junctions and apply various brick bonds and their usage in different geometrical conditions such as L T and + junctions and attached detached piers.	1			1								
S01	BCM1	CO6	Understand types of Arches, associated terminology and their geometrical setting out and transfer of load in arches.	1			1								
S01	BCM1	CO7	Give examples of structures using Bamboo as a construction material and alternate materials and earth as a building material.	1											
S01	TOS1	CO1	Discussing the concept of forces on applied mechanics and statics.	1			1							1	
S01	TOS1	CO2	Interpreting different system of forces and their equilibrium.	1			1							1	
S01	TOS1	CO3	Discussing the various loads on the buildings.	1			1						1	1	
S01	TOS1	CO4	Explaining stresses and strains for various materials and its stress strain diagram.	1			1							1	
S01	TOS1	CO5	Discussing the transfer of loads and principles of earthquake resistance on the load bearing and framed structure.	1			1							1	
S01	TOS1	CO6	Explaining concept of CG and MI of plane lamina	1			1							1	
S01	TOS1	CO7	Calculations of CG and MI of different shapes	1			1							1	
S01	TOS1	CO8	Discussing different types of supports and loads	1			1							1	
S01	TOS1	CO9	calculations of reactions of different types of supports and loads acting on it	1			1						1	1	
S01	TOS1	CO10	Explaining concept of SFD and BMD of simply supported and cantilever beam	1			1							1	
S01	TOS1	CO11	Analyzing SFD BMD of five standard cases	1			1						1	1	
S01	AGD1	CO 1	Understand method of setting up a sheet, using drafting tools and techniques of drafting.	2											
S01	AGD1	CO 2	Remember the skill of setting up a sheet and demonstrate it in the assigned task.	2											
S01	AGD1	CO 3	Understand use of various lines in a drawing and draw them using drafting tools.	1											2
S01	AGD1	CO 4	Restate the standard conventions and annotations to communicate information on a drawing.	1											2
S01	AGD1	CO 5	Understand concept of scale in a drawing and demonstrate its need to communicate detailed information based on the intent of drawing.	1											
S01	AGD1	CO 6	Remember and redraw geometrical methods for construction of 2D complex shapes.	2											
S01	AGD1	CO 7	Illustrate geometrical characteristics and formation of various 3 D solids.	2											
S01	AGD1	CO 8	Demonstrate representation of 3D objects in drawing using various graphical systems.	2											
S01	AGD1	CO 9	Apply the knowledge to draw plan, section, elevations and view of simple objects having straight edges, curvilinear surfaces and inclined surfaces.	2											2
S01	AGD1	CO 10	Apply the knowledge to draft plan, section , elevations and view of tilted objects, composite objects and complex objects.	2											2
S01	AGD1	CO 11	Reproduce a complete set of drawings of a simple given building												2
S01	AGD1	CO 12	Illustrate application of scale and building details in the given drawing .												2
S01	HAC1	CO 1	Summarise the characteristics features of contribution by a particular civilisation.												
S01	HAC2	CO 2	Analyse which factors influence architecture and planning of ancient civilisations, thus Understand the term context												
S01	HAC3	CO 3	Understand sense of individual, community and society.												
S01	HAC4	CO 4	Identify factors governing the built expression at all levels as a result of needs and resources.												
S01	HAC5	CO 5	Understand how ideas travel and influence rock cut architectural expression in India.												
S01	HAC6	CO 6	Redraw and name architectural typology of chaitya, vihara and stupa.												
S01	HAC7	CO 7	Analysis questions for History tour for Buddhist architecture												
S01	HAC8	CO 8	Explain development of Hindu temples from single shrine to temple complex in Indian subcontinent.												
S01	HAC9	CO 9	Understand and discuss regional expression of temples in North India wrt form and material.												
S01	HAC10	CO 10	Group work for other typologies												
S01	HAC11	CO 11	Discuss case of a temple town wrt urban factors.												
S01	HAC12	CO 12	Understand and discuss regional expression of temples in South India wrt form and material.												
S01	HAC13	CO 13	Analyse temple for architecture language wrt sequence of spaces, light quality and volume.												
S01	HAC14	CO 14	Discuss factors like climate and socio-cultural context influencing architectural expression.												
S01	CS	CO1	Use techniques of active reading and demonstrate the same by use of marginalia									1		1	
S01	CS	CO2	Report self-participation in a discussion											1	1
S01	CS	CO3	Demonstrate understanding through photographs and explanatory writuep	1										2	
S01	CS	CO4	Self-reflect on a learning event											2	1
S01	CS	CO5	Compose a poster/ mindmap using graphical and written content	2											
S01	CS	CO6	Compile examples of gestalt principles from published media	1											
S01	CS	CO7	Analyse a composition and identify organising principle	2	2										
S01	CS	CO8	Compose poster using graphical and written content	2											
S01	CS	CO9	Follow the given instructions for drawing lines and shapes and reproduce the same.	1											
S01	CS	CO10	Demonstrate understanding of perspective through hand sketches	1											
S01	CS	CO11	Apply basic image editing tools and prepare clean copies of 3 sketches	2											
S01	CS	CO12	Use transformation tools to colorise, fill, scale the images	2											
S01	WS	CO 1	Adhere to the instructions and cut-fold cardsheet template to make a composition												
S01	WS	CO 2	Recreate a model of the given building using model board												
S01	WS	CO 3	Demonstrate precise carving of foam concrete block and achieve the target volume model												
S01	WS	CO 4	Construct a model of given building using mill board / Brown board by choosing appropriate combination of materials and suitable sequence of actions												
S01	WS	CO 5	Construct a façade model of the given building based on the drawings and photographs												
S01	WS	CO 6	Replicate the instructions and build a stool from corrugated board												
S02	AD1	CO 1	Understand and Analyze a given structure using the criteria of Structure, Environment, Culture, Form, and Function												
S02	AD2	CO 2	Illustrate and Document tribal house form through measured drawings and models												
S02	AD3	CO 3	Apply understanding of given house patterns from Christopher Alexander's Pattern Language and illustrate them using spatial and formal expressions from the settlement studied.												
S02	AD4	CO 4	Analyze the given building using the design principleXdesign approach matrix												
S02	AD5	CO 5	Create a set of design instances for the assignment using the matrix.												
S02	AD6	CO 6	Evaluate the instances and choose an approach for design development												
S02	AD7	CO 7	Illustrate functional analysis using bubble diagram that clearly shows relationship between identities using appropriate modifiers												
S02	AD8	CO 8	Design a built form in response to a reframed design problem												
S02	AD9	CO 9	Design a building incorporating atleast two of the identified settlement patterns (Based on Pattern language)												
S02	AD10	CO 6	Evaluate your self design with reference to Climate, Culture and qualities of Form												
S02	AD11	CO 10	Build massing models and evaluate them based on functional feasibility												
S02	AD12	CO 11	Represent the design idea as a massing model and a detail model												
S02	AD13	CO 12	Develop figure ground compositions for the design assignment using the ArchiBlox												
S02	AD14	CO 13	Prepare a set of drawings to communicate the design idea.												
S02	BCM2	CO1	Recognise reasons for failure of structures in earthquake prone zone and determine techniques to prevent failure due to seismic load.	1											
S02	BCM2	CO2	Determine techniques to prevent failure due to seismic load.	1			1								
S02	BCM2	CO3	Recognize Characteristics, Quality tests of material used for construction , derivatives of timbers	1											
S02	BCM2	CO4	Recognize and Label various Tools, Equipment and their usage in construction process and cost of work.	1											
S02	BCM2	CO5	Explain terminology, loading, joinery and design details for the floor ad staircase	1			2								
S02	BCM2	CO6	Understand types of doors , detail sections, hardware needed and design details for timber doors	1			1								
S02	BCM2	CO7	Understand types of windows , detail sections, hardware needed and design details for timber windows.	1					1						
S02	BCM2	CO8	Understand span and types of roof , identify loading of the truss from structures.	1					1						
S02	BCM2	CO9	Demonstrate detail sections, joinery and design details for timber truss.	1											
S02	BCM2	CO10	Design and derive wooden partitions with necessary hardware, finishes and joinery.	1											
S02	TOS2	CO1	Analyzing Overhanging beam for Shear force and Bending moment	1			1						1	1	
S02	TOS2	CO2	Discuss lattice construction	1	1		1			1			1	1	
S02	TOS2	CO3	Analyze perfect truss	1			1							1	
S02	TOS2	CO4	Illustrate the effect of various types of loads, supports and cross sections on bending stresses in beams	1			1						1	1	
S02	TOS2	CO5	Illustrate the effect of various types of loads, supports and cross sections on shear stresses in beams	1			1						1	1	
S02	TOS2	CO6	Illustrate the effect of various types of loads, supports and cross sections on deflection in beams (only simply supported with symmetric loading and cantilever with udl and point load at tip)	1			1						1	1	
S02	TOS2	CO7	Demonstrate the effect of eccentricity in columns in terms of resulting stresses	1			1						1	1	
S02	TOS2	CO8	Predicting the load carrying capacity of long, intermediate and short columns with various end conditions	1	1		1						1	1	
S02	AGD2	CO1	Construct an orthographic representation of a given interpenetrating-built form	1											1
S02	AGD2	CO2	Develop the surface of given solids	1											1
S02	AGD2	CO3	Draw a perfect projection of true shape of a sectional plane	1											1
S02	AGD2	CO4	Build a One point perspective	1											1

[illegible]

Second Year Bachelor of Architecture															
CO - PO Mapping				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
				Ability to communicate design using various representation tools	Design Architectural form working from a conceptual argument that is well articulated and presented and uses the principles of form making.	Ability to prepare a design brief that is presented as a detailed analysis of all the functions and associated activities.	Ability to employ appropriate Structural system with an understanding of its components and with the architectural considerations	Ability to resolve various associated services in response to the challenges posed by building typology/ scale/ site.	Ability to design a building using a variety of passive climate control strategies including orientation, site planning, and building envelope design	Ability to design outdoor space with a program and achieving a good integration of the inside and the outside	Ability to theoretically position a project as an argument for an issue of urban, cultural or architectural relevance	Ability to extensively analyse context of a project and explore a set of possible ways of responding to the social and cultural context	Preparing design documentation that is adequate for various requirements such as estimation, construction and regulatory approvals.	Ability to undertake research activity in any area related to the built environment	Ability to execute a project in a competent manner including client communication and collaboration with the various consultants
AD 2	CO1	To analyze the case studies in terms of their design principles, spatial organizational patterns, materiality, and contextual relevance													
AD 2	CO2	Documenting and Analysing works of Designers as Precedent Studies & Presenting the Analysis													
AD 2	CO3	Learn to analyze the case studies in terms of their design principles, spatial organizational patterns, materiality, and contextual relevance, Analysing spatial experiences of selected case studies and presenting them in graphical and verbal format													
AD 2	CO4	Analysing the takeaway from precedent Studies & the Study on site and evolving the Program Statement with justification for space allocations													
AD 2	CO5	At the end of the session student would be able to categorize given bungalow plans, based on their characteristics into archetypes of residential design													
AD 2	CO6	Presenting with 2D Drawings the Space Configuration through Archetype Evolution													
AD 2	CO7	At the end of the session student would be able to categorize given bungalow plans, based on their characteristics into archetypes of residential design													
AD 2	CO8	Develop alternatives based on 2 or 3 archetypes and evaluating each based on the criteria defined in the studio brief													
AD 2	CO9	To analyse activities and identify their subsets, grouping and separation of activities, develop adjacency diagrams													
AD 2	CO10	Justifying the layouts with circulation study, activity adjacency and satisfying function													
AD 2	CO11	Learn to develop a thorough understanding of the functional requirements of architectural design, including spatial needs, circulation patterns, and user interactions.													
AD 2	CO12	Analyse activities and identify their subsets, grouping and separation of activities, develop adjacency diagrams													
AD 2	CO13	Develop 2-3 massing options based on the selected archetypes and evaluate them based on proportions, mass-void connections, scale, context etc. (specific to the design brief)													
AD 2	CO14	Study of Volumes & Form through 3D Explorations													
AD 2	CO15	To learn and explore various options for vertical connections and volumetric compositions through hands on exercises of sketching, making physical models etc.													
AD 2	CO16	To understand and apply structural systems, position and size of openings, spans as per spatial organization patterns, structural grid.													
AD 2	CO17	Working on grid, modifying grid, making patterns, studying aspects related to child anthropometry, psychology etc													
AD 2	CO18	To understand response to climate through orientation and position of spaces, position of openings													
AD 2	CO19	To analyse the openings, orientation of spaces with respect to sun and shadow, wind analysis, response to the context													
AD 2	CO20	To evaluate and modify the spatial organization and design mass in response to the selected parameters													
AD 2	CO21	Exhibiting Activity Adjacency, Juxtaposition of Spaces and Structural Understanding in Plans, Elevations & Sections through Architectural Drawings													
AD 2	CO22	Developing series of experiential narrative sketches/sections for your design.													
AD 2	CO23	To learn the Aesthetic aspects of Design (visual and experiential)													
AD 2	CO24	along with spatial attributes													
AD 2	CO25	Apply graphical knowledge and achieve adequate command over graphical conventions of drawing plans, sections and elevations and model.													
BCM 3	CO 1	Understanding the different types of soil and their characteristics, role of soil in site investigation.													
BCM 3	CO 2	Learning about the concept of soil bearing capacity.													
BCM 3	CO 3	Exploring the concept of the pressure bulb under various conditions													
BCM 3	CO 4	Understanding the design principles and applications in construction of Shallow foundation/footing, and be able to select appropriate foundation types based on site conditions and structural requirements													
BCM 3	CO 5	To Understand the construction details of plinths, differentiate between ground beams and plinth beams, and apply beam design principles for areas with sunk slabs, such as toilets.													
BCM 3	CO 6	Remembering the difference between primary and secondary beams and understand their respective roles in structural systems.													
BCM 3	CO 7	Creating drawing that shows R.C.C structural details up to plinth viz. footings, external and internal plinth beams, with plinth formation, with details for toilet block at plinth level.													
BCM 3	CO 8	To Understand Composition of cement, properties, grades of cement & various types of cement and their uses.													
BCM 3	CO 9	To remember its ingredients viz. binding material, fine aggregate, coarse aggregate and water cement ratio, storage of materials on site, understanding good quality material; field & lab tests involved													
BCM 3	CO 10	To Understand the concept of Steel, grades of steel and steel-mesh reinforcement; along with role of reinforcement in RCC													
BCM 3	CO 11	To Understand of precast concrete, including its definition, types, Design, manufacturing processes, and advantages over traditional cast-in-place concrete methods.													
BCM 3	CO 12	To understand and remember the principle of column position, line-out on site, position of columns, centerline details, reinforcement details and resolving junctions													
BCM 3	CO 13	To prepare the drawing that provide the details mentioned above													
BCM 3	CO 14	To understand and draft sheet with column beam junction details that reflect, Earthquake resistant measures for RCC Construction													
BCM 3	CO 15	Understanding and creating details that indicates, R.C.C floor slab details, viz. one-way, two-way slabs with different end conditions, column beam-slab junction with details for toilet block, also lintel & weather-shed													
BCM 3	CO 16	To Understand the concept, performance, manufacturing process, design, advantages, disadvantages and installation process of Non timber Windows													
BCM 3	CO 17	To collect the market survey for types of Non-Timber windows													
BCM 3	CO 18	To understand the concepts of flooring including various types, installation process, market forms of flooring and paving materials with sample collection and market survey													
TOS 3	CO 1	Discussing the concept of bending moment of fixed beams.													
TOS 3	CO 2	Determining the bending moment on given fixed beams.													
TOS 3	CO 3	Evaluating the concept of continuity over supports for continuous beams.													
TOS 3	CO 4	Explaining torsion and its applications													
TOS 3	CO 5	Discussing the various loadings acting on the structures.													
TOS 3	CO 6	Describing the working stress method and its applications in detail.													
TOS 3	CO 7	Summarizing wood as structural material.													
TOS 3	CO 8	Formulation of primary wooden flexural member depending upon the supports.													
TOS 3	CO 9	Discussing the theory of concrete material with respect of its properties and various tests of concrete as per standard given.													
TOS 3	CO 10	Describing steel used in RCC elements with respect to its properties.													
TOS 3	CO 11	Describing theory of limit state method													
TOS 3	CO 12	Identifying of various slabs													
TOS 3	CO 13	Calculating for various types of slabs for given architectural layout													
TOS 3	CO 14	Discussion on small slabs and inverted beams.													
TOS 3	CO 15	Calculation of loads on simply supported RCC beam for one way slab.													
TOS 3	CO 16	Discussion on beams supporting cantilever porch.													
TOS 3	CO 17	Explaining RCC columns with various IS provisions													
TOS 3	CO 18	Calculation of loads on short RCC column.													
CADG	CO 1	Implementing different techniques for rendering													
CADG	CO 2	Adhering to any one rendering technique and demonstrating it using architectural drawings													
CADG	CO 3	Copying and following the commands to produce the drawing with the help of computers. Adhering to any one rendering technique and demonstrating it for 3D views													
CADG	CO 4	Copying and following the commands to produce the drawing with the help of computers													
CADG	CO 5	Understand concept of scale in a drawing and demonstrate its need to communicate detailed information based on the intent of drawing.													
CADG	CO 6	Copying and following the commands to produce the drawing with the help of computers													
CADG	CO 7	Copying and following the commands to produce the drawing with the help of computers													
CADG	CO 8	Copying and following the commands to produce the drawing with the help of computers													
CADG	CO 9	Recreate architectural drawing using CAD Software													
CADG	CO 10	Recreate architectural drawing using CAD													
CADG	CO 11	Software Ability to plot and produce legible and complete drawings													
HAC 3	CO 1	Illustrate Four Typologies of Greek													
HAC 3	CO 2	Architecture with names of buildings													
HAC 3	CO 3	Illustrate Architecture of the Parthenon in Greek Architecture													
HAC 3	CO 4	Describe Orders of Greek Architecture													
HAC 3	CO 5	Compare the orders of construction with Greek orders													
HAC 3	CO 6	Illustrate the Pantheon W.R.T. its massing, structure, materials and quality of light													
HAC 3	CO 7	Illustrate the Colosseum with respect to its Structure, materiality													
HAC 3	CO 8	Illustrate the Thermae of Caracalla with respect to its Structure, materiality													
HAC 3	CO 9	Illustrate the Roman Aqueduct with respect to its load transfer and stability													
HAC 3	CO 10	Define and list the Typical Early Church terminology													
HAC 3	CO 11	Report the Architecture of the old St.Peter's Basilica in Rome													
HAC 3	CO 12	Explain the concept of Pendentives and how they work													
HAC 3	CO 13	Simplify the structure of Hagia Sophia													
HAC 3	CO 14	Illustrate the Romanesque Style through the example of Pisa Cathedral Complex in Italy - Pisa Complex Plan (1), Leaning Tower of Pisa (1), Pisa Cathedral (1) and Pisa Baptistry (1)													
HAC 3	CO 15	Illustrate Gothic Elements such as Pointed arch, flying buttress, ribbed vault,													
HAC 3	CO 16	pinnacles, spires													
HAC 3	CO 17	Interpret Gothic Load Transfer System													
HAC 3	CO 18	Illustrate any one Gothic Cathedral - Reims/Notre Dame/Cologne/etc													
HAC 3	CO 19	Interpret the works of Palladio, Micheal Angelo and Brunelleschi - Illustrate St. Peter's Basilica and Florence Cathedral													
HAC 3	CO 20	Illustrate Facade of Baroque Buildings													
HAC 3	CO 21	Illustrate Elements of Rococo Architecture													
BS1	CO 1	Describing the process of water purification, Describe the method of Ferrule connection													
BS1	CO 2	Calculate the UG and OH water tank as per requirement, Diagraming the plan and section of RCC UG and OH water tank, Paraphrasing the types of pump based on their use and capacity, Summarize the materials and forms of pipes													
BS1	CO 3	Summarize the materials and forms of pipes Paraphrasing the types of valves based on their use													
BS1	CO 4	Summarizing the various market forms of plumbing fixtures with their available companies													
BS1	CO 5	Give original examples of the plumbing fixtures from residence													
BS1	CO 6	Describing the installation techniques of various fixtures/ fittings, Describing the toilet layout - residence, Discussing the type of trap as per their application in layout,													
BS1	CO 7	Determining the vertical drainage installation with all components, joinery and materials with their sizes, Determining the special fittings in high rise buildings													
BS1	CO 8	Calculating the invert level and gradient along with location of access points													
BS1	CO 9	Summarizing the rain water harvesting methods like ground recharge, recharge well, etc.													
BS1	CO 10	Summarize Septic tank and other decanalstrated waste water treatments wrt. the components, sizes (for collection), working principle along with maintenance													
BS1	CO 11	Explaining hot water systems, the components and equipments.													

Climatology	CO 1	To recall the movement pattern of the earth w.r.t Sun and the occurrence of weather phenomena
Climatology	CO 2	To be able to represent the available climate data from different sources in graphical format.
Climatology	CO 3	To analyse the represented graphical climate data for identification of climate issues
Climatology	CO 4	To illustrate sunpath as a tool for climate analysis
Climatology	CO 5	To analyse climate type using climate based tools
Climatology	CO 6	To explain passive design strategies through case studies for precedent study
Climatology	CO 7	To demonstrate the passive strategies by using experimental method and tools
Climatology	CO 8	To explain application of various architectural design strategies and decision tool
AD 3	CO1	Discuss key concepts from planning theories that are relevant to campus design
AD 3	CO2	Summarize ideas that are used in planning theories applicable for campus design
AD 3	CO3	Analysis of existing campus for functional requirements, design parameters and climate response
AD 3	CO4	Construct and formulate area program and describe it in two page writeup. (based on precedent studies, associated theories, and case studies)
AD 3	CO5	To Develop a space programme for built spaces based on the brief
AD 3	CO6	Develop a space programme for built and open spaces based on the precedent study
AD 3	CO7	Analyse proposed site wrt context and describe its opportunities, challenges, strengths and threats. Outline context specific climate responsive strategies. Make a schematic, graphical presentation of analysis of proposed site on A1 tracing paper/sheet.
AD 3	CO8	To analyse a site with respect to buildability, vantage Points.
AD 3	CO9	To analyze the larger context of the site surroundings and draw the zoning diagram.
AD 3	CO10	Site Analysis-Context, Topography and Climate
AD 3	CO11	Analyse the context of site to understand the existing opportunities, or problems in a site
AD 3	CO12	Illustrate and explore building envelop design based on climate, architectural character and language (material/fenestrations, etc)
AD 3	CO13	Apply strategies for climate responsive (Fenestration Wall and roof assemblies, Weather shades/Shading Devices, Natural Ventilation strategies) design.
AD 3	CO14	Outline climate responsive strategies for given climate type
AD 3	CO15	Illustrate with graphical representation the Campus planning principles that are applied and climate related strategies at site and building level
AD 3	CO16	To choose and apply structural systems of building as a composite of Roofing, Spanning, Opening and Support Systems.
AD 3	CO17	Discuss, Identify and illustrate appropriate structural systems and services.
BCM 4	CO 1	Understanding Ferrocete Construction methodology, ingredients, storage of material on site, quality, field and lab test involved
BCM 4	CO 2	Understanding artificial material and their application in construction of building elements (RMC, LWC, Ferrocete)
BCM 4	CO 3	Understanding the Damp and Water Proofing, Different methods or treatments of damp- & water-proofing brick on edge, rough Shahabad stone, bitumen sheets, plastic sheets, epoxy resins and metallic water proofing materials and other proprietary materials application of the above in construction for terraces, Chhajja, toilet slabs
BCM 4	CO 4	Understanding of construction details of RCC balcony under various structural conditions
BCM 4	CO 5	Demonstrating a drawing shows, reinforcement details of bar placement under various conditions for RCC Balcony
BCM 4	CO 6	Understanding of construction details of canopy under various structural conditions
BCM 4	CO 7	Demonstrating a drawing shows, reinforcement details of bar placement under various conditions for RCC Balcony
BCM 4	CO 8	Understanding of construction details of RCC staircase under various structural conditions
BCM 4	CO 9	Demonstrating a drawing shows, reinforcement details of bar placement under various conditions for RCC Staircase
BCM 4	CO 10	Describing and discussing Lifts, Escalators and Conveyors to understand the design and structural requirements for installation of these services
BCM 4	CO 11	Demonstrating vertical transportation system through drawing
BCM 4	CO 12	Explaining concept of Sliding and Folding door and its application and Evaluation of the hardware used for Sliding and Folding
BCM 4	CO 13	Explaining concept of Bay Window and its application
BCM 4	CO 14	Understanding and remembering glass and plastic as a building material, its application in building construction and various market forms available
TOS 4	CO 1	Discussing the concept of different supports for cantilever slabs
TOS 4	CO 2	calculations of cantilever slabs as an overhanging slabs
TOS 4	CO 3	calculations of cantilever beams.
TOS 4	CO 4	Discussing the various beams sections
TOS 4	CO 5	Categorizing given beams with its strain diagram.
TOS 4	CO 6	Evaluating load bearing structures for given architectural layout.
TOS 4	CO 7	Discussing different types of staircases
TOS 4	CO 8	calculations of dog legged staircase with different beam positions
TOS 4	CO 9	Describing various elements of steel structures for multiple floors.
TOS 4	CO 10	Identifying of Standard Lay Out of Factory or Trussed Buildings in Plan and Section
TOS 4	CO 11	Discussing Steel as a Material and its different sections and reading of steel tables.
TOS 4	CO 12	Discussing theory of plastic design in steel and connections of girders and stanchions.
Env Sc	CO 1	Summarize the textbook content on natural resources- Land, water, forest, energy and food
Env Sc	CO 2	Write short notes explaining Concept of Eco Systems & various cycles
Env Sc	CO 3	Classify and analyze various types of ecosystems
Env Sc	CO 4	Identify, recognize and label the trees in the campus
Env Sc	CO 5	Identify the NGOs and record their contribution in the field
Env Sc	CO 6	Summarize the textbook content of Causes, effects and control measures of pollution
Env Sc	CO 7	Interpret & illustrate the issues of pollution
Env Sc	CO 8	Describe the scope, role and importance of laws and acts
Env Sc	CO 9	Discuss the role of NGOs and associate themselves as a responsible individual
Env Sc	CO 10	Determine the important aspects of environmental clearance
Env Sc	CO 11	Analyse an architectural project for green rating systems
HAC 4	CO 1	Discuss Traditional 19th Century Styles prevalent in Europe, Changes brought about in material and technology and new possibilities in design. Firsts- use of new material, new techniques, skyscrapers
HAC 4	CO 2	Discuss Moving away from traditional styles and creating a new vocabulary
HAC 4	CO 3	Illustrate Colonial, Indo Saracenic Architecture, Works of Chisholm, Mant, Irwin, Emerson, etc.
HAC 4	CO 4	Interpret Architecture style parallel to the movement of visual and performing art
HAC 4	CO 5	Describe the works of William Morris, Pugin, Ruskin, Phillip Webb et al
HAC 4	CO 6	Define total art style, Secessions De Stijl, Jugendstil, Stile Liberty, Modernism, Modern style, Glassgow School, Tiffany style
HAC 4	CO 7	Examine the concept of Communism and the Architecture evolved from it. Discuss Moving away from traditional styles and creating a new vocabulary
HAC 4	CO 8	Memorise how Architecture adapted to the world of machines, radios and fast cars
HAC 4	CO 9	Describe Architecture style 1960's onwards, Introduction to works of Venturi, Johnson, Moore, Graves, et al.
HAC 4	CO 10	Describe Le Corbusier, Concepts of form follows function, machines for living, Eero Saarinen, Alvar Alto
HAC 4	CO 11	Describe Prairie style, high modernism, works of Wright, Schindler, and Neutra
HAC 4	CO 12	Describe the Post second world war reconstruction, architecture in the 1950's, works of Frank Lloyd Wright, Mies van der Rohe
HAC 4	CO 13	Describe Style through Europe, American Art Deco- Cathedrals of Commerce, Streamliner style, Art deco India- works of G.B. Mhatre, Master, Bhuta, Sarhe, Pansare
HAC 4	CO 14	Discuss Post Independence Architecture in India through the 50's and 60's, Works of Luytens, Stein, Kanvinde, Doshi, Correa, Rewal, Pravina Mehta, Baker, et al.
HAC 4	CO 15	Expression of buildings visited in a technical format
BS2	CO 1	Illustrate the methods of solid waste disposal at building, campus and city level
BS2	CO 2	Discussing the space requirement for solid waste disposal at building, campus and city level
BS2	CO 3	Using the required method for solid waste disposal on project site
BS2	CO 4	Describing the passive design strategies
BS2	CO 5	Summarizing different glazing materials as available in market and their specification
BS2	CO 6	Calculating day-light in given example
BS2	CO 7	Describing the new technologies for incorporating day-light in indoor spaces
BS2	CO 8	Paraphrasing the sources of light, their characteristics (CRI, Color temperature)
BS2	CO 9	Describing the lighting systems - types of lighting (Ambient, accent, task, decorating, directional) and types of lighting (incandescent, fluorescent, LED, CFL, Halogen)
BS2	CO 10	Using the lighting methods and selection of light in case study
BS2	CO 11	Calculating energy consumption in residence
BS2	CO 12	Calculating the examples by Lumen method for no. of lights in given space
BS2	CO 13	Quoting the electric supply from generation to electric point in building
BS2	CO 14	Using the lighting methods and selection of light in case study for load calculation
BS2	CO 15	Diagramming the electrical wiring system in given residential project
BS2	CO 16	Diagramming the electrical wiring system in given commercial project
BS2	CO 17	Summarizing the materials available
BS2	CO 18	Describing the Sources of energy - Renewable and non-renewable and their method of energy generation
BS2	CO 19	Give original example for low voltage network systems as stated
SSA	CO 1	Explaining the use of various instruments like chain, cross-staff, tapes, ODM, EDM,

Third Year Bachelor of Architecture															
CO - PO Mapping															
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
			Ability to communicate design using various representation tools	Design Architectural form working from a conceptual argument that is well articulated and presented and uses the principles of form making.	Ability to prepare a design brief that is presented as a detailed analysis of all the functions and associated activities.	Ability to employ appropriate Structural system with an understanding of its components and with the architectural considerations	Ability to resolve various associated services in response to the challenges posed by building typology/ scale/ site.	Ability to design a building using a variety of passive climate control strategies including orientation, site planning, and building envelope design	Ability to design outdoor space with a program and achieving a good integration of the inside and the outside	Ability to theoretically position a project as an argument for an issue of urban, cultural or architectural relevance	Ability to extensively analyse context of a project and explore a set of possible ways of responding to the social and cultural context	Preparing design documentation that is adequate for various requirements such as estimation, construction and regulatory approvals.	Ability to undertake research activity in any area related to the built environment	Ability to execute a project in a competent manner including client communication and collaboration with the various consultants	
AD IV	CO1	Identify activities and spaces through precedent studies.													
AD IV	CO2	Develop an area program based on activity and anthropometric study													
AD IV	CO3	Prepare a project argument based on the focus of the studio/ Design approach.													
AD IV	CO4	Understand and document the location in the settlement map, proximity to transportation hubs, and road hierarchy of roads for accessibility.													
AD IV	CO5	Understand and document the existing physical/natural features(vegetation/waterbodies) within the site.													
AD IV	CO6	Understand and document the surrounding built and unbuilt environment.													
AD IV	CO7	Understand and document any historical/socio-cultural context relevant to the project. Existing land-use and activity patterns in the vicinity.													
AD IV	CO8	Design and develop a campus design demonstrating response as reflected in location- entry/exits, zoning.													
AD IV	CO9	Design and develop a campus design demonstrating response as reflected in Minimum intervention in contour site, retention of important natural features by integrating into landscaping.													
AD IV	CO10	Design and develop a campus design demonstrating response as reflected in zoning in response to the activities around the site.													
AD IV	CO11	Design and develop a campus demonstrating a response to the historical/socio-cultural context in one of the following ways: metaphysical, reinterpretation through abstraction.													
AD IV	CO12	Analyze the site for the topography (slope analysis, buildable/non- buildable areas, site sections).													
AD IV	CO13	Assign levels to building blocks and entry levels. To clearly show connecting steps/ramps, and the existing and modified contours													
AD IV	CO14	Design and develop well-integrated and proportionate outdoor functional areas considering levelling, access, hardscape, and softscape.													
AD IV	CO15	Define the climatic zone. To analyze and document the macro and micro climate of the site. To determine and document the passive design strategies.													
AD IV	CO16	Design a campus that reflects the passive climate control strategies at the site level (orientation of building blocks as per sun path and wind direction, massing, built-unbuilt proportion, integration of vegetation and water bodies, and placement of services.													
AD IV	CO17	Design a campus that reflects the passive design strategies at the building level including buffer areas, envelope design, location and sizes of the opening, shading devices, and material selection and finishes.													
AD IV	CO18	Design a campus that reflects the passive design strategies at the building element level including wall and roof assemblies.													
AD IV	CO19	Identify and analyze organizational principles of campus planning. (including focus, axes, nodes, vistas, enclosure, symmetry, order, etc) with the help of case studies.													
AD IV	CO20	Demonstrate the application of organizational principles of campus planning in the proposed design.													
AD IV	CO21	Analyze the hierarchy of open spaces, built-unbuilt ratio, linkages, and figure-ground of existing campus.													
AD IV	CO22	Demonstrate the hierarchy of open spaces, built-unbuilt ratio,linkages and figure ground in the proposed design.													
AD IV	CO23	Analyze the zoning (public, semi-public, private), circulation (vehicular, pedestrian), and adjacencies(inter-relation of various activities) of the existing campus.													
AD IV	CO24	Demonstrate the learnings through application in the proposed design													
AD IV	CO25	Explore various volumetric alternatives and select an appropriate form.													
AD IV	CO26	Identify the Architectural character of the existing campus													
AD IV	CO27	Design a campus reflecting a chosen Architectural character.													
AD IV	CO28	Indicate site-level services like UGW, STP, transformer, Rainwater harvesting arrangements, solar panels etc in the site plan.													
AD IV	CO29	Identify and apply appropriate structural systems and represent the components adequately.													
BCM V	CO1	Listing of materials available in market and labelling samples / pictures of the market forms													
BCM V	CO2	Describe characteristics, properties and application of listed materials													
BCM V	CO3	Paraphrasing the classification of paints and varnishes based on application (walls - internal/external and furniture), composition (oil based, water based) and types of paints													
BCM V	CO4	Paraphrasing the types of shallow and deep foundation (spread footings, grillage foundation, Eccentric loaded footings, combined footings and raft foundation)													
BCM V	CO5	Illustrate construction of single basement with box type (Internal and External tanking) water proofing method. Listing other water-proofing methods - Chemicals and membrane													
BCM V	CO6	Paraphrasing types of RCC floor slabs based on spans/ application, advantages and disadvantages													
BCM V	CO7	Illustrating Prestressed and post tensioned RCC slabs construction methods, advantages and disadvantages													
BCM V	CO8	Associating the knowledge of proprietary and non-proprietary partition systems , material and hardware knowledge for a partition design in given space													
BCM V	CO9	Associating the knowledge of proprietary and non-proprietary suspended ceiling systems, material and hardware knowledge to design a suspended ceiling in given space													
BCM V	CO10	Associating the knowledge of material and hardware knowledge to design a King size Bed in given space													
BCM V	CO11	Associating the knowledge of material and hardware knowledge to design a Display and storage rack in given space													
BCM V	CO12	Associating the knowledge of material and hardware knowledge to design a Table and Chair in given space													
BCM V	CO13	Associating the knowledge of material and hardware knowledge to design a Kitchen counter with storage in given space													
TOS V	CO1	Discuss the alternatives of RCC beams limited to doubly reinforced, flanged RCC beams and prestressed concrete beams													
TOS V	CO2	Calculate the amount of steel required for doubly and flanged RCC beams													
TOS V	CO3	Illustrate the reinforcement details for doubly and flanged RCC beams													
TOS V	CO4	Calculate column loads for multiple floors													
TOS V	CO5	Demonstrate the effect of column loads at multiple floors on column-size and reinforcement													
TOS V	CO6	Outline of various types of foundations													
TOS V	CO7	calculate structural actions on isolated RCC footings for given column loads													
TOS V	CO8	Determine the thickness and reinforcement for RCC isolated footing based on structural actions													
TOS V	CO9	Discuss the effect of additional flange plates on steel sections used for girders and stanchions													
TOS V	CO10	Calculate the loads and spans for steel sections with given additional flange plates													
TOS V	CO11	Describe various steel members used for specific functions limited to plate girder, gantry girder, castellated girder and portal frames													
TOS V	CO12	Interpret the effect of lateral soil loads on retaining wall													
TOS V	CO13	calculate structural actions on gravity retaining wall													
TOS V	CO14	Analyze the stability of gravity retaining wall													
TOS V	CO15	Describe the effect of pre-stressing and various types of pre-stressing systems													
TOS V	CO16	Illustrate the effect of prestressing on resulting stresses in simply supported beams with given span and load													
LA	CO1	Identify and present qualitative aspects of landscape design through use of verbs/adjectives													
LA	CO2	Identify and illustrate elements and principles of landscape design through historic styles													
LA	CO3	Identify, document and demonstrate hardscape materials through typical sections													
LA	CO4	Document and demonstrate plants and classify their characteristics													
LA	CO5	Analyse live case study for the open space design in terms of size, scale, hierarchy of open spaces, Planting strategies, hardscape materials													
LA	CO6	Design contours and correlate slopes with their sections													
LA	CO7	Evaluate building placements with respect to slopes													
LA	CO8	Design parking space in accordance with contours													
LA	CO9	Evaluate grading of contours													
LA	CO10	Analyse physical parameters of the site with respect to contours, hydrology, vegetation, surrounding edges and landuses, and visual analysis wherever relevant													
LA	CO11	Create landscape design in response to the site parameters													
LA	CO12	Develop planting strategies as per the function of the design													
CAS	CO1	Identify Key contributors in contemporary architecture													
CAS	CO2	Recognize milestones and timeline of contemporary architecture													
CAS	CO3	Understand and analyse various approaches to contemporary architecture													
CAS	CO4	Formulate a research paper proposal for further research													
CAS	CO5	Analyse and critically appraise a building/ approach/ theory/ philosophy in a research paper format													
CAS	CO6	Review a research paper to understand its structure including Abstract, Introduction, Methodology, Body, Conclusion													
CAS	CO7	Formulate a Paper with the understanding of Abstract, Introduction, Methodology, Body, Conclusion													
CAS	CO8	Develop skill of orally presenting a topic of choice, and generating a discussion.													
BS III	CO1	Read & Understand the theory of Natural Ventilation, Recall remember and answer the quiz or Questions asked on the topic.													
BS III	CO2	Remember basic theory, give reasons, by observing, giving examples of real case scenario about Natural ventilation and write conclusions.													
BS III	CO3	Understand, read, rememberTheory of Mechanical Ventilation, think, suggest, and develop a strategy and Illustrate with the help of diagrams													
BS III	CO4	Reason the solutions for the given problem of Mechanical Ventilation.													
BS III	CO5	Recall what is learned in classroom about Heating and Cooling of Buildings and by observations and case studies and apply knowledge, by understand the situation of existing problem													
BS III	CO6	Give acceptable solutions for Heating and Cooling of Buildings. Illustrate with the help of schematic diagrams.													
BS III	CO7	Recall what is learned in classroom about AirConditioning, by observations and case studies and													
BS III	CO8	Apply knowledge, by understanding the situation of existing problem and give acceptable solutions for Air Conditioning by doing correct analysis. Illustrate with help of diagrams and present the same graphically.													
WD I	CO1	Summarize the basics of working drawings and prepare a list of drawings required for the docket of execution drawings required on site													
WD I	CO2	Summarize the methodology of the working drawings and its importance in professional practice.													
WD I	CO3	List various terms used in WD and analyze the appropriate use of graphical representation and annotations.													
WD I	CO4	Analyze your project for various aspects of structural system													
WD I	CO5	Apply and demonstrate through manual drafting with appropriate graphical representation of technical drawings required for working drawing subject.													
WD I	CO6	Illustrate structural drawings at different levels of buildings (foundation, plinth, ground floor and upper floors).													
WD I	CO7	Generate a full set of execution drawings.													
WD I	CO8	Generate details of door and windows with appropriate details like size, material, style, etc. Demonstrate via preparing graphical drawings of the same and tabular schedule.													
WD I	CO9	Mimic and demonstrate various Details in the project.													
AD V	CO1	Generating design brief - To identify activities and spaces of a multifunctional building. To understand a project concerning the Development plan, UDCPR, and FSI calculations.													
AD V	CO2	Pre-study - Interpreting the design program. Site analysis with respect to physical, cultural, and climatic context. Case studies with respect to services, structural system, circulation and fenestration													
AD V	CO3	To Analyse the context with respect to the social, cultural and architectural context.													
AD V	CO4	To demonstrate design ideas based on site analysis, adjacency studies and climate analysis													
AD V	CO5	To demonstrate form development using volumetric analysis in multistory building													
AD V	CO6	Structural and parking grid - To understand and design suitable structural grid with respect to the site, service core, and parking for a multistory building													
AD V	CO7	Service cores - to understand and design appropriate service cores satisfying all the functional requirements and fire- fighting norms													
AD V	CO8	Design the basement (Plinths, Ramps, and Heights) to make provisions for UGT. STP, pump rooms, AC plant, meter rooms, generator and transformer.													
AD V	CO9	Design basement parking (Plinths, Ramps, Heights) and resolving ramps, facilitating the efficient movement and parking of all the vehicles.													
AD V	CO10	To design skin/ facade of building based on structural, and construction techniques													
AD V	CO11	To design climate-responsive skin / facade of the building using appropriate material/products													
AD V	CO12	Demonstrate a graphically correct and complete design scheme													
BCM VI	CO1	Understand potential of steel as a structural material in building construction and its inherent structural benefits													

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