Mahatma Education Society's

PILLAI COLLEGE OF ARCHITECTURE

Pillai

ALL COURSE OUTCOMES

B.ARCH

PiCA

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Subject ARCHITECTURAL DESIGN STUDIO		Course Code BARC 101
CO1:	To be able to critically analyze real-world architectural spaces using foundational architectural texts as a guide.	
CO2:	To demonstrate a deep understanding of scale and anthropometric considerations in architectural design.	
CO3:	Generate and evaluate multiple design alternatives for each assignment, fostering creative design thinking.	
CO4:	To prioritize user-centered planning, ensuring that architectural spaces are functional and appealing to their intended users.	
CO5:	To present design ideas effectively, incorporate feedback, and refine designs iteratively to improve the quality of their work.	

Subject Allied Design Studio 1		Course Code BARC 102
CO1:	Proficiency in Visual Design Principles	
CO2:	Adaptation of Visual Design Principles to Diverse Design Emphases	
CO3:	Critical Analysis and Synthesis of Design Theories in Practice	
CO4:	Cultivation of Holistic Creativity in Architectural Design	
CO5:	Practical Application of Visual Design Principles in Real-World Design Challenges	

Subject Architectural Building Construction and Materials 1		Course Code BARC 103
CO1:	To Understand Fundamentals of building construction and material syntax	
CO2:	Analyse structural composition and it functions	
CO3	Learn science of building materials, it's physical properties, behaviour, aesthetic quality and applications in real time practice	
CO4:	develop representation skills of structural components in drawings and other illustration	
CO5:	Ideation of frames and load bearing construction, it's components and structural behaviours.	

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Subject Theory and Design of structure -1		Course Code BARC104
CO1:	Understanding of fundamental concepts: Students should develop a solid understanding of key principles and concepts in mechanics, such as charactristics of force, types of mechanics, and the concept of equilibrium.	
CO2:	Problem-solving skills: Students should be able to apply the principles of mechanics to solve a variety of problems, including analyzing forces, calculating motion, and determining support reactions of simple beam	
CO3	They should be able to apply mathematical techniques, such as algebra and calculus, truss to solve these models.	
CO4:	Mathematical modeling: Students should be able to translate physical situations into mathematical models using appropriate equations and formulas.	
CO5:	Students should be able to understand various types of loads, support,and beams.	

Subject Environmental Studies 1		Course Code BARC 106
CO1:	Critical Environmental Awareness and Understanding	
CO2:	Analytical Comprehension and Problem-Solving	
CO3:	Geographic and Climatic Design Proficiency	
CO4:	Application of Environmental Knowledge	
CO5:	Effective Communication and Rational Assessment	

Subject ARD_Architectural Representation & Drawing.-1		Course Code BARC 107
CO1:	To control hand movement and pressure for drawings.	
CO2:	To understand applications of scale to enlarge or to reduce the object.	
CO3:	To develop architecture lettering style varying heights and thickness.	
CO4:	To Study reference planes, projection of objects and to develop drafting and visualization techniques in view.	
CO5:	To understand how to develop sections and to study section planes in different angles, draw true sections and introduction of slicing method.	

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Subject College Project		Course Code BARC 120
CO1:	Motor Skills: - depending on the motor skills. The improvement in order, concentration, and coordination (Materials: Mount board, paper, file card, sun board). It is a sensory activity that aims to develop fine motor skills and pincer grip).	
CO2:	Observation of any object and presentation in the form of sketches. Shading and rendering techniques.	
CO3:	Application of various colors and techniques of using colors on paper. Color gradation and their various uses.	
CO4:	Differentiating between 2D and 3D objects and the way of converting a 2D shape into a 3D form and presenting it using various materials.	
CO5:	Portfolio presentation and discussion about their own work. Confidence while presenting their work.	

Subject ARCHITECTURAL DESIGN STUDIO		**Course Code** BARC 201
CO1:	To grasp fundamental architectural design concepts and the importance of creating child-friendly spaces.	
CO2:	To apply their knowledge to practical design challenges, creating multifunctional playschool designs.	
CO3:	To analyze the impact of design elements on child-centric spaces, evaluating features like open structures, active movement, sensory experiences, and visual diversity.	
CO4:	To synthesize knowledge to develop unique playschool design concepts that blend design principles, functional requirements, and children's needs.	
CO5:	To assess the effectiveness of their designs in meeting objectives, presenting and evaluating their creations effectively.	

Subject ALLIED DESIGN		**Course Code** BARC 202
CO1:	Understanding of Design Fundamentals in Spatial Narratives	
CO2:	Application of Perceptual Psychology in Immersive Narratives	
CO3:	Synthesis of Visual Communication and Material Experimentation	
CO4:	Collaboration and Communication in Design Contexts	
CO5:	Innovative Design Solutions for Societal Challenges	

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Subject Architectural Building Construction and Materials 2		Course Code **BARC 203**
CO1:	Develop understanding for structural systems of building spans, surface abd heights.	
CO2:	Understanding function of timber components in long span strctures	
CO3	Analyzing the function of specific joinery in timber structures	
CO4:	Market study of multiple building materials.	
CO5:	Learning appropriate representation of technical drawings	

Subject **Theory and Design of structure -2**		Course Code **BARC204**
CO1:	Ability to calculate and analyze the properties of common cross-sectional shapes used in structural engineering, such as rectangular, circular, and I-shaped sections	
CO2:	Ability to calculate and analyze shear force and bending moment diagrams for simple structural systems, including beams and frames.	
CO3:	Knowledge of the relationship between loading, shear force, and bending moment along a structural element.	
CO4:	They will learn about material properties, including strength, elasticity, ductility, and durability, and how these properties affect the structural behavior of elements made from these materials.	
CO5:	Ability to learn about strcutures in general	

Subject Humanities		Course Code BARC 205
CO1:	Ability to calculate and analyze the properties of common cross-sectional shapes used in structural engineering, such as rectangular, circular, and I-shaped sections	
CO2:	Ability to calculate and analyze shear force and bending moment diagrams for simple structural systems, including beams and frames.	
CO3:	Knowledge of the relationship between loading, shear force, and bending moment along a structural element.	
CO4:	They will learn about material properties, including strength, elasticity, ductility, and durability, and how these properties affect the structural behavior of elements made from these materials.	
CO5:	Ability to learn about strcutures in general	

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Subject Environmental Studies 2		Course Code BARC 206
CO1:	Knowledge of Environmental Issues and Concerns	
CO2:	Evaluation of Architectural Impact on Natural Resources	
CO3:	Understanding Sustainable Development Concepts	
CO4:	Application of Problem-Solving Skills in Environmental Issues	
CO5:	Integration of Environmental Knowledge into Architectural Solutions	

Subject College Project		Course Code **BARC 220**
CO1:	Cutting/pasting and model making techniques and executing their work as per the given instructions.	
CO2:	Methods of Carving, Assembling, pouring techniques as per taught in class (P.O.P, Clay, Polymer Clay, Siporex Block,P.O.P Block).	
CO3:	Group discussions while working on their assignments. Understanding and coordination between the group members.	
CO4:	Presenting a group assignment together with equal distribution of work responsibilities.	
CO5:	Talking about their work, techniques and style with respect to the given topic and depending on the form of submission and way of expressing their ideas and concepts.	

Subject **Architecture Design Studio 3**		Course Code **BARC 301**
CO1:	To understand of user-space analysis - how do you study & design a space with respect to user group considering different aspects such as volume, experience, quality of space etc.	
CO2:	To design spaces for multiple activities for smaller group of people	
CO3:	To transform ideas into built-unbuilt spaces - how to integrate indoor & outdoor spaces generated by built forms to create different spatial experiences	
CO4:	To apply knowledge for detailing of built form with respect to construction techniques & materials	
CO5:	To understand graphical representation through drawings & rendering	

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Subject Allied design - Interior design		Course Code BARC 302
CO1:	students know the importance of interior design and how they can make a space functional as well as aesthetically appealing as per the user requirement.	
CO2:	students are able to study and analyse the standard sizes of the objects that are in a space and their relation with the space as well.	
CO3:	students know the current market trends of interior materials	
CO4:	students can plan the internal spaces through understanding of space planning.	
CO5:	students can generate the drawings with details as required for interior design working drawings.	

Subject Architectural Building Constrcution and Materials		Course Code BARC 303
CO1:	1- Learn Ideation of structural concepts of RCC frame	
CO2:	2- Learn structural details of flooring, roofing, walling and staircase	
CO3:	3- Develop drafting skills of representation of RCC frame structures	
CO4:	4- Analyze reinforcement details for various RCC components	
CO5:	5- Procure information from market study of RCC structures.	

Subject Theory and design of structure-III		Course Code BARC304
CO1:	Students will develop an understanding of the behavior of different construction materials, such as concrete, steel, timber, and masonry, under various conditions	
CO2:	Ability to calculate and analyze slope and deflection for simple structural systems, including beams and frames	
CO3:	Students will learn about the relationship between applied loads and the resulting deformations in structural elements. They will understand concepts such as stress, strain, and the elastic and inelastic behavior of materials	
CO4:	Failure Modes and Limit States: Students will gain insights into the different failure modes that can occur in structural elements under various loading conditions.	
CO5:	Experimental Techniques: In some cases, students may be introduced to experimental techniques used to study the behavior of structural elements. They may gain hands-on experience with laboratory testing, data collection, and analysis of experimental results.	

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Subject Humanities 305		Course Code BARC305
CO1:	Develop analytical skills.	
CO2:	Develop critical thinking skills.	
CO3:	Understand the evolution of people, communities and societies.	
CO4:	Understand the evolution of culture.	
CO5:	Develop an appreciation for art and architecture.	

Subject ENVIRONMENTAL STUDIES		Course Code BARC 306
CO1:	Evaluate students' comprehension of climate elements and passive climatic control.	
CO2:	Assess their ability to interpret climatological data for Indian climatic zones.	
CO3:	Measure their proficiency in incorporating site planning and orientation in architectural design.	
CO4:	Evaluate their use of shading devices and fenestrations for comfort and energy efficiency.	
CO5:	Assess students' commitment to sustainable and climate-responsive architectural design.	

Subject Architectural Representation & Detailing		Course Code 307
CO1:	To enable the students to have a better visualization/understanding of a three--dimensional entity through Perspective Drawings.	
CO2:	Texture refers to the way an object feels to the touch or looks as it may feel if it were touched.	
CO3:	To understand freehand drawing and observational skills & render with any medium	
CO4:	To enable the students to have a better visualization/understanding of a three--dimensional entity through Perspective Drawings	
CO5:	Understanding drafting in different aspects such as line weight, line types, dimension, labelling etc.	

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Subject Architectural Theory 1		Course Code BARC 309
CO1:	Position architecture as a language and as a carrier of ideas.	
CO2:	Understand architecture's relationship with language.	
CO3:	Develop an appreciation and engage with architectural theories.	
CO4:	Develop reading skills.	
CO5:	Develop a vocabulary for communicating architectural ideas.	

Subject Allied Design		Course Code BARC 402
CO1:	students study and learn the various styles of interior designs.	
CO2:	students study the current market trends and material rates.	
CO3:	students study and analyse different theme cafes as leisure spaces	
CO4:	develop conceptual designs and working drawings	
CO5:	develop a 3 dimensional digital model of the café with all the materials applied	

Subject Architectural Building Construction 4		Course Code BARC 403
CO1:	Market study of Rolled steel section as a building material for low rise structure	
CO2:	Learn concept of steel framed construction, it's advantages and disadvantage.	
CO3	Develop structural deatils for steel trusses for various applications	
CO4:	Learn construction detail for flooring, roofing, walling and staircases in steel section.	
CO5:	To study various steel structure as case studies and understand the structural configuration.	

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Subject Theory and Design of structure -4		Course Code BARC-404
CO1:	Understanding of Structural Systems: Students will develop an understanding of different structural systems	
CO2:	Analysis Techniques: Students will learn fundamental analysis techniques used in structural engineering	
CO3	Load Analysis: Students will learn how to calculate and analyze different types of loads	
CO4:	Structures, including dead loads, live loads, wind loads, and seismic loads. They will understand how	
CO5:	Problem-solving skill : Activities or puzzles designed to improve critical thinking and analytical skills.	

Subject Humanities		Course Code BARC 405
CO1:	Develop sensitive approach towards historic Indian Architecture	
CO2:	Study art and Architectural Styles	
CO3	Study socio-cultural circumstances in Indian history	
CO4:	Study Construction Techniques and Materials	
CO5:	Develop understanding by sketching and details of historic architecture	

Subject Architectural Representation & Detailing 4 (Surveying &Leveling)		Course Code BARC407	
CO1:	Students will develop an understanding different types of surveying and their equipments.		
CO2:	Understand surveying principles: Develop a solid understanding of the fundamental principles and concepts of surveying, including measurement techniques, equipment usage, and surveying methods.		
CO3:	Gain practical skills in conducting field surveys using various instruments such as chain,compass survey , theodolites, total stations, levels, and GPS (Global Positioning System) equipment		
CO4:	Learn how to perform precise leveling operations using leveling instruments to determine the elevation differences between different points on the ground.		
CO5:	To understand how to find the elevation differences between different points on the ground.		

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Subject Architectural Theory 2		Course Code **BARC 409**
CO1:	Students will develop an understanding different types of surveying and their equipments.	
CO2:	Understand surveying principles: Develop a solid understanding of the fundamental principles and concepts of surveying, including measurement techniques, equipment usage, and surveying methods.	
CO3:	Gain practical skills in conducting field surveys using various instruments such as chain,compass survey , theodolites, total stations, levels, and GPS (Global Positioning System) equipment	
CO4:	Learn how to perform precise leveling operations using leveling instruments to determine the elevation differences between different points on the ground.	
CO5:	To understand how to find the elevation differences between different points on the ground.	

Subject College Projects		Course Code **BARC 420**
CO1:	Proficiency in Digital Representation:	
CO2:	Comprehensive Understanding of Architectural Principles:	
CO3:	Effective Communication of Design Ideas:	
CO4:	Integration of Digital and Physical Realms:	
CO5:	3D Representation	

Subject Architectural Design Studio		Course Code BARC 501
CO1:	Understand the potential of urban land and optimization of spaces	
CO2:	Articulate a design program	
CO3:	Develop an understanding to translate ideas into architectural forms and functional requirements	
CO4:	Design multifunctional space for large number of users	
CO5:	Incorporate technological aspects based on construction, services and EVS	

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Subject	Course Code
Theory and design of structure	BARC 504

CO1:	Design of individual steel members: Students should be able to design individual steel members, such as beams, columns, and tension members, considering factors such as loadings, material properties, and connection details. They should understand the different design approaches for various member types
CO2:	Connection design: Students should learn about the design of steel connections, which play a critical role in transferring loads between structural members. They should understand different types of connections, such as bolted connections and welded connections, and how to design them for strength and stability.
CO3:	Structural detailing: Students should gain knowledge of the principles and requirements for structural detailing in steel structures. They should understand the importance of accurate and clear detailing to ensure constructability, safety, and efficient fabrication and erection of steel members.
CO4:	Understanding of steel material properties: Students should develop a solid understanding of the material properties of steel and how they influence the behavior and design of steel structures. This includes understanding the properties of structural steel, such as yield strength, modulus of elasticity, ductility, and fatigue behavior.
CO5:	Design codes and standards: Students should become familiar with relevant design codes and standards for steel structures, such as the American Institute of Steel Construction (AISC) standards or Eurocode. They should understand the requirements, design philosophies, and safety factors specified in these codes.

Subject	Course Code
Humanities 5	**BARC 505**

CO1:	Students will be able to understand the period of modernism in art and architecture in its socio-political-technological context
CO2:	Students will be able to understand and recognise the characteristics of modernism in art and architecture
CO3:	Students will be able to analyse different modern art and architecture movements wrt to their styles, content and themes
CO4:	Students will be able to critically differentiate between various changing ideas and phases in architecture during the modern and post-modern phase
CO5:	Students will be able to discern critical ideas and influences in various architectural trends and developments in post-independence India in their social context.

Subject	Course Code
ARD	BARC 507

CO1:	Understanding Basic Concepts of Estimation and Costing Students will be able to define the basic principles of estimating and costing, including the importance of these processes in project management.
CO2:	Ability to Prepare Detailed Estimates Students will be able to calculate quantities of various construction materials, labor, and equipment required for different types of structures.
CO3:	Understand the Principles of Centre Line Method for Estimation Students will be able to comprehend and explain the concepts and methodology of the Centre Line Method used in estimating the quantities of materials and labor for construction projects.
CO4:	Apply Centre Line Method for Estimating Various Construction Works Students will demonstrate the ability to apply the Centre Line Method for calculating quantities of materials such as bricks, concrete, and plaster in structures like walls, foundations, and floors.
CO5:	Ability to Estimate the Quantity of Steel in Reinforced Concrete Structures Students will be able to calculate the quantity of steel reinforcement required for various structural elements such as beams, columns, slabs, and foundations based on design specifications and drawings.

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Subject	Course Code
Architectural Theory	BARC 509

CO1:	Understanding fundamentals of theoretical architectural research, its objectives and its essential methodologies
CO2:	Enabling students to build up from documentation and data collection to critical analysis and evaluation
CO3:	Developing an attitude of Critical Thinking
CO4:	Reasearch and reflective writing to develop personal skills of research presentation and critical evaluation
CO5:	Writing pieces that are argumentative, and disputational to be able to convey with clarity and effectiveness alternative and individualistic thinking about architecture

Subject	Course Code
College Project 5 (W.D. of Loadbearing structures)	BARP 520

CO1:	To identify various load-bearing styles in India
CO2:	Classifying various load-bearing construction materials for the construction of different building elements.
CO3:	Fundamental comprehension of the design of load-bearing structures
CO4:	Demonstration of various construction details related to load-bearing structures
CO5:	General competence in representation techniques and working drawing which will help students to convert their design drawings into ready for construction drawings

Subject	Course Code
ALLIED DESIGN	BARC 602

CO1:	Should demonstrate the ability to recognize and describe key features of urban housing.
CO2:	Able to apply principles of user-oriented design in the creation of housing spaces and propose innovative housing solutions based on a deep understanding of socio- economic-cultural influences.
CO3:	Able to critically analyze housing situations through debates, supported by facts from various cases worldwide.
CO4:	Understand the relevance of housing in society with respect to culture, environment and economy
CO5:	Recall and explain preliminary terminology of municipal norms.

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Subject Architectural Building construction -6		Course Code BARC 603
CO1:	Demonstrate comprehensive understanding of RCC floor systems, precast/prefab building elements, and their integration into holistic architectural designs. (Knowledge)	
CO2:	Analyse and evaluate the structural implications and performance of one-way and two-way ribbed slabs, waffle slabs, and diagrid beam slabs in different architectural contexts. (Analysis)	
CO3:	Understand the interrelationships and connections between RCC floor systems precast/prefab building elements, and their integration into holistic architectural designs.(Understand).	
CO4:	Propose innovative designs that address specific project requirements by designing a well-integrated and aesthetically pleasing prefab walls, beams, columns, chajjas, staircase flights, and floor units.(Synthesis)	
CO5:	Apply a comprehensive approach to integrate RCC floor systems, precast/prefab building elements into their architectural designs, demonstrating practical application.(Application)	

Subject THEORY AND DESIGN OF STRUCTURE		Course Code BARC 604
CO1:	Understanding of Concrete Materials and Mix Design.	
CO2:	Competence in Structural Analysis and Design.	
CO3:	Application of Precast Concrete Elements and Composite Construction.	
CO4:	Proficiency in Grid Floor and Flat Slab Design.	
CO5:	Critical Thinking and Decision-Making in Construction Practices.	

Subject Humanities 6		Course Code BARC 605
CO1:	To appreciate the relationship between architecture, city, and people for liveable cities.	
CO2:	To create an understanding of social issues and urban issues in the city.	
CO3:	To introduce the students to the urban issues in the MMR region.	
CO4:	To gain an understanding of the history, heritage and urban issues in the MMR region.	
CO5:	To learn mapping techniques to analyse the relationship of buildings with the urban space.	

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Subject	Course Code
ArchitecturalRepresentation & Detailing	BARC- 607

1	Accuracy: The accuracy in representation of the dimensions, proportions, and details of the objects and spaces in their drawings.
2	Evaluate the use of appropriate line weights, annotations, and labeling to enhance clarity.
3	Understanding of Drawing Conventions(use of different line types (e.g., object lines, hidden lines, construction lines) and graphic symbols (e.g., door swings, window types).
4	Technical Skills: Evaluate the student's technical skills in drafting and representation techniques.(detail sections)
5	Evaluate their ability to capture important construction details and material specifications.

Subject	Course Code
Architectural Building Services	BARC- 608

1	Proficiency in understanding and implementing fire protection measures in building design.
2	Knowledge of space and installation requirements for water supply systems in high-rise buildings.
3	Understanding of vertical transportation systems and their application in tall structures
4	Ability to critically analyze and propose fire protection and service solutions for high-rise buildings, considering safety, efficiency, and compliance standards
5	Examine electrical service demands and distribution strategies specific to tall buildings.

Subject	Course Code
College Projects 6	BARC 620

CO1:	Students will be able to appreciate local culture, people, climate, and built environment of different places they visit on a study tour or local site visits.
CO2:	Students will learn the techniques of documentation such as mapping, measure drawings, interviews etc.
CO3:	Students will learn to appreciate local heritage/ precincts and understand the values of revitalisation.
CO4:	Students will learn observation and recording skills.
CO5:	Students will learn to work in teams to produce documentation and exhibit the same.

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Subject Architectural Design		Course Code BARC 701
CO1:	Understand different typologies of urban housing for a neighbourhood with qualitative and qualitative associated parameters.	
CO2:	Analyse different stakeholder groups through site visit and surveys to establish approach towards Design	
CO3:	Define the Design Program and create a design scheme that engages with the immediate context	
CO4:	Integrate the understanding of furniture, interior design, building materials, technology and services design to the design scheme.	
CO5:	Represent ideas at all levels of the design process with the appropriate language skills and graphical tools	

Subject Allied Design Semester 7 (Urban Planning)		Course Code BARC 702
CO1:	Observation of activity, people, city form	
CO2:	Urban Mapping.	
CO3:	Translation of observations into mapping	
CO4:	To document intangible aspects of the community	
CO5:	Three dimensional models of Townplanning schemes	

Subject **Advanced Building Construction 7**		Course Code BARC 703
CO1:	Ability to apply the principles of Basement design in their Architectural design problem	
CO2:	Knowledge of concepts involved in Basement design details (excavation, construction, water proofing)	
CO3:	Knowledge of concepts involved in Earthquake resistant high rise structures.	
CO4:	Completing the course assignments as per schedule and to the satisfaction of the faculty.	
CO5:	Performance in periodic written Class tests.	

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Subject Theory and design of structure 704		Course Code BARC 704
CO1:	Proficiency in Combined Footings:	
CO2:	Competence in Pile Footings:	
CO3:	Mastery of Retaining Walls	
CO4:	Knowledge of Earthquake-Resistant Structures	
CO5:	Expertise in Structural Design of Tall Buildings	

Subject Architecture representation and detailing 7		Course Code BARC 707
CO1:	Introduction to building bye laws and regulations	
CO2:	Study of National Building Code	
CO3:	Implications of Development control rules for greater Mumbai	
CO4:	Calculation of built up area and FSI	
CO5:	Preparing various drawings required for approval from authorities.	

Subject Architectural Building Services		Course Code BARC 708
CO1:	students understand the basics of HVAC and its working along with the fittings and fixtures used in the installation	
CO2:	enable students to visualize their designs and make alterations to include HVAC service in the plan	
CO3:	to enable students to calculate the HVAC requirements and accordingly derive the duct sizes required	
CO4:	understanding the HVAC requirement as per the calculations and design the layouts	
CO5:	students learn and design HVAC ducting layouts for typical floors and basement floors.	

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Subject **Professional Practice**		Course Code BARC 710
CO1:	Comprehensive understanding of Architectural profession.	
CO2:	Understand Office setup and administration.	
CO3:	Competence in handling Architectural Competitions	
CO4:	Proficiency in Tendering	
CO5:	Capability to Create Contract Documents	

Subject **ARCHITECTURAL DESIGN-8**		Course Code BARC 901
CO1:	Research and Problem Identification: Students will demonstrate the ability to identify and thoroughly research complex architectural design problems	
CO2:	Observational Analysis:	
CO3:	Conceptual Development/ Conceptual Innovation:	
CO4:	Integration of Sustainable Features & Renewable Energy Utilization:	
CO5:	Construction Detailing	

Subject Allied Design 8 (Urban Design)		Course Code BARC 902
CO1:	To grasp the extent and characteristics of Urban Design as a discipline	
CO2:	To recognize the role of the Architect, Urban Designer, and Urban Planner	
CO3:	To recognize and represent the urban design elements	
CO4:	To analyze the Quality of Public space and people's behavior in the same	
CO5:	Design an urban space with a multi-faceted approach	

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Subject BARC 903 Architectural Building Construction 8		Course Code BARC 903
CO1:	Students will be able to appreciate the primacy of span as a structural criterion in design of long span architectural structures.	
CO2:	Students will be able to understand and summarise principles of different long span structural and construction systems, and their construction methods.	
CO3:	Students will be able to analyse high-tech long span structural systems, in actual buildings, through case studies, model-making etc.	
CO4:	Students will be able to integrate the knowledge of long span roofing structures in creatively solving design problems.	
CO5:	Students will be able to differentiate between various construction systems and apply them appropriately to their architectural design projects.	

Subject Theory and design of structure 8		Course Code BARC 904
CO1:	.Analyze and design long span structures, such as beams, trusses, and arches, for specific architectural needs.	
CO2:	.Assess the structural stability and load-bearing capacity of cable-supported structures.	
CO3:	Demonstrate an understanding of the design and engineering of folded plate and shell structures.	
CO4:	Understand the concept of space frames their design.	
CO5:	Understand the concept of, portal frames and their design.	

Subject ENVIRONMENTAL SCIENCE		Course Code BARC 906
CO1:	**Comprehensive Understanding**: Students will comprehend the fundamental concepts of sustainable building design, encompassing social, economic, and environmental aspects. They will differentiate between various Indian and International Rating Systems (GRIHA, LEED, IGBC, Eco Housing, BREEAM, CASBEE, etc.) and assess their	
CO2:	Application of Codes: Ability to analyze and apply the Nation Building Code (NBC 2005), specifically Chapter 11 on Sustainability, in the context of sustainable building design.	
CO3:	Proficiency in energy-efficient design principles and implementation strategies & integrating renewable energy sources into building design and operation.	
CO4:	Water Efficiency Expertise	
CO5:	Material Efficiency Evaluation:	

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Subject Architectural Building Services		Course Code BARC 908
CO1:	Understand the Fundamentals of Integrated Building Services	
CO2:	Design Integrated Building Service Solutions Objective: Develop comprehensive integrated building service plans	
CO3:	Analyze Specialized Building Services Systems	
CO4:	Critically Evaluate Sustainable Building Service Strategies	
CO5:	Assess Services Integration in Public Open Spaces	

Subject Design Dissertation -1		Course Code BARC 911
CO1:	Student's ability to engage in reading, critical thinking, and analysis throughout the research thesis	
CO2:	The quality, originality and innovative aspects of the research thesis.	
CO3:	The research design, data collection methods, data analysis techniques, and the overall validity and reliability of the research process.	
CO4:	Understanding the scope and limitations of architectural solutions based as a response to research	
CO5:	The clarity, coherence, and effectiveness of the student's written and presentation skills of their research thesis	

Subject EVS-5		Course Code BARC-1006
1	Proficiency in Climate and Site Analysis:	
2	Application of Sustainable Design Strategies	
3	Competence in Heat Gain Reduction:	
4	Understanding Urban Sustainability:	
5	Integration into Thesis Projects	

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Subject ARD		Course Code BARC- 1007
1	Analyzing Specialized Services for the DD Project	
2	Ability to Integrate Specialized Services into Site-Specific Designs:	
3	Proficiency in Implementing Sustainable Construction Techniques:	
4	Critical Analysis and Application of Green Building Principles:	
5	Development of a Comprehensive Design Dissertation Project:	

Subject Architectural Theories – 4		Course Code BARC 1009
CO1:	Generate ability to appreciate various theoretical discourses linked with architecture.	
CO2:	Develop awareness of current discourses and debates in architecture.	
CO3:	The value of theoretical disposition in design thinking and the ability to articulate design thought in prose and speech.	
CO4:	The knowledge of current design thinking that influences architectural practice in India today.	
CO5:	Analyse the theoretical frameworks used in architectural discipline in the post-millenial world.	

Subject Advanced Building Construction & Structures		Course Code BARC 1012
CO1:	Students will be able to select appropriate building materials and construction systems for their design dissertation projects.	
CO2:	Students will be able to conceptualize a structural system for their design dissertation projects in a simultaneous process.	
CO3:	Students will be able to synthesise construction systems and sustainable practices with their design proposals to develop large scale sections.	
CO4:	Students will demonstrate critical understanding about linkages between design and technology to carry out informed design detailing.	
CO5:	Students will be able to develop creative detailing of building facades/ skins/ interfaces in an appropriate manner for their dissertation projects.	

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